Pages 13959–14204

PART II

FEDERAL REGISTER

VOLUME 28 NUMBER 247

Washington, Saturday, December 21, 1963

FEDERAL COMMUNICATIONS COMMISSION

Reorganization and Revision of Chapter

Subchapter D—Safety and Special Radio Services

Title 47—TELECOMMUNICATION

Chapter I—Federal Communications Commission

REORGANIZATION AND REVISION OF CHAPTER

Subchapter D

The Commission having under consideration the need for editorial revision of its rules and regulations, and the opportunity for such revision afforded by the reprinting of Title 47 of the Code of Federal Regulations; and

It appearing, that the needs of the public and of the Commission will be served by editorial revision of the Commission's rules and regulations; and

It further appearing, that Subchapter A was published November 22, 1963, 28 F.R. 12386, Subchapter B on December 5, 1963, 28 F.R. 13001, and Subchapter C on December 14, 1963, 28 F.R. 13572, and that Subchapter D is ready for publication now; and

It further appearing, that numerous provisions of the rules and regulations have been rearranged and renumbered, and that cross-reference tables for the entire chapter were published November 22, 1963, 28 F.R. 12386; and

It further appearing that the changes effected by revision of the rules are editorial in nature, and hence that compliance with the notice, procedural, and effective date provisions of section 4 of the Administrative Procedure Act is unnecessary; and

It further appearing, that authority for revision of the rules and regulations is set forth in sections 4(i), 5(d), and 303(r) of the Communications Act of 1934, as amended, and in § 0.261(a) of the Commission's rules;

It is ordered, This 13th day of December 1963, effective December 21, 1963, that Parts 7, 8, 9, 10, 11, 12, 14, 16, 19, and 20 are redesignated 81, 83, 87, 89, 91, 97, 85, 93, 95, and 99, respectively, and editorially revised to read as set forth below; and

It is further ordered, That this order shall not be construed as advancing the effective date of any rule change previously adopted by the Commission.

Released: December 16, 1963.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] BEN F. WAPLE,
Secretary.

REDESIGNATION TABLE FOR SUBCHAPTER D

PART 7

Part 7 is redesignated as Part 81. No other change in section numbers.

PART 8

Part 8 is redesignated as Part 83. No other change in section numbers.

PART 9

Part 9 is redesignated as Part 87. The following sections are redesignated:

Part 9	*Part 87*
9.1	87.1
9.2	87.3
9.3	87.5
9.4	87.51
9.5	87.53
9.101	87.21
9.102	87.23
9.103	87.25
9.104	87.27
9.105	87.29
9.106	87.31
9.107	87.125
9.108	87.41
9.109	87.39
9.110	87.43
9.111	87.45
9.112	87.47
9.113	87.49
9.117	87.37
9.118	87.95
9.119	87.97
9.120	87.127
9.121	87.129
9.141	87.91
9.142	87.93
9.151	87.99
9.152	87.10
9.153	87.103
9.154	87.105
9.155	87.107
9.156	87.109
9.178	87.61
9.179	87.63
9.180	87.65
9.181	87.67
9.182	87.69
9.183	87.71
9.184	87.73
9.185	87.75
9.186	87.111
9.187	87.77
9.188	87.79
9.189	87.113
9.190	87.81
9.191	87.115
9.192	87.117
9.193	87.123
9.194	87.119
9.195	87.121
9.311	87.181
9.312	87.183
9.313	87.185
9.314	87.187
9.315	87.183(d)
9.321	87.195
9.331	87.201
9.411	87.401
9.412	87.403
9.413	87.405
9.414	87.407
9.415	87.409
9.416	87.411
9.431	87.291
9.432	87.293
9.433	87.295
9.434	87.297
9.435	87.299
9.436	87.301
9.437	87.303
9.438	87.305
9.439	87.307
9.440	87.309
9.441	87.451
9.442	87.453
9.443	87.455
9.446	87.461
9.447	87.463
9.451	87.431
9.452	87.433
9.453	87.435
9.454	87.437
9.511	87.501
9.512	87.503
9.513	87.505
9.611	87.331
9.612	87.333
9.613	87.335
9.614	87.337
9.711	87.341
9.712	87.343
9.713	87.345
9.714	87.347
9.715	87.349
9.716	87.351
9.717	87.353
9.718	87.355
9.719	87.357
9.811	87.235
9.812	87.237
9.813	87.239
9.814	87.241
9.815	87.243
9.911	87.511
9.912	87.513
9.913	87.515
9.914	87.517
9.1001	87.251
9.1002	87.253
9.1003	87.255
9.1004	87.257
9.1005	87.259
9.1101	87.321
9.1102	87.323
9.1103	87.325
9.1104	87.327
9.1105	87.329
9.1201	87.161
9.1202	87.163
9.1203	87.165
9.1204	87.167
9.1205	87.169
9.1301	87.441
9.1302	87.443
9.1401	87.141
9.1402	87.143
9.1403	87.145
9.1404	87.147
9.1405	87.149
9.1406	87.151
9.1407	87.153
9.1501	87.271
9.1502	87.273
9.1503	87.275
9.1504	87.277

PART 10

Part 10 is redesignated as Part 89. The following sections are redesignated:

Old	*New*
Subpart A—Gen. Info.	No change
10.1	89.1
10.2	89.3
10.3	89.5
10.4	98.7
10.5	89.9
10.6	89.11
10.7	89.13
10.8	89.15
10.9	89.17
Subpart B—Appls., Authorizations and Notifications.	"Subpart B" deleted
10.51	89.51
10.52	89.53
10.53	89.55
10.54	89.57
10.55	89.59
10.56	89.61
10.58	89.63
10.60	89.65
10.61	89.67
10.62	89.69
10.63	89.71
10.64	89.73
10.65	89.75
10.66	89.77
10.68	89.79
10.69	89.81
10.70	89.83
Subpart C—Tech. Standards.	"Subpart C" deleted
10.101	89.101
10.102(a)	89.103(a)
(b–c)	Deleted
(d)	(b)
10.103	89.105
10.104	89.107
(b) (3–4, 6)	Deleted
(b) (5)	(b) (3)
10.105	89.109
(d–g)	Deleted
10.106	89.111
10.107	89.113
10.108	89.115
10.109	89.117
10.110	89.119
10.111	89.121
Subpart D—Opr. Requirements.	"Subpart D" deleted
10.151	89.151
10.152	89.153
10.153	89.155
10.154	89.157
10.155	89.163
10.156	89.165
10.157	89.167
10.158	89.169
10.159	89.171
10.160	89.173
10.161	89.175
10.162	89.177
10.163	89.179
10.164	89.159
10.165	89.161
Subpart E—Dev'l. Opr.	Subpart C—Dev'l. Opr.
10.201	89.201
10.202	89.203
10.203	89.205
10.204	89.207
10.205	89.209
10.206	89.211
10.207	89.213
10.208	89.215
Subpart F—Police Radio Service.	Subpart G—Police Radio Service
10.251	89.301
10.252	89.303
10.253	89.305
10.254	89.307
10.255	89.309
(h) (19–23)	Deleted
Subpart G—Fire Radio Service.	Subpart J—Fire Radio Service.
10.301	89.351
10.302	89.353
10.303	89.355
10.304	89.357
10.305	89.359
Subpart H—Forestry-Conservation Radio Serv.	Subpart N—Forestry-Conservation Radio Serv.
10.351	89.451
10.352	89.453
10.353	89.455
10.354	89.457
10.355	89.459
(e) (16–22)	Deleted
Subpart I—Highway Maintenance Radio Serv.	Subpart L—Highway Maintenance Radio Serv.
10.401	89.401
10.402	89.403
10.403	89.405
10.404	89.407

Old	New
10.405	89.409
(f) (10–15)	Deleted
(f) (16)	(f) (10)
Subpart J—Special Emer. Radio Serv.	Subpart P—Special Emer. Radio Serv.
10.450	89.501
10.451	89.503
10.452	89.509
10.453	89.507
10.454	89.505
10.455	89.513
10.456	89.511
10.457	89.517
10.458	89.515
10.459	89.519
10.460	89.521
10.461	89.523
10.462	89.525
Subpart K—State Guard Radio Service.	Subpart R—State Guard Radio Service
10.501	89.551
10.502	89.553
10.503	89.555
10.504	89.557
10.505	89.559
Subpart L—Local Govt. Radio Service.	Subpart E—Local Govt. Radio Service
10.551	89.251
10.552	89.253
10.553	89.255
10.554	89.257
10.555	89.259
(g) (5)	Deleted
(g) (6)	(g) (5)
(g) (7)	(g) (6)

PART 11

Part 11 is redesignated as Part 91. No other change in section numbers.

PART 12

Part 12 is redesignated as Part 97. The following sections are redesignated:

Old	New
12.0	97.1
12.1	97.3(a)
12.2	(b)
12.3	(c)
12.4	(d)
12.5	(e)
12.6	(f)
12.7	(g)
12.9	(h)
12.10	(i)
12.20	97.5
12.21	97.9
12.22	97.11
12.23	97.7
12.25	97.83
12.26	97.57
12.27	97.13
12.28	97.79
12.29	97.59(a) and (c)
12.30	97.141
12.31	97.143
12.41	97.19
12.42	97.21
12.43	97.23
12.44(a)	97.29, 97.27
(b)	97.35(c)
(c)	97.29(b)
12.45	97.35
12.46	97.25
12.47	97.29(d)
12.48	97.31
12.49	97.33
12.50	97.29(c)
12.60	97.45
12.61	97.37
12.62	97.39
12.63	97.41
12.64	97.43
12.65	97.59(b)
12.66	97.81
12.67	97.47
12.68	97.85
12.69	97.139
12.70	97.49
12.81	97.51
12.82	97.87
12.85	97.53
12.86	97.55
12.90	97.95
12.91	97.97
12.93	97.99
12.94	97.101
12.101	97.89
12.102	97.111
12.103	97.113
12.104	97.115, 97.93
12.105	97.117
12.106	97.91
12.107	97.69
12.111	97.61
12.113	97.63
12.114	97.65
12.131	97.67
12.132	97.71
12.133	97.73
12.134	97.93
12.135	97.75
12.136	97.103
12.137	97.105
12.151	97.77
12.152	97.131
12.153	97.133
12.154	97.135
12.155	97.137
12.156	97.107
12.157	97.119
12.158	97.121
12.159	97.123
12.160	97.125
12.161	97.127
12.162	97.129
12.200	97.161
12.201	97.163
12.202	97.165
12.211	97.167
12.212	97.169
12.213	97.171
12.214	97.173
12.215	97.175
12.221	97.177
12.222	97.179
12.223	97.181
12.224	97.183
12.225	97.185
12.226	97.187
12.227	97.189
12.228	97.191
12.231	97.193
12.232	97.195
12.233	97.197
12.234	97.199
12.235	97.201
12.241	97.203
12.242	97.205
12.243	97.207
12.244	97.209
12.245	97.211
12.246	97.213
12.251	97.215
12.252	97.217
12.253	97.219
12.254	97.221
12.255	97.223
12.256	97.225
12.257	97.227
Appendices 1–4	Appendices 1–4

PART 14

Part 14 is redesignated as Part 85. No other change in section numbers.

PART 16

Part 16 is redesignated as Part 93. No other change in section numbers.

PART 19

Part 19 is redesignated as Part 95. The following sections are redesignated:

Old	New
19.1	95.1
19.2	95.3
19.3	95.5
19.4	95.7
19.11	95.11
19.12	95.13
19.13	95.15
19.14	95.17
19.15	95.19
19.16	95.25
19.17	95.27
19.18	95.21
19.19	95.23
19.21	95.29
19.22	95.31
19.23	95.33
19.24	95.35
19.25	95.37
19.31	95.41
19.32	95.43
19.33	95.45
19.34	95.47
19.35	95.49
19.36	95.51
19.41	95.53
19.42	95.55
19.43	95.57
19.44	95.59
19.45	95.61
19.51	95.63
19.52	95.65
19.53	95.67
19.54	95.69
19.61	95.81
19.62	95.87
19.63	95.91
19.64	95.93
19.71	95.95
19.72	95.101
19.73	95.103
19.74	95.105
19.81	95.111
19.82	95.113
19.83	95.115
19.91	95.117
19.92	95.119
19.93	95.121

PART 20

Part 20 is redesignated as Part 99. The following sections are redesignated:

Old	New
20.1	99.1
20.2	99.3(b)
20.3	(a) and (c)
20.4	(d)
20.5	(e)
20.6	(f)
20.7	(g)
20.8	(h)
20.9	(i)
20.11	99.7
20.12	99.9
20.13	99.11
20.14	99.13
20.15	99.15
20.21	99.17
20.22	99.19
20.23	99.21
20.24	99.23
20.25	99.25
20.26	99.27
20.29	99.29
20.30	99.31
20.31	99.33
20.32	99.35
20.33	99.37
20.34	99.39
20.35	99.41

PART 81

Part 81 is redesignated from Part 7. No other change in section numbers.

PART 83

Part 83 is redesignated from Part 8. No other change in section numbers.

PART 85

Part 85 is redesignated from Part 14. No other change in section numbers.

PART 87

Part 87 is redesignated from Part 9. The following sections are redesignated:

Part 87	Part 9
87.1	9.1
87.3	9.2
87.5	9.3
87.21	9.101
87.23	9.102
87.25	9.103
87.27	9.104
87.29	9.105
87.31	9.106
87.37	9.117
87.39	9.109
87.41	9.108
87.43	9.110
87.45	9.111
87.47	9.112
87.49	9.113
87.51	9.4
87.53	9.5
87.61	9.178
87.63	9.179
87.65	9.180
87.67	9.181
87.69	9.182
87.71	9.183
87.73	9.184
87.75	9.185
87.77	9.187
87.79	
87.81	9.190
87.91	9.141
87.93	9.142
87.95	9.118
87.97	9.119
87.99	9.151
87.101	9.152
87.103	9.153
87.105	9.154
87.107	9.155
87.109	9.156
87.111	9.186
87.113	9.189
87.115	9.191
87.117	9.192
87.119	9.194
87.121	9.195
87.123	9.193
87.125	9.107
87.127	9.120
87.129	9.121
87.141	9.1401
87.143	9.1402
87.145	9.1403
87.147	9.1404
87.149	9.1405
87.151	9.1406
87.153	9.1407
87.161	9.1201
87.163	9.1202
87.165	9.1203
87.167	9.1204
87.169	9.1205
87.181	9.311
87.183	9.312 and 9.315
87.185	9.313
87.187	9.314
87.195	9.321
87.201	9.331
87.211	9.611 and 9.711
87.235	9.811
87.237	9.812
87.239	9.813
87.241	9.814
87.243	9.815
87.251	9.1001
87.253	9.1002
87.255	9.1003
87.257	9.1004
87.259	9.1005
87.271	9.1501
87.273	9.1502
87.275	9.1503
87.277	0.1504
87.291	9.431
87.293	9.432
87.295	9.433
87.297	9.434
87.299	9.435
87.301	9.436
87.303	9.437
87.305	9.438
87.307	9.439
87.309	9.440
87.321	9.1101
87.323	9.1102
87.325	9.1103
87.327	9.1104
87.329	9.1105
87.331	9.611
87.333	9.612
87.335	9.613
87.337	9.614
87.341	9.711
87.343	9.712
87.345	9.713
87.347	9.714
87.349	9.715
87.351	9.716
87.353	9.717
87.355	9.718
87.357	9.719
87.401	9.411
87.403	9.412
87.405	9.413
87.407	9.414
87.409	9.415
87.411	9.416
87.431	9.451
87.433	9.452
87.435	9.453
87.437	9.454
87.441	9.1301
87.443	9.1302
87.451	9.441
87.453	9.442
87.455	9.443
87.461	9.446
87.463	9.447
87.501	9.511
87.503	9.512
87.505	9.513
87.511	9.911
87.513	9.912
87.515	9.913
87.517	9.914

PART 89

Part 89 is redesignated from Part 10. The following sections are redesignated:

New	Old
Subpart A—Gen. Info.	Same
89.1	10.1
89.3	10.2
89.5	10.3
89.7	10.4
89.9	10.5
89.11	10.6
89.13	10.7
89.15	10.8
89.17	10.9
Appls., Authorizations and Notifications.	Subpart B—same title
89.51	10.51

New	Old
89.53	10.52
89.55	10.53
89.57	10.54
89.59	10.55
89.61	10.56
89.63	10.58
89.65	10.60
89.67	10.61
89.69	10.62
89.71	10.63
89.73	10.64
89.75	10.65
89.77	10.66
89.79	10.68
89.81	10.69
89.83	10.70
Tech. Stds.	Subpart C—same title
89.101	10.101
89.103(a)	10.102(a)
(b)	(d)
89.105	10.103
89.107	10.104
(b)(3)	(b)(5)
89.109	10.105
89.111	10.106
89.113	10.107
89.115	10.108
89.117	10.109
89.119	10.110
89.121	10.111
Operating Requirements	Subpart D—same title
89.151	10.151
89.153	10.152
89.155	10.153
89.157	10.154
89.159	10.164
89.161	10.165
89.163	10.155
89.165	10.156
89.167	10.157
89.169	10.158
89.171	10.159
89.173	10.160
89.175	10.161
89.177	10.162
89.179	10.163
Subpart C—Dev'l. Opr.	Subpart E—Dev'l. Opr.
89.201	10.201
89.203	10.202
89.205	10.203
89.207	10.204
89.209	10.205
89.211	10.206
89.213	10.207
89.215	10.208
Subpart E—Local Govt. Radio Serv.	Subpart L—Local Govt. Radio Serv.
89.251	10.551
89.253	10.552
89.255	10.553
89.257	10.554
89.259	10.555
(g)(5)	(g)(6)
(g)(6)	(g)(7)
Subpart G—Police Radio Service	Subpart F—Police Radio Service
89.301	10.251
89.303	10.252
89.305	10.253
89.307	10.254
89.309	10.255
Subpart J—Fire Radio Serv.	Subpart G—Fire Radio Serv.
89.351	10.301
89.353	10.302
89.355	10.303
89.357	10.304
89.359	10.305
Subpart L—Highway Maintenance Radio Serv.	Subpart I—Highway Maintenance Radio Serv.
89.401	10.401
89.403	10.402
89.405	10.403
89.407	10.404
89.409	10.405
(f)(10)	(f)(16)
Subpart N—Forestry-Conservation Radio Serv.	Subpart H—Forestry-Conservation Radio Serv.
89.451	10.351
89.453	10.352
89.455	10.353
89.457	10.354
89.459	10.355
Subpart P—Spec. Emer. Radio Serv.	Subpart J—Spec. Emer. Radio Serv.
89.501	10.450
89.503	10.451
89.505	10.454
89.507	10.453
89.509	10.452
89.511	10.456
89.513	10.455
89.515	10.458
89.517	10.457
89.519	10.459
89.521	10.460
89.523	10.461
89.525	10.462
Subpart R—State Guard Radio Service	Subpart K—State Guard Radio Service
89.551	10.501
89.553	10.502
89.555	10.503
89.557	10.504
89.559	10.505

PART 91

Part 91 is redesignated from Part 11. No other change in section numbers.

PART 93

Part 93 is redesignated from Part 16. No other change in section numbers.

PART 95

Part 95 is redesignated from Part 19. The following sections are redesignated:

New	Old	New	Old
95.1	19.1	95.53	19.41
95.3	19.2	95.55	19.42
95.5	19.3	95.57	19.43
95.7	19.4	95.59	19.44
95.11	19.11	95.61	19.45
95.13	19.12	95.63	19.51
95.15	19.13	95.65	19.52
95.17	19.14	95.67	19.53
95.19	19.15	95.69	19.54
95.21	19.18	95.81	19.61
95.23	19.19	95.87	19.62
95.25	19.16	95.91	19.63
95.27	19.17	95.93	19.64
95.29	19.21	95.95	19.71
95.31	19.22	95.101	19.72
95.33	19.23	95.103	19.73
95.35	19.24	95.105	19.74
95.37	19.25	95.111	19.81
95.41	19.31	95.113	19.82
95.43	19.32	95.115	19.83
95.45	19.33	95.117	19.91
95.47	19.34	95.119	19.92
95.49	19.35	95.121	19.93
95.51	19.36		

PART 97

Part 97 is redesignated from Part 12. The following sections are redesignated:

New	Old	New	Old
97.1	12.0	97.19	12.41
97.3(a)	12.1	97.21	12.42
(b)	12.2	97.23	12.43
(c)	12.3	97.25	12.46
(d)	12.4	97.27	12.44(a) (part and 1–4)
(e)	12.5	97.29(a)	12.44(a)
(f)	12.6	(b)	(c)
(g)	12.7	(c)	12.50
(h)	12.9	(d)	12.47
(i)	12.10	97.31	12.48
97.5	12.20	97.33	12.49
97.7	12.23	97.35(a–b)	12.45
97.9	12.21	(c)	12.44(b)
97.11	12.22	97.37	12.61
97.13	12.27		

New	Old	New	Old
97.39	12.62	97.121	12.158
97.41	12.63	97.123	12.159
97.43	12.64	97.125	12.160
97.45	12.60	97.127	12.161
97.47	12.67	97.129	12.162
97.49	12.70	97.131	12.152
97.51	12.81	97.133	12.153
97.53	12.85	97.135	12.154
97.55	12.86	97.137	12.155
97.57	12.26	97.139	12.69
97.59(a) and (c)	12.29	97.141	12.30
(b)	12.65	97.143	12.31
97.61	12.111	97.161	12.200
97.63	12.113	97.163	12.201
97.65	12.114	97.165	12.202
97.67	12.131	97.167	12.211
97.69	12.107	97.169	12.212
97.71	12.132	97.171	12.213
97.73	12.133	97.173	12.214
97.75	12.135	97.175	12.215
97.77	12.151	97.177	12.221
97.79	12.28	97.179	12.222
97.81	12.66	97.181	12.223
97.83	12.25	97.183	12.224
97.85	12.68	97.185	12.225
97.87	12.82	97.187	12.226
97.89	12.101	97.189	12.227
97.91	12.106	97.191	12.228
97.93	12.134	97.193	12.231
97.93	12.104 (second sent.)	97.195	12.232
97.95	12.90	97.197	12.233
97.97	12.91	97.199	12.234
97.99	12.93	97.201	12.235
97.101	12.94	97.203	12.241
97.103	12.136	97.205	12.242
97.105	12.137	97.207	12.243
97.107	12.156	97.209	12.244
97.111	12.102	97.211	12.245
97.113	12.103	97.213	12.246
97.115	12.104 (first sent.)	97.215	12.251
97.117	12.105	97.217	12.252
97.119	12.157	97.219	12.253
		97.221	12.254
		97.223	12.255
		97.225	12.256
		97.227	12.257

PART 99

Part 99 is redesignated from Part 20. The following sections are redesignated:

New	Old	New	Old
99.1	20.1	99.15	20.15
99.3(a) and (c)	20.3	99.17	20.21
(b)	20.2	99.19	20.22
(d)	20.4	99.21	20.23
(e)	20.5	99.23	20.24
(f)	20.6	99.25	20.25
(g)	20.7	99.27	20.26
(h)	20.8	99.29	20.29
(i)	20.9	99.31	20.30
99.7	20.11	99.33	20.31
99.9	20.12	99.35	20.32
99.11	20.13	99.37	20.33
99.13	20.14	99.39	20.34
		99.41	20.35

SUBCHAPTER D—SAFETY AND SPECIAL RADIO SERVICES

PART 81—STATIONS ON LAND IN THE MARITIME SERVICES

NOTE 1: See Commission Order (FCC 61-764 adopted June 21, 1961, effective July 20, 1961, in Docket 14029), 26 F.R. 5798, June 29, 1961, providing for licensing of Private Microwave Systems on a Regular Basis on certain bands above 952 Mc/s and providing type acceptance for such systems.

NOTE 2: See Commission Order (FCC 61-952 adopted July 26, 1961, effective Sept. 1, 1961, in Docket 13953), 26 F.R. 6849, Aug. 1, 1961, providing for frequency pairing in the 952–960 Mc/s band and making certain other channels in the 952–960 Mc/s band available for omni-directional operations.

NOTE 3: See Commission Order (FCC 61-1492) of Dec. 20, 1961, 26 F.R. 12519, Dec. 27,

1961, providing for the modification of licenses of coast and ship stations in Alaska and on the Mississippi River by the addition of certain frequencies. The general authorization shall be for a period which shall extend from December 22, 1961, until termination of the present license authority, of coast and ship stations affected, by the issuance of a modified or renewal license in response to an application therefor. All provisions in Part 81 which are inconsistent with the above authorization are hereby waived for the period specified.

AUTHORITY: §§ 81.1 to 81.552 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

§ 81.1 Basis and purpose.

(a) The basis for the rules in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate common carriers of interstate and foreign communications, to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of the rules and regulations in this part is to prescribe the manner in which portions of the radio spectrum may be made available for the use of radio for maritime operations which require radio transmitting facilities on land.

Subpart A—Definition of Terms

§ 81.2 General.

(a) *International Radio Regulations.* The Radio Regulations in force annexed to the International Telecommunication Convention, Geneva, 1959, as between the Government of the United States and other Contracting Governments; and such preceding international radio regulations as remain in force between the Government of the United States and other Contracting Governments.

(b) *Telecommunication.* Any transmission, emission, or reception of signs, signals, writing, images, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems.

(c) *Radiocommunication.* Telecommunication by means of radio waves.

(d) *Public correspondence.* Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

(e) *Station.* One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radiocommunication service. Each station shall be classified by the service in which it operates permanently or temporarily.

(f) *Station authorization.* Any valid construction permit, station license, or special temporary authority for use of a station, issued by the Commission.

(g) *Person.* Includes an individual, partnership, association, joint stock company, trust, or corporation.

(h) *Permittee.* A person who holds a valid station construction permit.

(i) *Hours of service.* The period of time during each calendar day when a station is used, in conformity with the terms of the station authorization, for the rendition of its normal service.

(j) *Day.* Where the word "day" is applied to the use of a specific frequency assignment or to a specific authorized transmitter power, such use of the word "day" shall be construed to mean transmission on such frequency assignment or with such authorized transmitter power during that period of time included between 1 hour after local sunrise and 1 hour before local sunset.

(k) *Radio district.* The territory within each radio district, and the address of the Engineer in Charge of each radio district, is set out in § 0.121 of this chapter.

(l) *Commercial transport vessel.* Any ship or vessel which is used primarily in commerce (1) for transporting persons or goods to or from any harbor(s) or port(s) or between places within a harbor or port area, or (2) in connection with the construction, change in construction, servicing, maintenance, repair, loading, unloading, movement, piloting, or salvaging of any other ship or vessel.

(m) *Mile.* As used in this part, the term "mile" means a statute mile or 5,280 feet.

(n) *Installed.* As used in this part with respect to the requirements of radio apparatus in stations on land subject to this part, the term "installed" means installed in the particular station or vehicle to which the pertinent rule or regulation involving the use of this term is applied.

(o) *Shipyard land mobile unit.* A land vehicle operated and controlled by a shipyard and used for the transportation of shipyard personnel, material, or supplies.

§ 81.3 Maritime mobile service.

(a) *Mobile service.* A service of radiocommunication between mobile and land stations, or between mobile stations.

(b) *Maritime and land mobile service*—(1) *Maritime mobile service.* A mobile service between coast stations and ship stations, or between ship stations, in which survival craft stations may also participate. (Aircraft stations, when transmitting on frequencies allocated to the maritime mobile service, may communicate in this service with ship stations and coast stations.)

(2) *Land mobile service.* A mobile service between base stations and land mobile stations, or between land mobile stations. (Only land mobile service carried on exclusively for maritime purposes is governed by this part.)

(c) *Mobile station.* A station in the mobile service intended to be used while in motion or during halts at unspecified points.

(d) *Land station.* A station in the mobile service not intended to be used while in motion.

(e) *Coast station.* A land station in the maritime mobile service.

(f) *Public coast station.* A coast station open to public correspondence.

(g) *Limited coast station.* A coast station, not open to public correspondence, which serves the operational and business needs of ships.

(h) *Class I coast station.* A coast station (public or limited) licensed to provide a maritime mobile service to ships at sea, including such service over distances up to several thousand miles, whose frequency assignment for this purpose includes appropriate frequencies below 150 kc/s or between 5,000 kc/s and 25,000 kc/s.

(i) *Class II coast station.* A coast station (public or limited) licensed to provide a maritime mobile service, primarily of a regional character, whose frequency assignment does not include any frequency below 150 kc/s or between 5,000 kc/s and 25,000 kc/s except on a secondary basis under specified conditions intended to minimize the possibility of interference to other stations having priority on these frequencies.

(j) *Class III coast station.* A coast station (public or limited) licensed to provide a maritime mobile service, primarily of a local character, whose fre-

quency assignment does not include any frequency below 25,000 kc/s.

(k) *Operational designator.* The letter "A", "B", or "F", appended to the term "class I", "class II", or "class III", as these terms are defined in paragraphs (h), (i), and (j) of this section, designates that the coast station is licensed to render its normal service by means of (A) telegraphy, (B) telephony, or (F) facsimile. The designator "L" means "local" and is used to indicate (in lieu of a separate class III coast station license for the same station) that a class I or a class II station provides maritime mobile service of a local character on a frequency or frequencies above 30 Mc/s in addition to its service on other frequencies. Operational designators are used individually or in combinations of two or more, as may be appropriate to a particular coast station. Examples of coast station classification for regulatory and administrative purposes in accordance with these rules: Public I–A, Public III–B, Limited II–A, Limited III–BF, Public II–AB, Public II–BL, Public I–AL, etc.

(l) *Marine-utility coast station.* A coast station, readily portable for use as a limited coast station at unspecified points ashore within a designated local area.

(m) *Marine-utility ship station.* A ship station, readily portable for use as a limited ship station on mobile vessels within a designated local area.

(n) *Marine-utility station.* A coast or ship station in the maritime mobile service having a frequency assignment which is available for both marine-utility coast stations and marine-utility ship stations and licensed under one station authorization to operate as either a marine-utility coast station or a marine-utility ship station according to its location, pursuant to the provisions of paragraphs (l) and (m) of this section, at the time it is being operated.

(o) *Base station.* A land station in the land mobile service carrying on a service with land mobile stations.

(p) *Shipyard base station.* A land station, licensed and operated primarily as a limited coast station in the maritime mobile service, which is authorized additionally to be operated on a secondary basis as a base station for communication with shipyard mobile stations of the same licensee within a local geographic area designated by the Commission.

(q) *Land mobile station.* A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent.

(r) *Shipyard mobile station.* A land mobile station on a shipyard land mobile unit used for communication solely with one or more shipyard base stations of the same licensee within a local geographic area designated by the Commission.

§ 81.4 Maritime radiodetermination service.

(a) *Radiodetermination.* The determination of position, or the obtaining of information relating to position, by means of the propagation properties of radio waves.

(b) *Radiodetermination service.* A service involving the use of radiodetermination.

(c) *Maritime radiodetermination service.* A radiodetermination service intended for the benefit of ships.

(d) *Radionavigation.* Radiodetermination used for the purposes of navigation, including obstruction warning.

(e) *Radionavigation service.* A radiodetermination service involving the use of radionavigation.

(f) *Maritime radionavigation service.* A radionavigation service intended for the benefit of ships.

(g) *Radionavigation land station.* A station in the radionavigation service not intended to be used while in motion.

(h) *Shore radionavigation station.* A radionavigation land station performing a maritime radionavigation service.

(i) *Radar.* A radiodetermination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

(j) *Shore radar station.* A shore radionavigation station utilizing radar.

(k) *Radiolocation.* Radiodetermination used for purposes other than those of radionavigation.

(l) *Radiolocation service.* A radiodetermination service involving the use of radiolocation.

(m) *Maritime radiolocation service.* A radiolocation service intended for the benefit of ships.

(n) *Radiolocation land station.* A station in the radiolocation service not intended to be used while in motion.

(o) *Shore radiolocation station.* A radiolocation land station performing a maritime radiolocation service.

(p) *Shore radiolocation training station.* A shore radiolocation station used solely to train and qualify persons in the effective use of maritime radiodetermination.

(q) *Shore radiolocation test station.* A shore radiolocation station used solely for testing maritime radiodetermination apparatus incident to its manufacture, installation, repair, servicing, or maintenance.

§ 81.5 Maritime fixed services.

(a) *Fixed service.* A service of radiocommunication between specified fixed points.

(b) *Fixed station.* A station in the fixed service.

(c) *Operational fixed station.* A fixed station, not open to public correspondence, operated by and for the sole use of those agencies operating their own radiocommunication facilities in the public safety, industrial, land transportation, marine, or aviation services.

(d) *Marine fixed station.* A fixed station, used primarily for safety communication which is established at a designated location in a water area of, or contiguous to, the United States, and isolated from the mainland by water or marsh.

(e) *Marine control station.* An operational fixed station used to control the emissions or operation of a coast station at a separate location.

(f) *Marine repeater station.* An operational fixed station used to retransmit, to a point of destination or to a message routing center, radiocommunications received at a coast station from ship or aircraft stations in the maritime mobile service.

(g) *Marine relay station.* An operational fixed station used for communication between coast stations or between a coast station and an associated remote control point, which is intended to expedite the movement of message traffic to or from mobile stations in the maritime mobile service.

(h) *Marine receiver-test station.* A fixed station used to simulate transmission from a ship station to a coast station for the purpose of periodically testing the normal receiving installation of a licensed coast station to determine that such receiving installation is in good working condition.

§ 81.6 Developmental maritime stations on land.

(a) *Development land station.* A land station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-government mobile service which has been specifically allocated the authorized frequency (or frequencies) of the developmental land station.

(b) *Developmental radiodetermination station.* A radiodetermination station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-Government radiodetermination service (including the non-Government radionavigation service) which has been specifically allocated the authorized frequency (or frequencies) of the developmental radiodetermination station.

(c) *Developmental fixed station.* A fixed station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-government fixed service which has been specifically allocated the authorized frequency (or frequencies) of the developmental fixed station.

(d) *Specific classification.* The specific classes of developmental stations on land licensed in the maritime mobile service, the maritime radiodetermination service (including maritime radionavigation service), and the maritime fixed services, are the same as classes defined in preceding sections of this part; however, for purposes of identification, the particular class of station is followed by the parenthetical indicator "(developmental)"; for example: "Public class III coast station (developmental)".

§ 81.7 Operational.

(a) *Safety communication.* The transmission or reception of distress, alarm, urgency, or safety signals, or any communication preceded by one of these signals, or any form of radiocommunication which, if delayed in transmission or reception, may adversely affect the safety of life or property.

(b) *Superfluous radiocommunication.* Any transmission that is not necessary in properly carrying on the service for which the station is licensed.

(c) *Harmful interference.* Any emission, radiation, or induction which en-

dangers the functioning of a radionavigation service or of other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with regulations in this chapter.

(d) *Distress signal.* (1) The distress signal is the international radiotelegraph or radiotelephone signal which indicates that a ship, aircraft, or other vehicle is threatened by grave and imminent danger and requests immediate assistance.

(2) In radiotelegraphy, the international distress signal consists of the group "three dots, three dashes, three dots", transmitted as a single signal in which the dashes are emphasized so as to be distinguished clearly from the dots.

(3) In radiotelephony, the international distress signal consists of the oral enunciation of the word "Mayday", pronounced as the French expression "m'aider". In case of distress, transmission of this particular signal is intended to insure recognition of a radiotelephone distress call by stations of any nationality.

(e) [Reserved]

(f) *Urgency signal.* (1) The urgency signal is the international radiotelegraph or radiotelephone signal which indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or of some person on board or within sight.

(2) In radiotelegraphy, the international urgency signal consists of three repetitions of the group "XXX", sent before the call, with the letters of each group and the successive groups clearly separated from each other.

(3) In radiotelephony, the international urgency signal consists of three oral repetitions of the word "Pan" pronounced as the French word "panne" and sent before the call.

(g) *Safety signal.* (1) The safety signal is the international radiotelegraph or radiotelephone signal which indicates that the station sending this signal is ready to transmit a message concerning the safety of navigation or giving important meteorological warnings.

(2) In radiotelegraphy, the international safety signal consists of three repetitions of the group "TTT", sent before the call, with the letters of each group and the successive groups clearly separated from each other.

(3) In radiotelephony, the international safety signal consists of three oral repetitions of the French word "Securite", sent before the call.

(h) *Distress traffic.* All messages relative to the immediate assistance required by the ship, aircraft, or other vehicle in distress.

(i) *500 kilocycles silent period.* The three-minute period twice an hour beginning at x h 15 and x h 45, Greenwich mean time (GMT), during which the International Radio Regulations require that all transmissions (except for certain emissions designated in those Regulations) must cease on all frequencies within a designated frequency-band centered on 500 kc/s.

(j) *Watch.* The act of listening on a designated frequency.

(k) *Calling.* Transmission from a station solely to secure the attention of another station, or other stations, for a particular purpose.

(l) *Working.* Radiocommunication carried on, for a purpose other than calling, by any station or stations using telegraphy, telephony, or facsimile.

(m) *Control point.* An operating position associated with a particular station or stations which is:

(1) Under the control and supervision of the station licensee or his authorized agent; and

(2) A place at which the required monitoring and control facilities are available; and

(3) A place at which a duly licensed operator (or other person if the requirement for a licensed operator is waived by the Commission) responsible for the operation of the transmitter(s) is stationed.

(n) *Dispatch point.* A place from which radiocommunication may be transmitted under supervision of a responsible operator at a control point.

(o) *Operational communication.* Radiocommunication concerning the navigation, movement, or management of a ship or ships.

(1) *Navigation.* This includes the piloting of a vessel.

(2) *Movement.* This includes information and necessary communications relative to when and where the boat or ship will move or be moved as, for example, rendezvous at a port, basin, or marina, or for maneuvers during a cruise.

(3) *Management.* This includes the obtaining of necessary supplies for the ship, limited to immediate needs, and the scheduling of repairs or modifications to the ship, limited to communications with those directly involved in the repairs or modification or concerned with changes in the movement of the ship because of those repairs or modifications.

(p) *Port operations.* Communications in or near a port, or in locks or waterways, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the movement and safety of ships and, in emergency, to the safety of persons.

(q) *Business communication.* Radiocommunication pertaining to economic, commercial, or governmental matters related directly to the purposes for which a ship is being used.

§ 81.8 Technical.

(a) *Spurious emission.* Emission on a frequency or frequencies which are outside the necessary band, and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, and intermodulation products, but exclude emissions in the immediate vicinity of the necessary band which are a result of the modulation process for the transmission of information.

(b) *Selective calling.* A means of calling in which signals are transmitted in accordance with a prearranged code for the purpose of operating a particular automatic attention device in use at the selected station whose attention is sought.

(c) *Frequency band of emission.* A frequency band of emission is a frequency band of which the two designated limiting frequencies are established by an emission bandwidth referred to a particular carrier frequency. For the purpose of this definition, when a carrier is not present, a frequency normally coinciding with the center of the frequency band occupied by the emission is substituted therefor.

(d) *Authorized carrier frequency.* A specific carrier frequency authorized for use by a station, from which the actual carrier frequency is permitted to deviate, solely because of frequency instability, by an amount not to exceed the frequency tolerance.

(e) *Frequency tolerance.* The maximum permissible departure by the center frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. The frequency tolerance is expressed in parts in 10^6 or in cycles per second.

(f) *Frequency band.* A continuous range of frequencies extending between two designated limiting frequencies.

(g) *Bandwidth.* The number of cycles or kilocycles per second expressing the difference between the limiting frequencies of a frequency band.

(h) *Radio channel.* A frequency band, sufficient in width to permit its use for radiocommunication, comprised of the emission bandwidth, the interference guard bands, and the frequency tolerance.

(i) *Emission bandwidth.* The frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. In some cases, for example multichannel frequency-division systems, the percentage of 0.5 percent may lead to certain difficulties in the practical application of the definitions of occupied and necessary bandwidth; in such cases a different percentage may prove useful. (This definition coincides with the definition of "Occupied Bandwidth" which appears as paragraph 90 of the International Radio Regulations, Geneva, 1959.)

(j) *Interference guard bands.* The 2 frequency bands additional to and on either side of the authorized frequency band, which may be provided to minimize the possibility of interference between different radio channels.

(k) *Assigned frequency.* The center of the frequency band assigned to a station.

(l) *Frequency assignment.* The specific frequency or frequencies authorized for the emission(s) of a particular station; expressed for each radio channel by:

(1) The authorized carrier frequency, the frequency tolerance, and the authorized emission bandwidth;

(2) The authorized emission bandwidth in reference to a specific assigned frequency (when a carrier does not exist); or

(3) The authorized frequency band (when a carrier does not exist).

(m) *Modulation.* The process of producing a wave, some characteristic of which varies as a function of the instantaneous value of another wave called the modulating wave.

(n) *Modulation factor.* (1) In an amplitude modulated wave, the ratio of half the difference between the maximum and minimum amplitudes to the average amplitude.

(2) In a frequency modulated wave, the ratio of the actual frequency swing to the frequency swing defined as 100 percent modulation.

(o) *Percentage modulation.* The modulation factor expressed in percent.

(p) *Amplitude modulation* (AM). Modulation in which the amplitude of a wave is the characteristic subject to variation.

(q) *Frequency modulation* (FM). Modulation in which the instantaneous frequency of a sine wave carrier is caused to depart from the carrier frequency by an amount proportional to the instantaneous value of the modulating wave.

(r) *Frequency deviation.* In frequency modulation, the peak difference between the instantaneous frequency of the modulated wave and the carrier frequency.

(s) *Frequency swing.* In frequency modulation, the peak difference between the maximum and the minimum values of the instantaneous frequency.

(t) *Deviation ratio.* In frequency modulation, for a sinusoidal modulating wave, the ratio of the maximum frequency deviation to the maximum frequency of the modulating wave.

(u) *Last radio stage.* In an electron tube radio transmitter, the radio frequency oscillator or power amplifier stage which supplies all radio frequency power to the antenna, either directly or through the medium of a transmission line.

(v) *Plate (anode) input power.* The electrical power delivered to the plate (anode) of an electron tube by the source of supply; this power being the product of the indicated anode voltage and the indicated anode current.

(w) *Antenna power.* The power supplied by a particular radio transmitter to the antenna used in connection with that transmitter, at a radio frequency or frequencies within an authorized frequency band.

(x) *Authorized transmitter power.* The power of a particular transmitter as designated in the respective station license or construction permit. Unless specifically expressed otherwise, this power is the total plate input power to all electron tubes of the last radio stage of the transmitter which are used to supply radio frequency power to the antenna, without modulation present in the case of a transmitter used for telephony by means of class A3 emission.

Subpart B—Applications [1]

§ 81.21 Authorization required for construction and operation of station.

(a) Any radio station required by the Communications Act to be licensed shall not be operated in any service regulated by this part except under and in accordance with a valid station authorization granted by the Commission. Further, the operation of such apparatus shall be conducted in conformity with the provisions of statute, international treaty or agreement, and the rules of the Commission relative to the licensing of operators.

NOTE: The Commission has exempted certain low power radio devices from its general licensing requirements; the extent of this exemption and related matters are set forth in Part 15, "Radio Frequency Devices", of this chapter. Licensing procedures and exemptions applicable to radio apparatus used for medical purposes, industrial heating, and other miscellaneous purposes not involving radiocommunication are set forth in Part 18, "Industrial, Scientific, and Medical Equipment", of this chapter.

(b) No license shall be issued by the Commission for the operation of any station subject to this part, unless a permit for construction has first been granted by the Commission upon written application therefor.

§ 81.22 Administrative classification of stations.

(a) Stations in the maritime mobile service subject to this part are licensed according to the class of station as designated below:

(1) Public class I coast stations.
(2) Public class II coast stations.
(3) Public class III coast stations.
(4) Limited class I coast stations.
(5) Limited class II coast stations.
(6) Limited class III coast stations.
(7) Marine utility stations.

(b) Stations in the maritime radiolocation service subject to this part are licensed according to the class of station as designated below:

(1) Shore radiolocation stations;
(2) Shore radiolocation training stations;
(3) Shore radiolocation test stations.

(c) Stations in the maritime radionavigation service subject to this part are licensed according to the class of station as designated below:

(1) Shore radionavigation stations.
(2) Shore-radar stations.

(d) Stations in the fixed service subject to this part are licensed according to the class of station as designated below:

(1) Marine fixed stations.
(2) Marine control stations.
(3) Marine repeater stations.
(4) Marine relay stations.
(5) Marine receiver-test stations.

(e) Stations in the land mobile service subject to this part are licensed according to the class of station designated below:

(1) Shipyard base stations.
(2) Shipyard mobile stations.

Station licenses shall not be issued solely to authorize the use and operation of shipyard base stations and shipyard mobile stations. License authority to use and operate such stations shall be included in the station license which provides for use and operation of the land station facilities primarily as a limited coast station in the maritime mobile service.

§ 81.23 Statutory eligibility for station license.

A station license shall not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representatives thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 81.24 Application precedent to authorization.

Except as otherwise provided in §§ 81.26 and 81.41, no authorization will be granted for use or operation of any radio station on land in any service governed by this part, nor for any change in station control, facilities, services, equipment or antenna, unless formal written application therefor in proper form first is filed with the Commission. Standard forms are prescribed herein for use in connection with the majority of applications submitted for Commission consideration. These forms may be obtained without cost from the Commission at Washington, D.C., 20554, or from any of its engineering field offices. Except as otherwise permitted by this part, a separate application shall be filed in respect to each station and service subject to this part. Each application for radio station authorization, and all correspondence relating thereto, shall be submitted in duplicate (unless otherwise specified in a particular case or with re-

[1] For additional information concerning applications and for information concerning procedure relative to hearings, oral arguments, petitions, etc., refer to Part 1 of this chapter.

spect to a particular form) to the Secretary of the Commission at Washington D.C., 20554. Except as otherwise provided in §§ 81.32 and 81.41, an application should be filed at least sixty days prior to the earliest date on which it is desired that the requested authorization be granted by the Commission in order that action thereon may be taken by that date. The application shall be specific and complete with regard to the information required in the application form, or otherwise specifically requested by the Commission.

§ 81.25 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 81.26 Informal applications.

An application not submitted on a standard form prescribed by the Commission is an informal application. Each informal application shall be submitted in duplicate, normally in letter form, and, except as provided in § 81.41, the original copy shall be signed as provided in § 81.25. Each application shall be clear and complete within itself as to the facts presented and the action desired.

§ 81.27 Defective applications.

(a) An application which is defective with respect to completeness of answers to required questions, execution, or other matters of a purely formal character, will not be received for filing by the Commission, unless the Commission shall otherwise direct, and will be returned to the applicant with a brief statement as to the defect.

(b) An application which is not made in accordance with the Commission's rules, regulations, or other requirements, will be considered defective unless accompanied either (1) by a petition to amend the rule or regulation with which the application is in conflict, or (2) by a request of the applicant for waiver of, or exception to, any rule, regulation or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof.

(c) If an applicant is requested by the Commission to file any documents or information not included in the prescribed application form, a failure to comply with such request will constitute a defect in the application.

§ 81.28 Amendment of applications.

(a) Any application may be amended as a matter of right prior to the designation of such application for hearing by filing the appropriate number of copies of the amendments duly executed. Requests to amend an application after it has been designated for hearing will be considered only upon written petition properly served upon the parties of record, and will be granted only for good cause shown. A petition which requests either a change in frequency or power must be accompanied by the signed statement of a person with knowledge of facts as to whether or not consideration has been promised to or received by petitioner, directly or indirectly, in connection with the filing of such petition for amendment. If such consideration has been promised or received, the statement shall set forth in full detail all the relevant facts. A petition to amend an application will not be accepted (other than an amendment which is merely pro forma in nature, such as the removal of a named person because of death) if it is filed after public notice has been given of the issuance of a proposed decision with respect to such application, or of a recommended or an initial decision, as the case may be, where no proposed decision is to be issued.

(b) When leave to amend has been granted after an application has been designated for hearing, the application will not be removed from the hearing docket unless the Commission shall determine that the proposed amendment substantially affects the issues upon which the application has been designated for hearing and orders that the application shall be removed from the hearing docket. An amended application which has been removed from the hearing docket will be reexamined by the Commission and, when necessary, will be redesignated for hearing at a subsequent time.

§ 81.29 Dismissal of applications.

Any application may be dismissed without prejudice as a matter of right prior to the designation of such application for hearing. Requests to dismiss an application without prejudice after it has been designated for hearing will be considered only upon written petition properly served upon all parties of record. Such petition must be accompanied by the signed statement of a person with knowledge of the facts as to whether or not consideration has been promised to or received by petitioner, directly or indirectly, in connection with the filing of such petition for dismissal of the application. Such petition to dismiss an application without prejudice will be granted only for good cause shown, but will, in no event, be granted after public notice has been given by the Commission of the issuance of a proposed decision proposing to deny the application.

§ 81.30 Partial grant of application.

Whenever the Commission, without a hearing, grants an application in part, or with any privileges, terms, or conditions other than those requested, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which such grant is made, or from its effective date if a later date is specified, file with the Commission a written protest, rejecting the grant as made. Upon receipt of such protest, the Commission will vacate its original action upon the application and, if necessary, set the application for hearing in the same manner as other applications are set for hearing.

§ 81.31 Establishment of station.

(a) Application for permit to construct a station, other than a fixed station using frequencies above 952 Mc/s, subject to this part shall be submitted on FCC Form 401. Application for permit to construct a fixed station using frequencies above 952 Mc/s (a so-called microwave station) shall be submitted on FCC Form 402. When actual construction is not involved, the term "construct" as used herein is construed to mean "installation" or any action of an equivalent nature involved in preparing the station for actual operation prior to the issuance of a station license.

(b) FCC Form 401—A (revised), "Description of Proposed Antenna Structure", shall be submitted in quadruplicate with duplicate set of FCC Form 401 in each instance when:

(1) The antenna structures proposed to be erected will exceed an over-all height of 170 feet above ground level; or

(2) The antenna structures proposed to be erected will exceed an over-all height of one foot above the established airport elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure or natural formation and does not increase the over-all height of such man-made structure or

natural formation by more than 20 feet, no Form 401—A need be filed.

NOTE: The term "antenna structures" includes the radiating system and its supporting structures. For detailed information on this subject, see Part 17 of this chapter.

(c) There shall be attached to each copy of FCC Form 401—A (revised) a sketch showing the antenna structures and a map showing the location of the antenna structure, landing areas in the vicinity thereof, and all structures that may affect the marking of the antenna structures.

(d) The location of the control point shall be specified in the application for construction permit. The location of the control point may be the same as that of the transmitting equipment or it may be a separate location. More than one control point for the same transmitting equipment is permissible if specified in the application and authorized by the Commission.

(e) Each application for construction permit shall include such supplementary information as is prescribed in other applicable sections of this part, with respect to the particular class of station for which a station authorization is requested.

(f) In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, or temporary fixed, seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15' N on the north, 78°30' W on the east, 37°30' N on the south and 80°30' W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P. O. Box #2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such application, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 81.32 Changes prior to completion of station.

(a) When, during the term of a construction permit, any change is to be made in respect to a station which would result in a deviation from the terms of the permit application for modification of such permit shall be filed on FCC Form 401 or, in the case of microwave stations, on FCC Form 402.

(b) FCC Form 401—A (revised), in quadruplicate, shall be submitted with FCC Form 401, or with FCC Form 402 in the case of microwave stations, whenever any change is to be made in the antenna structures if such structures, as the result of such change, will exceed an over-all height of one foot above the established airport elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet no Form 401—A (revised) need be filed; or whenever the over-all height of the antenna structures, as a result of such change, will exceed 170 feet above ground level; or whenever the antenna structure already is required to be painted or lighted in accordance with Part 17 of this chapter. In such cases, there shall be attached to Form 401—A (revised) a sketch and a map as prescribed in § 81.31(c).

(c) FCC Form 701 shall be used whenever it is necessary to request an extension of the time limit specified on a valid construction permit. Such application shall be filed at least 30 days prior to the expiration date of the permit if the facts supporting such application for extension are known to the applicant in time to allow such filing. In other cases, such application will be accepted upon a showing satisfactory to the Commission of the reason for filing within less than 30 days prior to the expiration date. Such application shall contain specific and detailed information showing that failure to complete construction within the authorized period is the result of causes beyond the control of the permittee, or that the applicant has been diligent in his efforts to complete the construction of the proposed station.

§ 81.33 Application concerning marine-utility stations.

(a) A permit for construction of a marine-utility station is not required when such station is to be used and operated solely on board mobile vessels. In such circumstances, the marine-utility station is subject to the provisions of Part 83 of this chapter and application for station license may be filed in accordance with the applicable sections of that part.

(b) Whenever a marine-utility station is to be used and operated at any location on land (whether or not it is to be used and operated additionally on board mobile vessels) such station is subject to the applicable provisions of this part and an application for construction permit to establish such station shall be filed with the Commission.

§ 81.34 Temporary and permanent station locations.

(a) Whenever a station (other than a marine-utility station or a shipyard mobile station) is to be used and operated, on and after the effective date of the station license, at any single location for a period of less than six months, the station location is construed to be temporary. An application for construction permit relative to such station shall specify the station location as temporary, and shall designate each temporary location at which the station is to be used and operated or shall specify the general geographic area within which the use and operation of the station will be confined.

NOTE: A general area may be designated in terms of a specific city, county, state, region, etc., or more than one of these designations may be specified. See also §§ 81.70 and 81.71.

(b) Whenever a station (other than a marine-utility station or a shipyard mobile station) is to be used and operated, on and after the effective date of the station license, at a single location for six months or more, the station location is construed to be permanent and shall be designated accurately in the application for construction permit.

§ 81.35 Application for station license.

Upon completion of construction in accordance with the terms of the construction permit (as modified if a modified permit has been issued), an application for station license shall be submitted on FCC Form 403, except in the case of microwave stations where such application shall be submitted on FCC Form 402.

§ 81.36 Changes during license term.

(a) When, during the term of a station license, any change is to be made in respect to the station, or with respect to its use and operation, which would result in a deviation from the terms of the license, an application for construction permit or modification of license, as the case may require, shall be filed as prescribed in paragraphs (b), (c), and (d) of this section.

(b) Authority for any physical change in the construction of the transmitting equipment or installation, or for the addition of radio transmitting apparatus, or for any change in station location, or for any change in antenna structures of the nature designated in §81.32(b), shall be requested by filing an appropriate application for construction permit on FCC Form 401 or in the case of microwave stations on FCC Form 402. If a physical change in the antenna structure(s) is proposed, a description of any marking currently required shall be supplied as part of the necessary application. Upon completion of the construction, installation, or change in station location or antenna structure(s) in accordance with the terms of the construction permit, an appropriate application for modification of station license shall be submitted on FCC Form 403, or in the case of microwave stations on FCC Form 402.

(c) Authority for any change in the use and operation of the station, other than physical changes of the nature prescribed in paragraph (b) of this section, shall be requested by filing an appropriate application on FCC Form 403 or in the case of microwave stations on

FCC Form 402 for modification of station license.

(d) In accordance with § 81.24, an application for modification of a station license shall be submitted not less than 60 days prior to the date contemplated for such modification of license in order that action thereon may be taken by that date.

§ 81.37 Renewal of license.

Application for renewal of station license shall be submitted on FCC Form 405–A. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

§ 81.39 Applications filed concurrently.

(a) Applications of different category but in respect to the same station and radio service may be filed concurrently by the same applicant as prescribed in this section:

(1) Application for modification of station license and for renewal of station license. However, no renewal may be granted more than thirty days prior to the expiration of the original license.

(2) Application for construction permit and for station license or related modification of license where the complete transmitter(s) is (are) available for immediate use and operation, including all accessory apparatus required for the service to be rendered, and where no construction is involved: *Provided,* The associated antenna structures are available for immediate use and do not exceed an over-all height of 170 feet above ground level or do not exceed an over-all height of one foot above the established airport elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet, no FCC Form 401—A (revised) need be filed.

(3) Application for modification of construction permit and for station license: *Provided,* Such application for modification of construction permit does not request authority for any additional construction, extension of time in which to complete construction, or change in construction of the station (including the height of the antenna or supporting structures): *And further provided,* That the complete transmitter(s) and all accessory apparatus required for the service to be rendered are available for immediate use and operation in accordance with the terms of the modified permit desired.

(4) Application for modification of station license and for consent to voluntary assignment or transfer of control of station license.

(5) Application for renewal of station license and for consent to voluntary assignment or transfer of control of station license. However, no renewal may be granted more than thirty days prior to the expiration of the original license.

(b) Applications of different category in respect to the same land station used, or to be used, primarily as a limited coast station in the maritime mobile service and secondarily as a shipyard base station (with associated shipyard mobile stations) in the land mobile service may be filed concurrently by the same applicant in the same manner as is prescribed in paragraph (a) of this section concerning applications in respect to the same station and radio service.

§ 81.40 One application for plurality of stations.

(a) As indicated below, one application may be submitted to cover two or more stations subject to the conditions prescribed in paragraph (b) of this section: *And provided,* The individual stations covered by each application are clearly identified therein:

(1) Applications for construction permits and for station licenses for marine-utility stations to be used and operated in the same geographic area;

(2) Application for modification of construction permits for marine-utility stations to be used and operated in the same geographic area when the modification requested is the same for all stations covered by the application;

(3) Application for modification of station licenses for any class of station subject to this part when the modification requested is the same for all stations covered by the application;

(4) Application for consent to assignment or control of station authorization;

(5) Application for construction permit(s) for shipyard mobile stations to be used and operated in association with the same shipyard base station(s);

(6) Application for modification of construction permit(s) for shipyard mobile stations to be used and operated in association with the same shipyard base station(s), when the modification requested is the same for all stations covered by the application.

(b) The provisions of paragraph (a) of this section shall apply only when the following elements are the same in respect to all of the existing or requested station authorizations involved at the time the application is filed:

(1) Applicant;

(2) Nature of service(s) and class(es) of station(s);

(3) Legal control of the station(s);

(4) Expiration date of the station authorization when application is made for modification or renewal thereof.

§ 81.41 Application for special temporary authority for installation and operation of transmitting apparatus.

(a) Upon receipt of application therefor, the Commission may grant special temporary authorization for a period not to exceed three months for the installation and operation of transmitting apparatus in the maritime mobile service or the maritime radiolocation service (provided the proposed operation is not in conflict with the rules and regulations of the Commission) with a station classification in accordance with §§ 81.6 or 81.22, under the following conditions:

(1) In cases which require the immediate use of existing and available radio transmitting apparatus not already authorized for the desired operation: *Provided,* The associated antenna structures (if not covered by an existing station authorization) do not exceed an over-all height of 170 feet above ground level or do not exceed an over-all height of one foot above the established airport elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet, no FCC Form 401—A (revised) need be filed;

(2) In cases where an urgent need is shown for operation of an authorized station (without the addition of more radio transmitting apparatus or increase in height of antenna structures) for a limited time only, in a manner or for a period of time other than that specified in the existing station authorization;

(3) For the purpose of conducting a field survey to obtain necessary data in connection with the filing of one or more formal applications. In this case, authority shall be requested for the developmental operation only, and those sections of this part applicable to developmental stations shall govern the nature of the application.

(b) Whenever practicable, an application for special temporary authority shall be filed as a formal application on a form or forms prescribed in the applicable section(s) of this part. When necessary, however, such applications may be filed as an informal application as prescribed in § 81.26. The form(s) to be used and the procedure in filing shall be governed by the provisions of this part applicable to the type of document (construction permit, license, modification thereof, etc.) which would be requested normally in a particular case in lieu of special temporary authority.

(c) An application for special temporary authority shall be filed in written form not less than ten days prior to the earliest date of proposed operation thereunder unless acceptable explanation of reason for failure to meet the time limitation is included with the application form.

(d) Each application for special temporary authority shall contain the following information:

(1) Name and address of applicant;

(2) Official call letters of any valid station authorization already held by applicant, and the station location;

(3) Relation of applicant to the owner of any transmitting equipment for which initial authority is requested;

(4) Class of station and nature of service;

(5) Station(s) or class of station with which communication will be carried on;

(6) Carrier frequency or frequencies, class of emission, and emisson-bandwidth to be employed, if these elements are involved;

(7) Equipment to be used, specifying the manufacturer, model number, the normal plate input power to the last radio stage, and frequency tolerance that can be maintained if these elements are involved;

(8) The date(s) and time(s) of the proposed operation;

(9) Complete particulars concerning purpose, nature, and location of proposed operation;

(10) Explanation of the need for special temporary authority in lieu of normal type of authorization.

(e) Each application for special temporary authority submitted by an applicant who does not hold a valid station authorization issued by the Commission, or has not already filed formal application therefor, shall, in addition to the information required under paragraph (c) of this section, contain such factual statements as may be necessary for the Commission to determine whether or not the granting of the desired authorization will be in accordance with the citizenship eligibility requirements of section 310 of the Communications Act.

§ 81.42 Applications for consent to assignment of construction permit or station license or for consent to transfer of control of corporation holding same.

(a) *Voluntary.* (1) Application for consent to voluntary assignment of a construction permit or license covering a station subject to this part, other than fixed stations using frequencies above 952 Mc/s, shall be filed with the Commission on FCC Form 702, "Application for Consent to Assignment of Radio Station Construction Permit or License"; fixed stations using frequencies above 952 Mc/s shall use FCC Form 402, "Application for Microwave Station Authorization in the Safety and Special Radio Services", for this purpose.

(2) Application for consent to voluntary transfer of control of a corporation holding a construction permit or license covering a station subject to this part shall be filed on FCC Form 703, "Application for Consent to Transfer of Control of Corporation Holding Construction Permit or Station License". The applications specified herein shall be filed at least 60 days prior to the contemplated effective date of assignment or transfer of control.

(b) *Involuntary.* In the event of the death or legal disability of a permittee or licensee, or a member of a partnership which is a permittee or licensee, or a person directly or indirectly in control of a corporation which is a permittee or licensee:

(1) The Commission shall be notified in writing promptly of the occurrence of such death or legal disability; and

(2) Within 30 days after the occurrence of such death or legal disability, application on FCC Form 702, FCC Form 402, or FCC Form 703, as the case may require, shall be filed for consent to involuntary assignment of such station permit or license or for involuntary transfer of control of such corporation to a person or entity legally qualified to succeed to the foregoing interests under the laws of the place having jurisdiction over the estate involved.

§ 81.43 Application precedent to hearing.

Whenever the Commission regards an application for renewal of license as essential to the proper conduct of a hearing or investigation and specifically directs that the licensee file such application by a certain date, the application shall be filed within the time thus specified. If the licensee fails to file such application within the prescribed time, the hearing or investigation shall proceed as if such renewal application had been received.

§ 81.44 Failure to prosecute applications.

An applicant not desiring to prosecute his application may request that it be dismissed without prejudice. A request of an applicant for the return of an application which has been accepted for filing will be considered as a request to dismiss the same without prejudice. Where an applicant fails to respond to official correspondence or request for additional material, the application will be dismissed without prejudice.

§ 81.45 Inconsistent or conflicting applications.

When an applicant has an application pending or undecided, no other inconsistent or conflicting application filed by the same applicant, his successor or assignee, or on behalf of or for the benefit of said applicant, will be considered by the Commission.

§ 81.46 Applications for authority to discontinue, reduce or impair service provided by a public coast station.

(a) Procedures relating to applications under section 214 of the Communications Act for authority to discontinue, reduce or impair service provided by a public coast station are set out in Part 63 of this chapter.

(b) Licensees of public coast stations who propose to discontinue service at the end of any license period shall file an appropriate application for discontinuance of service, as provided in Part 63 of this chapter. Any licensee of a public coast station who has filed, or who proposes to file, an application for authority to discontinue service provided by such station shall, during the period that such application is pending before the Commission, continue to file appropriate applications as may be necessary for extension or renewal of station license in order to provide legal authorization for such station to continue in operation pending final action on the application for discontinuance of service.

§ 81.47 Request for amendment or waiver of rules.

(a) Any provisions of the rules in this part (except those provisions which set forth specific requirements, not subject to waiver or change, of any applicable statute, or any applicable international agreement to which the United States is a signatory party) may be repealed, amended or supplemented, subject to the provisions of the Administrative Procedures Act. Any interested person may petition for issuance, amendment, or repeal of any rule or regulation governing stations in the maritime mobile service, maritime radiolocation service, or fixed service subject to this part. Such petition may be filed in relation to specific applications for station authorization, or independently thereof, and shall show the text of the proposed rule(s), and shall set forth the reason(s) in support of the petition.

(b) Any provision of the rules in this part (except those provisions which set forth specific requirements, not subject to waiver or change, of any applicable statute, or any applicable international agreement to which the United States is a signatory party) may be waived by the Commission, if the Commission finds that important or exceptional circumstances require such waiver and that the public interest will be served thereby. A request for such waiver may be filed in relation to specific applications for station authorization, or independently thereof, and shall set forth in detail the reason(s) said waiver is considered to be necessary, and how the public interest would be served thereby.

§ 81.48 Applications in an emergency.

(a) In cases of emergency involving danger to life or property or due to damage to equipment, applications for a construction permit and a station license, or modification or renewal thereof, may be filed by telegram or letter. In the event that the Commission finds that such an emergency exists, temporary authorization may be granted to construct or operate a station in accordance with the request for the duration of such emergency: *Provided,* That in such cases as may be considered necessary by the Commission, the applicant may be required to supplement such request by filing, as soon as practicable thereafter, a written application for the same authorization as normally prescribed by applicable provisions of this part.

(b) Each application submitted under the provisions of paragraph (a) of this section shall contain, as a minimum requirement, the following information:

(1) Name of applicant;

(2) Name of agent, if application is made by an agent, in cases under § 1.913 of this chapter;

(3) Location of proposed installation or operation;

(4) Official call letters of any valid station authorization already held by applicant and the station location;

(5) Class of station desired (not required for renewal, nor for modification unless class of station is to be modified);

(6) Frequency assignment, authorized transmitter powers, and authorized class or classes of emission desired (not required for renewal; required for modification only to the extent such information may be involved);

(7) Equipment to be used, specifying the manufacturer and model number

(not required for renewal; required for modification only to the extent such information may be involved);

(8) Specific stations with which communication is desired (not required for renewal; otherwise required only when applicable under the Commission's rules);

(9) Statement of facts which in the opinion of the applicant, constitute an emergency to be found by the Commission for the purpose of this section including estimated duration of emergency.

NOTE: This statement should include a showing that circumstances beyond the control of the applicant prevented the filing of an application as normally prescribed by applicable provisions of this part on a date which would assure its receipt by the Commission in time sufficient for the Commission to take appropriate action thereon.

(c) Each application submitted under the provisions of paragraph (a) of this section shall, in addition to the information specified in paragraph (b) of this section, contain such of the following information as is not already on file with the Commission:

(1) Address of applicant;

(2) Address of agent, if application is made by an agent, in cases under § 1.503 of this chapter;

(3) Relation of applicant to owner of transmitting equipment involved;

(4) Factual statements to the extent necessary for the Commission to determine whether or not the granting of the desired authorization will be in accordance with the citizenship eligibility requirements of section 310 of the Communications Act.

§ 81.49 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 81.50 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 81.50 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part shall be accompanied by the fees prescribed below:

Applications for radio station authorizations for operational fixed radio stations for which frequencies above 952 Mc/s are requested (no fee is required for applications for license to cover construction permit)	$30
Applications for renewal of license only for which FCC Form 405–A is prescribed	4
All other applications for radio station authorizations governed by this part	10

(b) Fees are not required in the following instances:

Applications filed pursuant to §§ 81.41(b) and 81.48 (informal applications for special temporary authority and applications in an emergency).

Applications filed by governmental entities.

Subpart C—Station Authorization

§ 81.61 Construction period.

Each radio station construction permit issued by the Commission will specify the date of grant as the earliest date of commencement of construction and installation, and a maximum of eight months thereafter as the time within which construction shall be completed and the installation ready for operation, unless otherwise determined by the Commission in any particular case.

§ 81.62 Forfeiture of construction permit.

A radio station construction permit shall be automatically forfeited if the construction authorized by such permit is not completed within the time specified therein or within such further time as the Commission may have allowed for completion, unless prevented by causes not under the control of the holder of the construction permit.

NOTE: A notation of the forfeiture of any construction permit under this provision will be placed in the records of the Commission as of the expiration date.

§ 81.63 Changes in licensed station.

(a) A change may be made in licensed transmitting equipment without making application to the Commission and without specific authorization from the Commission: *Provided:*

(1) The change does not result in operation inconsistent with the rules of the Commission nor with the terms of the outstanding authorization for the station involved.

(2) A description of the change is incorporated in the next application for renewal or modification of license.

(b) Prior authorization from the Commission is required before the following antenna changes may be made at any station other than a marine-utility station:

(1) Any change that will increase or decrease by more than five feet the overall height of an antenna used for transmission on any frequency or frequencies above 100 Mc/s.

(2) Any change that will appreciably modify the power gain or radiation pattern of an antenna used for transmission on any frequency or frequencies.

(3) Any change in the antenna structures which will result in such structures exceeding an over-all height of 170 feet above ground level.

(4) Any change in the antenna structures or their location which will result in such structures exceeding an over-all height of one foot above the established airport elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure, or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet, no FCC Form 401-A (revised) need be filed.

(5) Any change in antenna structures or their location when such structures already are required to be marked in accordance with Part 17 of this chapter.

NOTE: The term "antenna structures" includes the radiating system and its supporting structure. For detailed information on this subject, see Part 17 of this chapter.

(c) Changes, except as designated in paragraph (b) of this section, may be made in the antenna or antenna supporting structures of a licensed station without specific authorization from the Commission: *Provided,* That, for stations other than marine-utility stations:

(1) The Commission at Washington, D.C., and the Commission's Engineer in Charge of the inspection district in which the station is located are notified in advance of such changes; and

(2) A description of such changes is incorporated in the next application for renewal or modification of the station license.

§ 81.64 Equipment and service tests.

(a) Equipment and service tests of any radio transmitting facilities authorized by a construction permit issued by the Commission in respect to a station subject to this part may be conducted as prescribed in paragraphs (b), (c), and (d) of this section: *Provided,* That necessary precautions are taken to avoid interference to the service of other authorized stations.

(b) Equipment test: Upon completion of construction or installation of radio transmitting facilities in a station in exact accordance with the terms of the related construction permit, the technical provisions of the application therefor, and the rules and regulations governing the class of station concerned, and prior to the filing of an application for license or modification of license, the permittee is authorized to test the equipment in accordance with applicable terms of the construction permit for a period not to exceed 10 days: *Provided,* That the Commission's Engineer in Charge of the radio district in which the station is located is notified two days in advance of the beginning of tests and that the permittee is not notified by the Commission to cancel, suspend, or change the date(s) for such tests.

(c) Service test: When equipment tests have been completed, and after application for station license or modification thereof has been filed with the Commission showing the transmitting equipment and associated apparatus to be in satisfactory operating condition, the permittee is authorized to conduct service tests in exact accordance with the terms of the construction permit for a period not to exceed 30 days: *Provided,* That the Commission's Engineer in Charge of the radio district in which the station is located is notified two days in advance of the beginning of such tests and that the permittee is not notified by the Commission to cancel, suspend, or change the date(s) for such tests.

(d) Limitations: The authorization for tests embodied in paragraphs (b) and (c) of this section shall not be construed as constituting a license to operate but as a necessary part of the authorized construction. Equipment and service tests shall not commence after the expiration date of the construction permit.

(e) Common carrier service tests: When new stations in common carrier services are ready in all respects to be placed in service, equipment and service tests are authorized to be conducted as outlined in paragraphs (b) and (c) of this section: *Provided,* All necessary precautions are taken to avoid interference to any other authorized station. No service may be furnished to the public during the equipment test period. Charges for service furnished during the service test period may be made, pursuant to the provisions of legally applicable tariffs.

NOTE: See § 61.62 of this chapter.

§ 81.65 License term.

(a) Licenses for stations in the maritime service are normally issued to expire at 3:00 a.m., e.s.t., five years from date of grant.

(b) Licenses for stations engaged in developmental operation will be issued on a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 81.66 Period of modified license.

When an application for modification of station license is granted, a superseding license shall, unless otherwise ordered, be issued for the unexpired period of the superseded license.

§ 81.67 Simultaneous modification and renewal.

When an application is granted which necessitates the issuance of a modified station license less than 60 days prior to the expiration date of the license sought to be modified, and when an application for renewal of said license is granted subsequent or prior thereto, but within 30 days of expiration of the present license, the modified license as well as the renewal license will be issued to conform to the combined action of the Commission.

§ 81.68 One authorization for plurality of stations.

(a) Unless otherwise determined by the Commission, one construction permit or one station license may be issued to authorize the construction, or use and operation, respectively, of a designated maximum number of marine utility stations, normally in multiples of ten stations, whenever the following elements are the same for each station and the requirement specified in paragraph (b) of this section is fulfilled.

(1) The permittee or station licensee, as applicable;

(2) The conditions which establish and maintain control of the station by the permittee or the station licensee, as applicable;

(3) The local geographic area to which use of the particular station will be confined;

(4) The type(s) of transmitting equipment to be authorized (different types of transmitting equipment, which are recognized by the Commission as being equivalent on an engineering basis, shall, for the purpose of this section, be considered as the same type);

(5) The authorized transmitter power of identical types of transmitting equipment to be authorized;

(6) The frequency assignment, and the authorized transmitter-power, and class or classes of emission authorized for each radio-channel.

(b) The transmitting equipment authorized for use by the station license shall not be authorized in any other instrument of authorization issued by the Commission.

(c) Unless otherwise directed by the Commission, one construction permit or one station license shall be issued to authorize the construction, or use and operation, respectively, of (1) a land station to be operated primarily as a limited coast station in the maritime mobile service and on a secondary basis as a shipyard base station in the land mobile service, and (2) one or more shipyard mobile stations in the land mobile service which are to communicate with such land station from within the local geographic area in which the land station is located.

§ 81.69 Transfer or assignment of station authorization.

Section 310(b) of the Communications Act expressly provides that a station license granted by the Commission, the frequencies authorized to be used by the licensee, and the rights therein granted shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, or indirectly by transfer of control of any corporation holding such license, to any person, unless the Commission shall, after securing full information, decide that said transfer is in the public interest, and shall give its consent in writing.

§ 81.70 Authorized station location.

(a) Whenever a station (other than a marine-utility station or a shipyard mobile station) is to be used and operated, on and after the effective date of the station license, at any single location for a period of less than six months, the station location is construed to be temporary and shall be designated in the station authorization as temporary together with either a specific temporary location or locations or within a prescribed geographic area, in accordance with information included in the related application for station authorization.

(b) Whenever a station (other than a marine-utility station or a shipyard mobile station) is to be used and operated, on and after the effective date of the station license, at a single location for six months or more, the station location is construed to be permanent and the particular location shall be specifically designated in the station authorization.

(c) When a station (other than a marine-utility station or a shipyard mobile station) which is authorized to be used and operated at a temporary location or locations remains at any single location for more than six consecutive months, an application for modification of the station license to specify such station location as permanent shall be filed not more than thirty days after the expiration of the six month period involved.

(d) When a station (other than a marine-utility station or a shipyard mobile station) which is authorized to be used and operated at more than one temporary location, is moved from one radio inspection district to another for use and operation in the latter district, the station licensee shall so notify the Commission's Engineers in Charge of the respective districts. Such notification shall, if practicable, be given prior to such change in location but in any event not later than forty-eight hours thereafter.

(e) Prior authorization from the Commission is required before a station may be used and operated at any station location not authorized by either the station authorization or applicable rules and regulations of the Commission.

§ 81.71 Authorized control point.

(a) Unless otherwise permitted in exceptional cases, each station shall be associated with one or more specific control points which shall, except as provided in subparagraph (1) of this paragraph, be designated in the station license as stated in subparagraph (2) of this paragraph:

(1) When no control point location is designated in a station license, the control point shall be:

(i) Not more than 500 feet from the location of the authorized radio transmitting apparatus, for stations other than shipyard mobile stations.

(ii) On the shipyard land mobile unit in which the station is installed, in the case of shipyard mobile stations.

(2) When the control point is at a location more than 500 feet from that of the authorized radio transmitting apparatus, the control point location shall be designated as follows:

(i) In urban areas, the street address shall be specified.

(ii) In rural areas, the approximate location shall be specified in distance and direction from the transmitter in terms of feet and geographical quadrant, respectively; or in distance and direction from the center of a nearby established community in terms of statute miles and geographical quadrant, respectively.

(b) Prior authorization from the Commission is required before a change may be made in the location of an authorized control point or before any control point not authorized by the station license, or by applicable rules and regulations, may be utilized in respect to the particular station.

(c) Except for use with a shipyard mobile station, a dispatch point or points may be installed and used without obtaining any instrument of authorization from the Commission: *Provided*, That with respect to public and limited coast stations using telegraphy, information relative to the location of each permanently established dispatch point is submitted by the station licensee to the Commission for record purposes at the earliest practicable date after such dispatch point is permanently established.

§ 81.72 Assignment of call signs.

(a) Stations subject to this part shall be assigned call signs in accordance with applicable provisions of the International Radio Regulations and the Communications Act as set forth in the following paragraphs of this section.

(b) Class I and class II coast stations (public or limited) shall be assigned individual call signs each consisting of three letters, taken from either the group KAA through KZZ or the group WAA through WZZ.

(c) Class III coast stations (public or limited) shall be assigned individual call signs each consisting of three letters followed by three digits, taken from either the group KAA through KZZ or the group WAA through WZZ.

(d) Each station license issued to authorize the use and operation of one or more marine-utility stations or shipyard mobile stations shall designate for those stations a single call sign consisting of two letters followed by four digits, taken from the group KA through KZ.

(e) Stations on land in the maritime radiolocation service (including the maritime radionavigation service) shall be assigned individual call signs each consisting of three letters followed by three digits, taken from either the group KAA through KZZ or the group WAA through WZZ.

(f) Marine fixed stations and marine relay stations shall be assigned individual call signs each consisting of three letters followed by two digits, taken from either the group KAA through KZZ or the group WAA through WZZ.

(g) Marine control stations and marine repeater stations shall be assigned individual call signs each consisting of three letters followed by two digits, taken from either the group KAA through KZZ or the group WAA through WZZ.

(h) Marine receiver-test stations shall be assigned individual call signs each consisting of three letters followed by three digits, taken from either the group KAA through KZZ or the group WAA through WZZ.

(i) Developmental stations shall be assigned call signs of the category assignable under the provisions of this section to the class of station associated with the respective developmental station.

(j) In accordance with the preceding paragraphs of this section, call signs shall be assigned on a strict sequence basis, without advance reservation of particular call signs for specific stations or specific purposes.

§ 81.73 Operation during emergency.

(a) The licensee of any station subject to this part may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication service in communicating in a manner other than that specified in the instrument of authorization or in the rules and regulations governing the operation of such stations: *Provided*, (1) That as soon as possible after the beginning of such emergency use, notice shall be sent to the Commission at Washington, D.C., 20554, and to the Engineer in Charge of the radio district in which the station is located, stating the nature of the emergency and the emergency use being made of the station; (2) that such emergency use of the station shall be discontinued as soon as substantially normal communication facilities are again available; and (3) the Commission and the Engineers in Charge be notified immediately when such special use of the station is terminated: *And, provided further*, That in no event shall any station engage in emergency transmission on frequencies other than, or with power in excess of, that specified in the instrument of authorization or as otherwise expressly provided by the Commission, or by law: *And provided further*, That the Commission may, at any time, order the discontinuance of any such emergency communication undertaken under this section.

(b) The Commission may authorize the licensee of any radio station, during a period of national emergency, to operate its facilities upon such frequencies, with such power and points of communication, and in such a manner beyond that specified in the station license as may be requested by the Army, Navy or Air Force.

§ 81.74 Notice of involuntary discontinuance, reduction, or impairment of service.

(a) If, for any reason beyond the control of the station licensee, the service provided by a public coast station is discontinued, reduced or impaired for a period exceeding 24 hours, the station licensee shall immediately notify the Commission at Washington, D.C., 20554, and the Commission's Engineer in Charge of the radio district in which the station is located. In such cases, the licensee shall furnish full particulars as to the reasons for such discontinuance, reduction or impairment of service including a statement as to when normal service is expected to be resumed. In the event such changes in station operation include discontinuance, reduction or suspension of a watch normally kept on 500 kc/s or 2182 kc/s, immediate notification thereof shall be given by the station licensee to the nearest district office of the U.S. Coast Guard and to the Commission's Engineer in Charge of the radio district in which the station is located, together with notification of the estimated or known time of resumption of such watch. When normal service is resumed, immediate notification thereof shall be given to the Commission at Washington, D.C., 20554, and to the Commission's Engineer in Charge of the radio district in which the station is located. When the watch to which reference is made herein is resumed, immediate notification thereof shall be given to the Coast Guard and to the Commission's Engineer in Charge.

(b) Notification need not be given with respect to involuntary suspension or substantial reduction of the normal service of a limited coast station (provided a watch normally kept by such station on 500 kc/s or 2182 kc/s is not reduced or suspended thereby) or any other station subject to this part, except public coast stations as provided in paragraph (a) of this section, during any period of involuntary reduction or suspension not exceeding 10 days. Whenever the period of such involuntary suspension or reduction exceeds 10 days, notification thereof shall be given, except for marine-utility stations and shipyard mobile stations, to the Commission's Engineer in Charge of the radio district in which the station is located, together with notification of the known or estimated time of resumption of normal operation. In the event any reduction or suspension of the service of a limited coast station causes a reduction or suspension of a watch normally kept on 500 kc/s or 2182 kc/s, immediate notification thereof shall be given by the station licensee to the nearest district office of the U.S. Coast Guard and to the Commission's Engineer in Charge of the radio district in which the station is located, together with notification of the estimated or known time of resumption of such watch.

NOTE: For rules covering the filing of applications for authority under sec. 214 of the Communications Act, see Part 63 of this chapter.

§ 81.75 Notice of voluntary discontinuance, reduction, or impairment of service.

When the service of any station subject to this part (other than a marine-utility station or a shipyard mobile station) is discontinued, reduced or impaired for any reason within the control of the station licensee, immediate notification thereof shall be given to the Commission's Engineer in Charge of the radio district in which the station is located, together with, in the case of suspension, a statement of the estimated or known time of resumption of normal service. In the case of a public coast station, such notification shall be given as soon as practicable. In respect to any other class of station (except a marine-utility station or a shipyard mobile station) subject to this part, such notification need be made only when the discontinuance, reduction, or impairment of service continues for a period of more than 10 days. In the event any voluntary suspension, reduction, or discontinuance of operation includes discontinuance, reduction, or suspension of

a watch normally kept by any coast station on 500 kc/s or 2182 kc/s, immediate notification thereof shall be given by the station licensee to the nearest district office of the U. S. Coast Guard and to the Commission's Engineer in Charge of the radio district in which the station is located, together with notification of the estimated or known time of resumption of any such watch that has been suspended.

§ 81.76 Cancellation of license.

In all cases of permanent discontinuance of operation of stations subject to this part, the licensee shall immediately forward the station license to the Washington, D.C., office of the Commission for cancellation: *Provided*, That this requirement shall apply to the permanent discontinuance of operation of marine-utility stations or shipyard mobile stations, only when the operation of all stations of either class authorized by one station license is permanently discontinued.

NOTE: See § 61.57 of this chapter for procedure in canceling applicable tariffs.

Subpart D—General Station Requirements

§ 81.101 Inspection of stations.

Pursuant to section 303(n) of the Communications Act, all stations subject to this part and all station records required by this part shall be available for inspection by authorized representatives of the Commission at such times and intervals which, within the discretion of the Commission, are considered reasonable and necessary to assure compliance with applicable rules, regulations, laws, treaties and international agreements.

§ 81.102 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each station (other than a marine-utility station) at a permanent location, or at a single temporary location, shall be posted in a conspicuous place at the principal control point of the station, and a photocopy of such authorization shall be posted at all other control points listed on the authorization. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each transmitter of such stations when it is not in view of, or is not readily accessible to, the operator at the principal control point.

(b) The current station authorization for a single marine-utility station and for each single station of any other class subject to this part, which is of portable nature and is authorized for use and operation at two or more temporary locations, shall be posted either at the control point of the station in a conspicuous place or shall be affixed, readily visible for inspection, to the transmitting apparatus or, if the transmitting apparatus is contained in a cabinet or other structure, affixed, readily visible for inspection, to such cabinet or structure.

(c) A current license authorizing a plurality of marine-utility stations, pursuant to § 81.68 shall be retained by the licensee at any location where it is readily accessible for inspection. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each transmitter of such stations: *Provided*, That, if the transmitter is not in view of the operating position, or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

(d) A current land station license authorizing one or more shipyard mobile stations, pursuant to § 81.22(e), shall be posted in a conspicuous place at the principal control point of the land station; and a photocopy of such license shall be posted at all other control points listed on the license. In addition, a photocopy of such license, an executed Transmitter Identification Card (FCC Form 452–C), or a plate of metal or other durable substance shall be available on each shipyard land mobile unit in which a shipyard mobile station is installed, as follows:

(1) A photocopy of the land station license shall be posted in a conspicuous place in the mobile unit or shall be affixed, readily visible for inspection, to the transmitting apparatus or, if the transmitting apparatus is contained in a cabinet or other structure of the mobile unit, affixed, readily visible for inspection, to such cabinet or structure; or

(2) A Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to the transmitter: *Provided*, That if the transmitter is not in view of the operating position, or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

§ 81.103 Requirements concerning station location.

(a) Unless otherwise required by exceptional conditions, the radio transmitting and receiving apparatus of each class I public coast station, when a specific location for the station is initially authorized by the Commission, subsequent to January 1, 1952, shall, when such apparatus is to be used and operated on any frequency assignment below 5000 kc/s, be located as close as practicable to the open sea.

(b) Unless otherwise required by exceptional conditions, the radio transmitting and receiving apparatus of each class II public coast station, when a specific location for the station is initially authorized by the Commission subsequent to January 1, 1952, shall be installed at a location which, according to generally established engineering principles and standards, should not result in abnormally high attenuation of emission, insofar as such attenuation is caused by land intervening between that location and the majority of ship stations with which communication is to be effected.

(c) Unless otherwise required by exceptional conditions, the radio transmitting and receiving apparatus of each class III public coast station, the construction of which is authorized by the Commission subsequent to July 1, 1952, shall be centrally located, insofar as practicable, in relation to the center of the geographic water area to which ship-to-shore communication is to be provided by the particular coast station, as specified in the related application for construction permit.

(d) Applicants for permits to establish coast stations for transmission within the band 156 to 174 Mc/s shall cooperate in the selection of sites for radio transmitting facilities so as to minimize interference (such, for example, as may be caused by intermodulation) to the service of other coast stations, base stations of any land mobile service, and United States Government stations.

§ 81.104 Facilities required for coast stations.

(a) As a minimum, public coast stations using telegraphy shall be provided with the facilities designated in this section:

(1) Stations having a frequency assignment within the band 405 to 535 kc/s shall:

(i) Be equipped to transmit efficiently with classes A1 and A2 emission on the general maritime calling frequency (500 kc/s assigned frequency) and on at least one additional radio-channel authorized for working within the band 405 to 535 kc/s;

(ii) Be equipped to receive efficiently classes A1 and A2 emission on all radio-channels authorized for the maritime mobile service of telegraphy within the frequency-band 405 to 535 kc/s.

(2) Stations having a frequency assignment below 150 kc/s shall:

(i) Be equipped to transmit efficiently with class A1 emission on at least one radio-channel authorized for working within the band 100 to 150 kc/s;

(ii) Be equipped to receive efficiently class A1 emission on all radio-channels authorized for transmission by mobile stations operating in the maritime mobile service for telegraphy within the band 100 to 150 kc/s.

(3) Stations having a frequency assignment above 4000 kc/s shall:

(i) Be equipped to receive efficiently on each assigned frequency, and on each assigned frequency for ship stations using radiotelegraphy as designated in Part 83 of this chapter when such ship station frequency is in the same characteristic portion of the spectrum as is the coast station assigned frequency.

(b) As a minimum, public coast stations using telephony shall be provided with the facilities designated in this section:

(1) Each coast station licensed to transmit by telephony on any radio-channel within the band 1600 kc/s to 3500 kc/s shall be capable of transmitting and receiving (and shall be licensed to transmit) class A3 emission (modulation by voice frequencies) on the radio-channel

of which 2182 kc/s is the authorized carrier frequency, with antenna power not less than the maximum antenna power which it is capable of using for transmission by telephony on any other authorized radio frequency in this band; except that in any event the required antenna power on 2182 kc/s need not be more than 100 watts when no modulation is present.

(i) Apparatus to comply with the foregoing requirement of this subparagraph shall include transmitting and/or receiving equipment installed at each location where transmitting and/or receiving equipment, respectively, is installed and regularly used by the particular station to provide service on one or more working frequencies within the band 1600 kc/s to 3500 kc/s.

(ii) Compliance with the requirement of subdivision (i) of this subparagraph shall be a condition precedent to obtaining a new or renewed station license unless the applicant therefor makes a showing satisfactory to the Commission that, for purposes of maritime safety, all or any portion of such apparatus for operation on the 2182 kc/s channel is not necessary for effective transmission and reception to and from mobile stations within the associated working frequency service area of the coast station.

(2) Each coast station licensed to operate in the band 156 to 174 Mc/s shall be able to transmit and receive 156.8 Mc/s.

(c) All coast stations shall comply with the following requirements:

(1) Each coast station which is licensed to transmit on the radio-channel of which 2182 kc/s is the authorized carrier frequency, shall be capable of efficiently receiving telephony (A3 emission) on this channel, and shall be capable also of transmitting and receiving (and shall be licensed to transmit) class A3 emission (modulation by voice frequencies) on at least one other radio-channel authorized for working with ship stations in the band 2000 to 3500 kc/s.

(2) Each coast station licensed to operate on 156.8 Mc/s shall also be able to transmit and receive on at least one other frequency authorized for working with ship stations in the band 156 to 174 Mc/s.

(3) Marine utility stations used on shore shall comply with the requirement of subparagraph (2) of this paragraph.

(4) Each coast station which is licensed to operate on 156.6, 156.7, or 161.6 Mc/s shall also be able to transmit and receive on 156.8 Mc/s.

§ 81.105 Special provisions relative to VHF facilities.

(a) Coast stations as locations separated by less than 150 statute miles, which transmit on a radio-channel above 100 Mc/s, shall minimize any interference between the particular stations using the same radio-channel above 100 Mc/s by a mutually agreeable time-sharing arrangement, subject to direction by the Commission if agreement cannot be attained by the involved station licensees. In addition, where practicable, such licensees shall use directive antennas to minimize interference between the particular stations.

(b) Coast stations at locations separated 150 statute miles or more, which transmit on a radio-channel above 100 Mc/s, shall minimize interference between the particular stations using the same radio-channel above 100 Mc/s in so far as is practicable by adjustment of radiated power (provided the authorized transmitter power is not exceeded), by adjustment of antenna height (within the physical limitations approved by the Commission with respect to air navigation), or by employing appropriate antenna directivity. Appropriate remedial action in this respect may be specifically required of particular station licensees when, in the discretion of the Commission, such requirement must be imposed by a specific directive.

(c) Coast stations which transmit on a radio-channel above 100 Mc/s and are located within interference range on such channel of any station within a foreign country bordering on the United States, shall take such measures of the nature prescribed in paragraphs (a) and (b) of this section as may be practicable and appropriate to minimize interference to the involved foreign station(s), and shall keep the Commission fully informed of all pertinent developments.

(d) Each coast station subject to the provisions of any preceding paragraph of this section, which is authorized to operate on a secondary basis as a shipyard base station, shall, while so operating, comply with such provisions.

§ 81.106 Operating controls.

(a) The transmitting apparatus of stations subject to this part shall be installed and protected so as to be not accessible to other than duly authorized persons.

(b) Such operating controls as necessarily are used for commencing and discontinuing normal operation of each coast station, such operating controls as necessarily are used for normally changing from each operating radio-channel to any other associated operating radio-channel in the same characteristic portion of the spectrum, and such operating controls as necessarily are used for normally changing from transmission to reception and vice-versa, shall be available at the principal operating location of the station and shall be readily accessible to the authorized operator. This requirement, however, need not be met by equipment intended for use only in emergencies and not used for normal communications.

(c) Every coast station using telegraphy shall, when an authorized operator is present at the principal operating location, be capable of change-over from telegraph transmission to telegraph reception and vice-versa within a total period of two seconds under circumstances which do not require a change in operating radio-channel at the same time.

(d) Every coast station using telephony shall, when an authorized operator is present at the principal operating location, be capable of change-over from telephone transmission to telephone reception and vice-versa within a total period of two seconds under circumstances which do not require a change in operating radio-channel at the same time.

(e) Every coast station shall, during its hours of service and when the authorized operator is present at the principal operating location, be capable of:

(1) Commencing operation within one minute after the need to do so occurs;

(2) Discontinuing all emission within five seconds after emission is no longer required or after the necessity arises for emission to cease.

(f) Every coast station using a multi-channel installation for telegraphy shall, when the authorized operator is present at the principal operating location, be capable of changing, after the need to do so occurs, from each operating radio-channel for telegraphy to any other operating radio-channel for telegraphy within the same characteristic portion of the spectrum below 515 kc/s within a period of five seconds: *Provided, however,* That this requirement need not be met by equipment intended for use only in emergencies and not used for normal communication.

(g) Every coast station using a multi-channel installation for telephony shall, when the authorized operator is present at the principal operating location, be capable of changing, after the need to do so occurs, from one operating radio-channel for telephony to another operating radio-channel for telephony within:

(1) A period of five seconds, when changing from the calling channel to a working channel and vice versa within the frequency band 1600 kc/s to 4000 kc/s; or

(2) A period of three seconds, when changing from the calling frequency to a working frequency and vice versa within the band 156 to 174 Mc/s.

(h) (1) Each coast station authorized to operate on a secondary basis as a shipyard base station, shall, while so operating, comply with the provisions of this section which apply to coast stations using telephony.

(2) Each shipyard mobile station shall comply with the provisions of this section which apply to coast stations using telephony.

§ 81.107 Antenna requirements.

(a) The antenna(s) of each public coast station shall, in so far as is practicable in each case, have electrical characteristics that will, in conjunction with the particular transmitting apparatus employed, assure good efficiency in the conversion of antenna power to radiated power.

(b) All emission of a coast station (public or limited) or a marine-utility station operated on shore, using telephony on any frequency assignment within the frequency band 30 Mc/s to 200 Mc/s, normally shall be polarized vertically at the source: *Provided,* The Commission may authorize the use of any other form of polarization in addition to or in lieu of vertical polarization if the applicant or station licensee makes a satisfactory showing that such authorization is necessary for effective communication or reduction of interference and would be beneficial to reception of the emission by mobile stations.

§ 81.108 Adjustment of equipment.

The transmitting equipment of each station subject to this part shall be operated, tuned, and adjusted so that there will be no radiation of emissions outside the authorized frequency-band that causes harmful interference or is capable of causing harmful interference to the service of any other station. Any spurious emissions, including radio frequency harmonics and audio frequency harmonics, shall be maintained at the lowest practicable level.

§ 81.109 Measurement of emission frequencies.

(a) The licensee of each station subject to this part shall be responsible for measurement of each carrier frequency in use by the station as stipulated in the following paragraphs of this section: *Provided*, That when a carrier does not exist (except for radar transmitters) measurements shall be made of the frequency coinciding with the center frequency of the emission-bandwidth, in lieu of measurement of the carrier frequency.

NOTE: The licensee of a station on land using a radar transmitter shall take the necessary measures to insure that the transmitter operates within the emission limits specified in § 81.133.

(b) Measurement of the carrier frequency shall occur during normal operating conditions, including with and without the application of amplitude modulation if such modulation is employed. In the case of a station using frequency modulation, measurement of the carrier frequency shall be made while modulation is not applied.

(c) Measurement of the carrier frequency shall be made by means independent of the carrier frequency determining elements of the transmitting apparatus, and the measuring equipment shall be capable of revealing deviation in cycles, kilocycles, or megacycles per second (as may be appropriate in each case) from the authorized carrier frequency or the assigned frequency of the station with an accuracy of at least one-half the frequency tolerance authorized by the Commission.

(d) Measurement of the carrier frequency shall, as a minimum requirement, be made at the following times:

(1) When the involved transmitting apparatus is placed in service both initially and on each occasion after it has been removed (other than marine-utility stations and stations of portable nature) physically and temporarily from its place of installation.

(2) As soon as is practicable after any change, replacement, or repair is made of any part of the equipment which determines or affects the frequency of the carrier (including marine-utility stations and stations of portable nature).

(3) As soon as is practicable after the licensee receives an official notice from the Commission that the carrier frequency or the frequency coinciding with the center of the emission-bandwidth has been observed by the Commission to be beyond the frequency tolerance.

(e) Each frequency measurement performed in order to comply with the provisions of this section shall be recorded in the official records of the station. In each instance of measurement the record shall show the location of the transmitter, the location of the measuring equipment, the identity of the transmitter involved, the time and date of measurement, the indicated deviation in cycles, kilocycles, or megacycles per second (as may be appropriate in each case) above or below the authorized carrier frequency or (when a carrier does not exist) above or below the assigned frequency (or other appropriate data in respect to measurement of the frequencies of emission of a radar transmitter) and the signature of the person(s) who made the measurement, together with the name of any measurement service with which such person(s) may be associated for this purpose. Each original record of measurement shall, wherever practicable, be continuously retained in the official records of the station for a period of at least twelve months from the date of measurement, and shall be made available to the Commission upon request or during inspection of the station by an official representative of the Commission. When such retention of these records at the station is deemed by the licensee to be impracticable (such as may be the situation in respect to marine-utility stations and stations of portable nature) the original records shall be retained under jurisdiction of the station licensee at any location in the United States where they can be made readily available for inspection upon request by the Commission or an official representative thereof.

(f) Measurement of frequency required by the provisions of this section may, at the option of the station licensee, be made by any qualified engineering measurement service: *Provided*, That nothing contained in this paragraph shall be construed to change or diminish in any respect the responsibility of the station licensee for proper functioning and operation of the station in accordance with law.

§ 81.110 Measurement of transmitter power.

(a) The actual power of each radio transmitter of a coast or fixed station, subject to this part, shall be maintained within the following tolerance of the specific power authorized for that transmitter by the Commission:

(1) When the maximum authorized transmitter-power only is indicated, the actual power shall, in so far as is practicable, not be more than that necessary to carry on the service for which the station is licensed and in no event more than 20 percent above the maximum power authorized;

(2) When the exact authorized transmitter-power is indicated, the actual power shall, whenever the transmitter is being operated, be within the limits of 120 and 80 percent of the authorized power.

(b) For the purpose of assuring adherence to the requirement of paragraph (a) of this section, each radio transmitter rated by the manufacturer as being capable of a plate input power in excess of 200 watts or an antenna power in excess of 100 watts and completed in construction after July 1, 1952, in a coast or fixed station, subject to this part, shall be fitted with the instrument(s) necessary to determine the actual plate power to the transmitter whenever the latter is in use: *Provided*, That on and after July 1, 1956, this requirement shall apply to all such transmitters (including stations of portable nature) rated by the manufacturer with respect to power as set forth in this paragraph.

(c) When the power of a transmitter in a coast or fixed station, subject to this part, as rated by the manufacturer, is capable of being more than 120 percent of the authorized power, the station licensee shall employ an approved procedure to determine that the actual power does not exceed the authorized power. This determination shall be made and the result thereof entered in the licensee's records (which shall be made available to the Commission or an official representative thereof, upon request) as follows:

(1) When the involved transmitting apparatus is placed in service, both initially and on each occasion after it has been removed (other than marine-utility stations and other stations of portable nature) physically and temporarily from its place of installation;

(2) As soon as practicable after any change, replacement, or repair is made of any part of the equipment which determines or affects the actual power (including marine-utility stations and stations of portable nature);

(3) When required by an official representative of the Commission on the basis that the actual power appears, from an official inspection of the station, to exceed the authorized power.

(d) With respect to a transmitter used for telephony by means of amplitude modulation, the term "power", as used in paragraphs (a), (b), and (c) of this section, means power without modulation present.

(e) (1) A coast station authorized to operate on a secondary basis as a shipyard base station, shall, while so operating, comply with the provisions of this section which apply to coast stations.

(2) Each shipyard mobile station shall comply with the provisions of this section which apply to coast stations.

§ 81.111 Modulation adjustments for telephony.

(a) Coast stations, fixed stations, and marine-utility stations subject to this part and using class A3 emission for telephony shall be capable of proper technical operation with peak modulation percentage between 75 and 100 percent. In so far as is practicable, the AM transmitting equipment of such stations shall be adjusted so that the transmission of speech normally produces peak modulation percentages within these limits.

(b) Coast stations, fixed stations, and marine utility stations subject to this part using class F3 emission shall be capable of proper technical operation with a frequency deviation of 15 kc/s, which is regarded as 100 percent modulation. In general, such stations shall be adjusted so that the transmission of

speech normally produces, on this basis, peak modulation percentages between 75 and 100 percent.

(c) The adjustments required by paragraphs (a) and (b) of this section shall be made and recorded in the licensee's records as follows:

(1) When the involved transmitting apparatus is placed in service, both initially and on each occasion after it has been removed (except for marine-utility stations and other stations of portable nature) physically and temporarily from its place of installation.

(2) As soon as is practicable after any change, replacement, or repair is made of any part of the equipment which determines or affects the percentage modulation (including marine-utility stations and other stations of portable nature).

(3) When required by the Commission on the basis that the percentage modulation observed during an official inspection of the station by an official representative of the Commission appears to not comply with the requirement of paragraph (a) or (b) of this section.

(d) (1) A coast station authorized to operate on a secondary basis as a shipyard base station, shall, while so operating, comply with the provisions of this section which apply to coast stations.

(2) Each shipyard mobile station shall comply with the provisions of this section which apply to coast stations.

§ 81.112 General requirements for receiving apparatus.

The radio equipment of each coast station, shipyard mobile station, and marine-utility station must be capable of permitting the reception of the class or classes of emission on the frequency or frequencies normally received for the service carried on, including any land mobile service for which the facilities of a coast station may be authorized. The technical arrangement of the station apparatus shall be such that the necessary reception of emissions can be readily effected prior to the transmission of any signals or communications by the coast, shipyard mobile, or marine-utility station on the associated transmitting frequency.

§ 81.113 Facilities for busy signal in telephony.

(a) A "busy" signal when used by a coast station in accordance with the provisions of § 81.312(d), may be transmitted by appropriately modulating the carrier wave of the station by means of a single audio frequency regularly interrupted, as follows:

(1) Modulating frequency: Not less than 100 nor more than 1100 cycles per second, provided the frequency used for this purpose shall not cause auto-alarms or selective-ringing devices to be operated.

(2) Rate of interruption: 60 times per minute.

(3) Duration of each interruption: 0.5 second.

(4) Tolerance for each of the factors 2 and 3: 10 percent.

(b) As an alternative to the technical factors set forth in paragraph (a) of this section, other appropriate technical factors may be authorized by the Commission for the purpose of a "busy" signal pursuant to § 81.312(d).

§ 81.114 Required coast station clock.

(a) A reliable clock with a second hand shall be installed at the radio operating control point of each coast station licensed for telegraphy on frequencies below 515 kc/s. This clock shall be mounted in a position that will allow the divisions between minutes to be easily and accurately read by the operator from his normal operating position. In each coast station licensed to transmit on 500 kc/s, the required clock shall be provided with a sweep second hand and shall be mounted in a position that will allow the second dial to be easily and accurately read by the operator from his normal operating position.

(b) On each day the coast station is operated, the time indicated by this clock shall be compared with standard time and, if a deviation is observed, the clock shall be adjusted to accurately coincide with standard time: *Provided*, That this requirement shall not preclude adjustment of this clock to Greenwich mean time pursuant to the International Radio Regulations.

§ 81.115 Retention and availability of radio station logs.

(a) All station logs which are required under those provisions of this part pertaining to the particular classes of stations subject to this part shall be retained by the licensee for a period of one year from date of entry and for such additional periods as required by the following subparagraphs:

(1) Station logs involving communications incident to a distress or disaster shall be retained by the station licensee for a period of 3 years from date of entry;

(2) Station logs which include entries of communications incident to or involved in an investigation by the Commission and concerning which the station licensee has been notified shall be retained by the station licensee until such licensee is specifically authorized in writing by the Commission to destroy them;

(3) Station logs incident to or involved in any claim or complaint of which the station licensee has notice shall be retained by such licensee until such claim or complainant has been fully satisfied or until the same has been barred by statute limiting the time for the filing of suits upon such claims.

(b) Station logs shall be made available to an authorized representative of the Commission upon request.

NOTE: See Part 42 of this chapter concerning preservation of records of common carriers.

§ 81.116 Requirements as to control points.

At each control point of each coast, fixed, or shipyard mobile station subject to this part, the following facilities shall be provided:

(a) A carrier-operated device which will provide continuous visual indication whenever the transmitting apparatus is supplying power at radio-frequency to the antenna; or, in lieu thereof, a pilot lamp or meter or equivalent device which will provide continuous visual indication whenever the transmitter control circuits have been placed in a condition to actuate the radio transmitting apparatus: *Provided, however*, That the provisions of this paragraph shall not apply to marine-utility stations;

(b) Equipment to permit the responsible operator to aurally monitor all transmissions originating at dispatch points under such operator's supervision, if dispatch points are utilized;

(c) Facilities which will readily permit the responsible operator either to disconnect the dispatch point circuits from the radio transmitting apparatus or to render such apparatus inoperative from any dispatch point under the supervision of such operator; and

(d) Facilities which will permit the responsible operator to energize and de-energize the radio transmitting equipment at will. For this purpose the term "de-energize" means to suppress completely all emission from the transmitting antenna. The use of a telegraphic key or keying device as a means of compliance with this provision is acceptable when it is readily possible for the responsible operator to de-energize the station by means of such key or keying device.

Subpart E—Standard Technical Requirements

§ 81.131 Authorized frequency tolerance.

(a) Unless the particular instrument of authorization specifically provides otherwise, the frequency tolerances authorized for stations on land in the maritime services subject to this part shall be as prescribed in the following paragraphs of this section.

(b) Authorized frequency tolerances for coast stations operating on frequencies below 515 kc/s or within the band 1600 to 27,500 kc/s :

Frequency ranges	*Tolerance Parts in 10^6*
(1) From 14 to 515 kc/s	200
(2) From 1600 to 4000 kc/s	50
(3) From 4000 to 27,500 kc/s:	
Until Jan. 1, 1964	50
On and after Jan. 1, 1964	15

(c) Authorized frequency tolerances for cost stations operating on frequencies above 30 Mc/s and for marine utility stations:

Frequency ranges	*Tolerance Parts in 10^6*
(1) From 30 to 50 Mc/s:	
For stations licensed to operate with a plate input power not in excess of 3 watts	200
For all other stations	100
(2) From 100 to 200 Mc/s: [1]	
Until Jan. 1, 1964	50
On and after Jan. 1, 1964	20

[1] Transmitters with a plate power input not in excess of 3 watts are permitted a tolerance of 100 parts in 10^6 until Jan. 1, 1966. After that date a tolerance of 20 parts in 10^6 is applicable.

(d) Authorized frequency tolerances for fixed stations operating in the maritime fixed services:

Frequency or frequency range	Tolerance Parts in 10^6
(1) From 2000 to 2450 kc/s: Marine fixed stations and marine receiver-test stations	50
(2) For 27.255 Mc/s: The authorized frequency tolerance for marine control, marine repeater, and marine relay stations shall be specified in the respective station authorization.	
(3) From 72 to 76 Mc/s: Marine control, marine repeater, and marine relay stations:	
Until Jan. 1, 1964	50
On and after Jan. 1, 1964	20
(4) From 100 to 200 Mc/s: Marine receiver-test stations:	
Until Jan. 1, 1964	50
On and after Jan. 1, 1964	20

(e) The frequency tolerance authorized for stations on land operating in the maritime radiodetermination service shall be:

(1) When using radar transmitter(s) only, within a frequency band above 2400 Mc/s, the frequency tolerance is prescribed as follows: the frequency at which maximum emission occurs shall be within the authorized frequency band and shall not be closer than 1.5/T megacycles per second to the upper and lower limits of the authorized frequency band, where "T" is the pulse duration in microseconds;

(2) For other stations on land operating in the maritime radiolocation service the authorized frequency tolerance shall be specified in the instrument of authorization issued in behalf of each station.

§ 81.132 Authorized classes of emission.

(a) When the class of emission is specifically designated in the instrument of authorization, stations on land in the maritime services subject to this part shall use emission in conformity with the terms of that document. Otherwise, such stations are authorized to employ classes of emission as follows:

Frequency band	Classes of emission [1]
(1) Coast stations using telegraphy:	
14 to 160 kc/s	A1; and for brief testing A0.
160 to 490 kc/s	A1; for brief testing A0; A2,[2] A2a,[2] A2b [2] for brief testing and distress, urgency and safety signals or any communication preceded by one of the signals.
490 to 515 kc/s	A1, A2,[2] A2a,[2] A2b; [2] and for brief testing A0.
2035 to 27,500 kc/s	A1; and for brief testing A0.
(2) Coast stations and marine utility stations using telephony:	
1600 kc/s to 30 Mc/s [3]	A3, A3a, A3b; for brief operating signals A1, A2, A2a, A2b; and for brief testing A0.
30 to 50 Mc/s	A3, A3a, A3b, F3; for brief operating signals A1, A2, A2a, A2b, F1, F2; and for brief testing A0, F0.
156 to 174 Mc/s [3]	F3; for brief operating signals F1 and F2; and for brief testing F0.
For other frequencies or frequency bands.	As designated in the station authorizations.
(3) Marine fixed stations:	
2000 to 2450 kc/s	A3, A3a, A3b; for brief operating signals A1, A2, A2a, A2b; and for brief testing A0.
Marine receiver-test stations:	
2000 to 2450 kc/s	Primarily A3, A3a, A3b; secondarily for test calling signals A0, A1, A2a, A2b.
156 to 174 Mc/s	Primarily F3; secondarily for test calling signals F0, F1, F2.
Marine control, marine repeater, and marine relay stations:	
27.255 Mc/s	A1, A2, A2a, A2b, A3; and for brief testing A0.
72 to 76 Mc/s	A1, A2, A2a, A2b, A3, F1, F2, F3; and for brief testing A0, F0.
(4) Stations using radar transmitters only:	
Above 2400 Mc/s	P0.

[1] The letter "a" following class "A2" or "A3" emission means the emission of a single side band, with reduced carrier. The letter "b" following class "A2" or "A3" emission means the emission of two independent side bands, with reduced carrier.

[2] Permissible by keying the modulated emission. Keying the modulating audio frequency only, without interruption of the carrier wave, is not permissible. The use of any audio frequency pulse device such as a so-called "chopper" is prohibited.

[3] See §§ 81.312 and 81.368.

(b) Stations of any category not designated in subparagraphs (1), (2), (3), and (4) of paragraph (a) of this section shall use the class or classes of emission specified in the particular station authorization.

(c) Classes of emission not authorized in paragraph (a) of this section may be authorized by the Commission in special circumstances, subsequent to a satisfactory showing by the applicant of a need therefor and provided harmful interference will not result from the use thereof. Each application requesting such special authorization shall fully describe the emission desired to be used, shall indicate the emission bandwidth required for effective operation, and shall state the purpose for which such emission is required.

NOTE: For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2 of this chapter.

§ 81.133 Authorized emission-bandwidths.

(a) When the authorized emission-bandwidth is specifically designated in the instrument of authorization, stations on land in the maritime services subject to this part shall use emission-bandwidth(s) in conformity with the terms of that document. Otherwise, such stations shall use emission-bandwidths not exceeding those set forth in this section for the respective classes of emission authorized in § 81.132.

(b) The authorized emission-bandwidths hereinafter designated are established in relation to the operational factors set forth in the following subparagraphs:

(1) Class A0 emission means the incidental radiation of an unmodulated carrier wave from a station which is authorized to use normally an amplitude-modulated wave;

(2) Class A1 emission means a carrier wave (without the use of modulating audio frequency) keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters;

(3) Class A2 emission means a carrier wave amplitude-modulated at audio frequency not exceeding 1250 cycles per second, the modulated carrier wave being keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters. (The authorized emission-bandwidths for classes A2, A2a, and A2b emission are designated hereinafter on this basis);

(4) Class A3 emission means a carrier wave amplitude-modulated at audio frequencies corresponding to those necessary for intelligible speech transmitted at conversational speed. (The authorized emission-bandwidths for classes A3, A3a, and A3b emission are designated hereinafter on this basis);

(5) Class F0 emission means the incidental radiation of an unmodulated carrier wave from a station which is authorized to use normally a frequency-modulated wave;

(6) Class F1 emission means a continuous wave (without the use of modulating audio frequency), the frequency of which is alternatively shifted between the normal value and another specific value by keying normally for telegraphy, so as to transmit intelligence in the International Morse Code. (The authorized bandwidth for class F1 emission is designated hereinafter on the basis of the bandwidth authorized for class F2 emission);

(7) Class F2 emission means a continuous wave frequency-modulated at such audio frequency and with such deviation ratio as to not exceed the authorized emission-bandwidth, the modulating frequency being keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters;

(8) Class F3 emission means a continuous wave frequency-modulated at audio frequencies corresponding to those necessary for intelligible speech transmitted at conversational speed, with a deviation ratio of any value necessary for effective communication, provided the resulting emission shall not exceed the authorized emission-bandwidth:

(9) The keying of a carrier wave or the amplitude modulation of a carrier wave by means of audio or sub-audible frequency or frequencies, so as to transmit in each instance a selective signalling code intended to actuate a selective-calling device, shall be construed as class A1 emission or class A2, A2a, or A2b emission, respectively, within the limits of the respective authorized emission-bandwidths hereinafter set forth: *Provided*, That for class A2, A2a, or A2b emission, the frequency of modulation does not exceed 1300 cycles per second on radio-channels authorized for telegraphy, nor 3000 cycles per second on radio-channels authorized for telephony;

(10) The frequency-shift keying of a carrier wave or the frequency-modulation of a carrier wave at audio or sub-audible frequency or frequencies, so as to transmit in each instance a selective signalling code intended to actuate a selective-calling device, shall be construed as class F1 emission or class F2 emission, respectively, within the limits of the respective authorized emission-bandwidths hereinafter set forth; provided the frequency deviation used, and in the case of class F2 emission the modulating frequency or frequencies used, is (are) such that the emission in fact does not exceed the respective authorized emission-bandwidth.

(11) Class P0 emission means pulse transmission with the absence of any modulation intended to carry information, as used by ship radar stations licensed by the Commission.

(c) (1) The authorized emission-bandwidths for the classes of emission authorized in § 81.132 shall be as follows:

Class of emission	Emission designator	Emission-bandwidth authorized for transmission of intelligence
A0	None	None.
A1	0.16A1	224 cycles per second.
A2	2.66A2	2,724 cycles per second.
A2a	1.33A2a	1,362 cycles per second.
A2b	2.66A2b	2,724 cycles per second.
A3	6A3	8,000 cycles per second.
A3a	3A3a	4,000 cycles per second.
A3b	6A3b	8,000 cycles per second.
F0	None	None.
F1:		
For 35 to 76 Mc/s	Variable [1]	40,000 cycles per second.
For 156 to 174 Mc/s	Variable [1]	40,000 cycles per second.
F2:		
For 35 to 76 Mc/s	36F2	40,000 cycles per second.
For 156 to 174 Mc/s	36F2	40,000 cycles per second.
F3:		
For 35 to 76 Mc/s	36F3	40,000 cycles per second.
For 156 to 174 Mc/s	36F3	40,000 cycles per second.
P0	Variable [2]	Variable.[2]

[1] In the case of class F1 emission, the emission designator will vary according to the frequency deviation, the number of words per minute, and other factors involved.

[2] In the case of class P0 emission, the emission designator and the authorized emission-bandwidth will vary according to the specific values of the controlling technical factors. Reference may be made to individual station authorizations which specify therein the respective emission designator and the respective authorized emission-bandwidth. Note also the provisions of §81.131 (e)(1) concerning authorized frequency tolerance for radar transmitters.

(2) When a specific "emission designator", as expressed in subparagraph (1) of this paragraph, appears in a station authorization applicable to any station subject to this part, such designator specifies, for that station and for the particular radio-channel(s) involved, the corresponding authorized emission-bandwidth as set forth in subparagraph (1) of this paragraph.

(3) In the actual operation of a station on land subject to this part, unless otherwise provided by the station authorization:

(i) When a carrier is present, the frequency coinciding with the center of the frequency-band occupied by the emission-bandwidth shall, when class A2, A2b, A3, F2, or F3 emission is being used, be the same as the carrier frequency;

(ii) When a carrier is not present, the frequency-band occupied by the emission-bandwidth shall be within the authorized frequency-band.

(d) Bandwidths in excess of those set forth in paragraph (c) of this section or emission-bandwidths for other classes of emission may be authorized and set forth in the instrument of authorization if approved by the Commission subsequent to a satisfactory showing by the applicant of need therefor. Each application requesting such special authorization shall fully describe the emission desired to be used, shall indicate the emission-bandwidth required for effective operation, and shall state the purpose for which such emission-bandwidth is required.

§ 81.134 Authorized transmitter power.

(a) Stations on land subject to this part may use such antenna power as is necessary to carry on the service for which the station is licensed, on condition that the maximum authorized transmitter power shall, subject to the provisions of § 81.110(a), not be exceeded. Unless the station authorization specifically provides otherwise, the maximum authorized transmitter power (as defined in § 81.8(x)) shall not exceed the particular power set forth in the following paragraphs which is applicable under the controlling factors designated therein in direct relation to that power.

(b) For coast stations using telegraphy on frequencies below 27,500 kc/s, the maximum authorized transmitter power shall be:

Frequency-band	*Maximum authorized transmitter-power (with or without modulation) (kilowatts)*
14 kc/s to 150 kc/s	80
150 kc/s to 515 kc/s	40
2035 kc/s to 2065 kc/s	6.6
4000 kc/s to 7000 kc/s	10
8000 kc/s to 9000 kc/s	20
12,000 kc/s to 27,500 kc/s	80

(c) For coast stations using telephony on frequencies below 25,000 kc/s, the maximum authorized transmitter-power shall be:

Class of radio-frequency amplifier used in last radio stage of transmitter	Maximum authorized transmitter-power (when no modulation is present)[1] Frequency-band in which transmission occurs						
	2000–2632 kc/s and 2644–3500 kc/s		4000–5000 kc/s		5000–25000 kc/s		
					Class I station		Class II station
	Day	Night	Class I station	Class II station	Above 18000 kc/s	Below 18000 kc/s	
Class C—plate or plate and screen-grid modulated	*Watts* 1,500	*Watts* 700	*Kilowatts* 70	*Watts* 1,500	*Kilowatts* 27	*Kilowatts* 70	*Watts* 1,500
Class C—control, screen, or suppressor-grid modulated	3,000	1,400	140	3,000	54	140	3,000
Class C—cathode modulated	2,400	1,120	112	2,400	43	112	2,400
Class B—linear	3,000	1,400	140	3,000	54	140	3,000
Class BC—high efficiency	1,800	840	84	1,800	32	84	1,800
Other classes	As specified in the station authorization						

[1] See § 81.366 (a) (3).

(d) For coast stations and marine utility stations using telephony on the authorized carrier frequency 2638 kc/s or on any frequency assignment within the frequency band 35 Mc/s to 44 Mc/s and employing amplitude modulation (AM), the maximum authorized transmitter power shall be:

Class of radio frequency amplifiers used in last radio stage of transmitter	Maximum authorized transmitter-power (when no modulation is present)	
	Coast stations	Marine-utility stations
	Watts	*Watts*
Class C—plate, or plate and screen-grid modulated	100	10
Class C—control, screen, or suppressor-grid modulated	200	20
Class C—cathode modulated	160	16
Class B—linear	200	20
Class BC—high efficiency	120	12
Other classes	As specified in the station authorization	

(e) For coast stations and marine utility stations using telephony on any frequency assignment within one or more of the following frequency bands, and employing frequency modulation (FM), the maximum authorized transmitter power shall be:

Frequency band in which operation occurs	Maximum authorized transmitter power (without reference to modulation)		
	Public coast stations	Limited coast stations	Marine utility stations
	Watts	*Watts*	*Watts*
35 to 44 Mc/s	100	100	10
156.325 to 156.625 Mc/s	----------	100	10
156.625 to 156.675 Mc/s	----------	(1)	10
156.675 to 161.625 Mc/s	250	100	10
161.775 to 162.025 Mc/s	1,000	----------	----------

[1] 15 watts in areas other than the Great Lakes; 100 watts in the Great Lakes area.

(f) For stations in the maritime fixed services, the maximum authorized power shall be as prescribed herewith:

Frequency-band in which operation occurs:	*Maximum authorized transmitter-power (when no modulation is present) (watts)*
Marine fixed stations and marine receiver-test stations using telephony (amplitude modulation):	
2000 kc/s to 2450 kc/s:	
Class C—plate, or plate and screen-grid modulated	150
Class C—control, screen, or suppressor-grid modulated	300
Class C—cathode modulated	240
Class B—linear	300
Class BC—high efficiency	180
Other classes as specified in authorization.	
Marine receiver-test stations (using telephony frequency modulation): 156.35 Mc/s to 157.45 Mc/s	200

(g) For marine control, marine repeater, and marine relay stations operating on the frequency 27.255 Mc/s or within the band 72–76 Mc/s, and for other classes of stations subject to this part operating on frequencies above 174 Mc/s, the authorized transmitter power shall be specified in the respective station authorization.

(h) For the purpose of assuring adherence to the requirements of this section, or the applicable terms of the station authorization, the authorized transmitter power, with reference to § 81.8 (v) and (x) may be computed for electron tube transmitters by the method set forth in the following subparagraphs: *Provided,* That when the particular transmitter is used for telephony by means of amplitude modulation (class A3 emission or class A2 or special emission for operating signals), the authorized transmitter power shall, in all instances, be measured when modulation is not present.

(1) The authorized transmitter-power shall be the sum of the product(s) obtained by multiplying the indicated anode (plate) voltage, applied to each electron tube of the last radio stage supplying radio-frequency power to the antenna, by the indicated anode (plate) current flowing through each such tube, or shall be the sum of the indicated powers supplied to each such tube.

(2) Indication of the anode (plate) voltage may be accomplished by means of a direct-current type voltmeter (as applicable) or an alternating-current type voltmeter of proper frequency range (as applicable), each such instrument having an accuracy and reliability acceptable to the Commission. Where the same voltage is applied to more than one electron tube, indication of this voltage shall be regarded as indication of the voltage applied to each individual electron tube of that particular group.

(3) Indication of the anode (plate) current may be accomplished by means of a direct-current (D'Arsonval galvanometer movement) type ammeter having an accuracy and reliability acceptable to the Commission. Where the anode (plate) current through more than one electron tube flows through a common point in the electrical circuit, indication of the current at this point shall be regarded as indication of the total anode (plate) current flowing through all electron tubes of that particular group.

(4) Indication of the power in watts supplied to the anode (plate) circuit of one or more electron tubes shall be acceptable provided a wattmeter properly activated by the form of voltage and current supplied is employed, and has an accuracy and reliability acceptable to the Commission.

(5) When any current, in addition to the actual anode (plate) current, flows through an ammeter or wattmeter being used for indications in accordance with this subparagraph (such as screen-grid current), such current, unless separately indicated or specified by the manufacturer, shall not be deducted from the current indicated for the purpose of this subparagraph.

§ 81.136 Acceptance of transmitters for licensing.

(a) Upon written request therefor made by the manufacturer or applicant for related station authorization, acceptance of a specific and readily identifiable type of radio transmitter as being capable of complying with all requirements of the Commission solely for the purpose of authorizing such transmitter in accordance with the provisions of § 81.21 will be given by the Commission subsequent to a satisfactory showing of compliance made by the applicant. The necessary showing of compliance shall, as a minimum, be in the form of a written statement (together with such supplemental charts, graphs, illustrations, test data, etc., as may be deemed appropriate by the applicant for type-acceptance or as may be required by the Commission), over the signature of a competent radio engineer attesting to actual technical performance of the transmitter in accordance with all pertinent rules, regulations, and international agreements which must be met by the class of station for which the transmitter is intended to be licensed.

(b) Request for type-acceptance and showing of compliance pursuant to the provisions of paragraph (a) of this section shall be submitted in duplicate to the Commission at Washington, D.C., 20554. One copy of such showing of compliance shall be signed by the engineer who conducted or supervised the related technical performance of the particular type of transmitter for the purpose of securing type-acceptance by the Commission.

(c) In the event the written showing of compliance prescribed by paragraphs (a) and (b) of this section is deemed by the Commission to not furnish all information or data which it requires for the purpose of type-acceptance of a particular type of radio transmitter, the Commission may supplementally require the applicant for such type-acceptance to demonstrate by actual operation of the involved equipment in the presence of one or more engineers of the Commission that the same will, in fact, comply with all pertinent rules, regulations, and international agreements. In the event the showing of compliance is finally adjudged by the Commission to be unsatisfactory for the purpose of acceptance for licensing of the particular type of transmitter, type-acceptance will not be given and that type of transmitter will not be licensed for the involved class of station.

§ 81.137 Special requirements for radiotelephone transmitters.

(a) Except for transmitters authorized solely for developmental stations, each radiotelephone transmitter licensed by the Commission for use and operation in a coast station, a marine-fixed station, or a marine-utility station on shore shall be used with a device that will automatically prevent modulation in excess of 100 percent. This requirement, however, shall not apply to transmitters incapable of a plate input power exceeding three watts which are authorized for marine-utility stations and other stations of portable nature.

(b) (1) Each radiotelephone transmitter authorized in a coast station license or a marine-utility station license for use and operation at frequencies above 30 Mc/s (other than transmitters authorized solely for developmental stations), must be a type which is acceptable to the Commission pursuant to the provisions of § 81.136.

(2) Before being finally considered for type acceptance, such transmitters shall, in addition to meeting all other applicable requirements, comply with the following limitations and operating conditions:

(i) When using F1, F2, or F3 emission on any frequency within the band 35–44 Mc/s or within the band 156–174 Mc/s, any spurious emission appearing on any frequency removed from the carrier frequency by not less than 20 kc/s nor more than 40 kc/s shall be attenuated 25 decibels or more below the intensity of the unmodulated carrier;

(ii) Any spurious emission appearing on any radio frequency removed from the carrier frequency by not less than 40 kc/s nor more than 100 kc/s shall be attenuated 35 decibels or more below the intensity of the unmodulated carrier;

(iii) Any spurious emission appearing on any frequency removed from the carrier frequency by not less than 100 kc/s shall be attenuated below the intensity of the unmodulated carrier by not less than the amount specified herewith:

Maximum authorized transmitter power as specifically defined in § 81.8(x):	*Attenuation (decibels)*
3 watts or less	40
Over 3 watts and including 150 watts	60
Over 150 watts and including 600 watts	70
Over 600 watts	80

(c) (1) Each coast station authorized to operate on a secondary basis as a shipyard base station, shall, while so operating, comply with the provisions of this section which apply to coast stations using telephony.

(2) Each shipyard mobile station shall comply with the provisions of this section which apply to coast stations using telephony.

§ 81.138 Special requirements for radar transmitters.

(a) Each radar transmitter authorized for use in the maritime radiodetermination service (other than transmitters used in developmental stations) must be type approved by the Commission pursuant to the type approval procedure set forth in Part 2 of this chapter.

(b) In addition to meeting all other applicable requirements, such transmitters shall not have means available for any external adjustment(s) which can result in a deviation from the terms of the station authorization or any deviation from the applicable technical requirements for stations on land subject to this part with respect to the operation of radar transmitters.

§ 81.139 Apparatus for generating automatically the radiotelephone alarm signal.

(a) Any device for generating the radiotelephone alarm signal (as defined by § 81.188(b)) by automatic means shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress call and message. The device shall comply with the following requirements:

(1) The tolerance of the frequency of each tone shall be plus or minus 1.5 percent;

(2) The tolerance on the duration of each tone shall be plus or minus 50 milliseconds;

(3) The interval between successive tones shall not exceed 50 milliseconds;

(4) The ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2.

(b) Except for experimental or trial operation under developmental station authorization, any device for generating the radiotelephone alarm signal by automatic means, which is used or operated by a coast station subject to this part for transmission of that signal, shall be of a type specifically approved by the Commission in respect to its accuracy, reliability, and other relevant characteristics.

Subpart F—Operator Requirements

§ 81.151 Authorized operator required.

(a) Except as otherwise provided in § 81.156, the actual operation of all transmitting apparatus in any radio station subject to this part shall be carried on only by a person holding an operator license issued by the Commission in accordance with Part 13 of this chapter, subject, however, to the following provisions:

(1) When the station is used for telephony, the person actually operating the transmitting apparatus (normally a person holding an operator license issued by the Commission in accordance with Part 13 of this chapter), may, if authorized by the station licensee to do so, permit any person to speak over the station microphone: *Provided*, That during such transmission the station licensee or the licensed operator (acting in this respect as the station licensee's agent) shall exercise his lawful control with respect to operation of the station so as to insure compliance with all applicable laws and regulations. In this respect, a microphone (located, for example, at a dispatch point) used in connection with any land-wire telephone circuit which is electrically connected to the modulating system of the radiotelephone transmitting apparatus, shall be construed for the purpose of this paragraph to be the station microphone.

(2) When the station is used for telegraphy, transmitted manually by means of the International Morse Code, the transmitting telegraph key shall, wherever its location, be manipulated only by a person who holds an operator license of the class valid for the operation of the particular class of station being operated.

§ 81.152 Location of authorized operator.

(a) Whenever the transmitting apparatus of a station subject to this part is being used or operated, and the provisions of section 318 of the Communications Act (in so far as such provisions require the actual operation of such apparatus only by a person holding an operator license of the proper class issued by the Commission) are not waived by the Commission, at least one person holding an operator license of the proper class as prescribed in Part 13 of this chapter shall be on duty at an authorized control point of that station and shall be responsible for proper operation of the station as controlled from that location.

(b) Subject to the conditions stipulated in § 81.151, an unlicensed person at a dispatch point may, after being authorized by the station licensee to do so, operate from that point a coast station or a fixed station: *Provided, however*, That such operation shall be under the direct supervision and responsibility of a person holding an operator license of the proper class issued by the Commission, who is on duty at an authorized control point associated for this purpose with the respective dispatch point.

§ 81.153 Unattended operation of fixed stations.

(a) No person, whether or not a licensed operator, is required to be in attendance at any marine repeater station subject to this part which is licensed for operation solely on frequencies above 72 Mc/s with an authorized transmitter power not in excess of 100 watts when such station is being used and operated for re-transmission by self-actuating means of signals or communications being received simultaneously at that station from a marine control station, a marine relay station, or another marine repeater station: *Provided:*

(1) The emission of the station is controlled positively and solely by the received radio signals which, in accordance with the station authorization are intended to effect such control.

(2) The activation and de-activation of the station is controlled positively by either radio or wire-line signals transmitted from an authorized control point at which a duly licensed operator exercises such control.

(b) Nothing contained in paragraph (a) of this section shall be construed to change or diminish in any respect the responsibility of the station licensee for having and maintaining control of the marine-repeater station or for proper functioning and operation of the station in accordance with law.

§ 81.154 Adjustment or test of equipment.

Notwithstanding any other provisions of this subpart, all adjustments or tests of radio transmitting apparatus in any station subject to this part during or coincident with the installation, servicing, or maintenance of such apparatus which may affect the proper operation of such station, must be performed by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the class of station involved, who shall be responsible for the proper functioning of the station equipment.

§ 81.155 Posting of operator license.

When a licensed operator is required for the operation of a station subject to this part, the original license of each such operator while he is employed or designated as radio operator of the station shall be posted in a conspicuous place at the authorized control point at which the operator is stationed in accordance with the provisions of § 81.152: *Provided,*

That in the case of marine-utility stations on shore and shipyard mobile stations or in the case where the operator holds a restricted radiotelephone operator permit, the operator may in lieu of posting have on his person either his required operator license or a duly issued verification card (FCC Form 758-F) attesting to the existence of that license.

§ 81.156 Waiver of operator license for VHF shipyard mobile stations.

(a) Subject to the conditions hereinafter stated, the provisions contained in section 318 of the Communications Act are waived, insofar as such provisions require any person to hold an operator's license in order to operate, during the course of normal rendition of service, any shipyard mobile station when such station is authorized to use telephony only and further is authorized to be operated exclusively on one or more radio-channels above 30 Mc/s: *Provided:*

(1) The person who operates the transmitting equipment is authorized by the station licensee to do so, and the use of the station during such operation is subject to the lawful direction and authority of a person who, at the time, is an operator licensee on duty in accordance with § 81.152 at the control point of an authorized land station of the same station licensee with which the shipyard mobile station is associated, and with which it is authorized to communicate.

(2) The station uses one or more of the following classes of emission only: A3 or F3 for telephony and on the same radio-channels as are authorized for telephony A0, A2, F0, F2 solely for transmitting by automatic means attention signals, signals for actuating selective-calling devices, for brief testing of the authorized apparatus, or station identification, or signals in an emergency involving safety.

(3) In addition to complying with all other applicable rules and regulations, the transmitting apparatus of the station shall meet the following requirements:

(i) Operation of the transmitting apparatus shall require only use of simple external switching devices excluding all manual adjustments of radio frequency determining elements;

(ii) The required radio frequency stability of the transmitting apparatus must be maintained (at all times during such operation by an unlicensed person) by the apparatus itself;

(iii) None of the operations necessary to be performed during the course of normal rendition of service of the station shall be capable of causing any radiation of emission on an unauthorized frequency; and

(iv) The transmitting apparatus shall be used with a device that will automatically prevent modulation in excess of 100 percent.

(4) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of the station that may affect its proper operation shall be made by or under the immediate supervision and responsibility of a person holding an operator license of the proper class for this purpose as prescribed in Part 13 of this chapter.

(5) Subsequent to any transmitter adjustments made in accordance with subparagraph (4) of this paragraph, and at all other times, the station licensee shall be responsible for determining that the transmitting equipment continues to meet the conditions prescribed by subparagraph (3) of this paragraph:

(6) The person(s) authorized by the licensee to operate the station shall, in lieu of a licensed operator, comply with the provisions of § 81.152(a) as though he were a licensed operator:

(7) Nothing contained in this paragraph shall be construed to change or diminish in any respect, the responsibility of the station licensee for having and maintaining control of the station or for proper functioning and operation of the station in accordance with law;

(8) No unlicensed person, authorized as provided by this paragraph to operate a station, may lawfully perform any act in relation to such station that he could not lawfully perform if he were acting under the authority of a radio operator license issued in his behalf by the Commission.

Subpart G—General Operating Requirements

§ 81.171 International Regulations applicable.

In addition to being regulated by applicable rules of this part, the use and operation of stations subject to this part shall be governed by applicable provisions of the International Radio Regulations and the applicable radio provisions of all other international agreements in force to which the United States is a party.

§ 81.172 Cooperative use of frequency assignments.

Unless provided otherwise by this part, or by the particular station authorization, each radiochannel authorized for use by a station subject to this part is available for such use on a shared basis only and shall not be construed as available for the exclusive use of any one station or any one station licensee. All station licensees shall cooperate in the use of their respective frequency assignment in order to minimize interference and obtain the most effective use of the authorized radiochannels.

§ 81.173 Secrecy of communication.

The station licensee, and the responsible radio operators, as well as all persons who may have knowledge of the text or of the existence of the radio communications transmitted or received by a fixed, land, or mobile station subject to this part, or of any information whatever obtained by means of the radiocommunication service of such station, shall be under the obligation of observing and insuring the secrecy of communications to the extent required by the Communications Act and the International Radio Regulations.

NOTE: See secs. 501, 502, and 605 of the Communications Act of 1934; also Article 17 of the International Radio Regulations, Geneva, 1959.

§ 81.174 Unauthorized transmissions.

Stations operating in the maritime mobile service or in any fixed or land mobile service subject to this part shall not engage in radiocommunication which is superfluous or unneccessary in that service. Except in an emergency which requires otherwise, the transmission by such stations of signals or communications not addressed to an authorized station or stations in an authorized maritime service is prohibited unless radiotelegraphy is used and the transmission, preceded by CQ or CP in accordance with the International Radio Regulations, is intended to be intercepted by authorized stations of the maritime mobile service.

§ 81.175 Suspension of transmission.

Transmission shall be suspended immediately upon detection by the station or operator licensee or upon notification by the Commission of a deviation from the technical requirements of the station authorization and shall remain suspended until such deviation is corrected, except for transmission concerning the immediate safety of life or property, in which case transmission shall be suspended immediately after the emergency is terminated.

§ 81.176 Service of public coast stations.

(a) Each public coast station shall, within the scope of its normal operations, be bound to exchange radiocommunication with any ship or aircraft station at sea: *Provided*, That such exchange of radio-communication shall be without distinction as to radio systems or instruments adopted by each station.

(b) Each public coast station shall, within the scope of its normal operations and without discrimination, acknowledge all calls and receive all messages and communications from mobile stations (except land mobile stations) within range which are addressed or directed to it, transmit all messages and communications delivered to or via the coast station which are addressed or directed to mobile (except land mobile stations) stations within range, and in all respects, render a maritime mobile service of public correspondence without discrimination.

§ 81.177 Service of limited coast stations and marine-utility stations.

In addition to such messages as are necessary for compliance with § 81.178, and except as may be otherwise limited by the terms of this part governing the use of particular frequencies or by the terms of the station license, a limited coast station or a marine-utility station operated on shore is authorized to transmit within the scope of its normal operations messages necessary for the safe, expeditious or economical operation of ships or (when necessary) for the safety of aircraft.

§ 81.178 General obligations of coast stations.

With respect to distress and the safety of navigation, life, or property, each coast station or marine-utility station shall, within the scope of its normal operation, acknowledge all such safety calls and receive all such

safety communication addressed or directed to it by ship or aircraft stations. Notwithstanding the terms and conditions of the station license, such stations may transmit safety communication to any ship or aircraft station in the maritime mobile service.

§ 81.179 Message charges.

(a) (1) No charge shall be made for the service of any public coast station unless effective tariffs applicable to such service are on file with the Commission, pursuant to the requirements of Section 203 of the Communications Act and Part 61 of this chapter.

(2) No charge shall be made for the service of any station subject to this part, other than a public coast station, except as provided by and in accordance with § 81.352.

(b) No charge shall be made by any station in the maritime mobile service of the United States for the transmission of distress messages and replies thereto in connection with situations involving the safety of life and property at sea.

(c) No charge shall be made by any station in the maritime mobile service of the United States for the transmission, receipt, or relay of the information concerning dangers to navigation designated in § 83.303 (b) of this chapter, originating on a ship of the United States or of a foreign country.

(d) Any common carrier subject to the Communications Act may furnish reports of positions of ships at sea to newspapers of general circulation, either at a nominal charge or without charge, provided the name of such common carrier is displayed along with such ship position reports.

(e) Any common carrier subject to the Communications Act may render to any agency of the United States Government free service in connection with the preparation for the national defense. Every such carrier rendering any such free service shall make and file, in duplicate, with the Commission, on or before the 31st day of July and on or before the 31st day of January in each year, reports covering the periods of 6 months ending on the 30th day of June and the 31st day of December, respectively, next prior to said dates. These reports shall show the names of the agencies to which free service was rendered pursuant to this paragraph, the general character of the communications handled for each agency, and the charges in dollars which would have accrued to the carrier for such service rendered to each agency if charges for all such communications had been collected at the published tariff rates.

§ 81.180 Priority of communications to be observed.

Stations in the maritime mobile service shall observe at all times the priority of communications set forth in § 81.181; in particular, all such stations shall give absolute priority to radio communications or signals relating to any ship or aircraft in distress; shall, when any distress signal or communication is anticipated or intercepted, cease all transmission on frequencies which may interfere with any station hearing such radio communication or signal of distress except when engaged in answering or aiding the ship or aircraft in distress, and shall assist the vessel or aircraft in distress, so far as possible, by complying with its instructions.

§ 81.181 Order of priority of communications.

(a) The order of priority of radiotelegraph communications in the maritime mobile service on any frequency used for this service shall be as follows:

(1) Distress calls (including the international distress signal for radiotelegraphy),[1] the international radiotelegraph alarm signal,[2] the international radiotelephone alarm signal,[2] distress messages, and distress traffic.

(2) Communications preceded by the international radiotelegraph urgency signal.[1]

(3) Communications preceded by the international radiotelegraph safety signal.[1]

(4) Communications relative to radio direction-finding bearings.

(5) Communications relative to the navigation and safe movement of aircraft.

(6) Communications relative to the navigation, movements, and needs of ships, including weather observation messages destined for an official meteorological service.

(7) Government communications for which priority right has been claimed.

(8) Service communications relating to the working of the radiocommunication service or to communications previously transmitted.

(9) All other communications.

(b) The order of priority of radiotelephone communications in the maritime mobile service on any frequency used for this service shall be as follows:

(1) Distress calls (including the international distress signal for radiotelephony),[1] the international radiotelephone alarm signal,[2] distress messages, and distress traffic.

(2) Communications preceded by the international radiotelephone urgency signal,[1] or known to the station licensee or his agent to consist of one or more urgent messages concerning the safety of a ship, aircraft, or other mobile unit or of some person on board or within sight of the ship, aircraft, or mobile unit.

(3) Communications preceded by the international radiotelephone safety signal,[1] or known to the station licensee or his agent to consist of one or more messages concerning the safety of navigation or important meteorological warnings.

(4) Communications known by the station licensee or his agent to consist of one or more messages relative to the navigation, movements, and needs of ships; including weather observation messages destined for an official meteorological service.

(5) Government communications for which priority right has been claimed.

(6) All other communications.

[1] See § 81.7 for definition of this signal.

[2] See § 81.188 for definition of this signal.

§ 81.182 Control by coast station.

When communicating with a mobile station in the maritime mobile service, coast stations may, for the sole purpose of reducing or avoiding interference, expediting communication, and rendering an efficient service, give instructions to the mobile station relative to the order and time of transmission, to the choice of authorized frequency, to the suspension of communication, and to the permissible type of message traffic that may be transmitted or received by the particular coast station. This provision, however, shall not apply in the event of distress, either actual or impending, except as provided, in respect to distress situations, by § 81.187 and applicable provisions of the International Radio Regulations.

NOTE: See Article 36 of the International Radio Regulations, Geneva, 1959.

§ 81.183 Prevention of interference.

(a) Before any signals or communications are transmitted on any frequency, the licensed operator attending a land station or a land mobile station subject to this part (or the person responsible in lieu of a licensed operator in respect to land mobile stations for which the requirement of an operator license is waived by the Commission; or in a public coast station using telephony, the landline telephone operator under the supervision of the licensed operator) shall first listen on the associated receiving frequency, and when necessary on the land or mobile station transmitting frequency, to determine insofar as is practicable whether transmission by the land or mobile station will interfere with communication already in progress, whenever the involved frequency or frequencies are assigned to other stations within the same interference area (for example, all stations in the Great Lakes region are considered, with respect to operation on frequencies below 30 Mc/s, to be in the same interference area): *Provided*, That the requirement may be waived by the Commission upon application therefor in behalf of individual land stations which employ other effective means to avoid interference.

(b) Whenever a radiocommunication in the maritime mobile service is already in progress between two mobile stations or between a mobile station and a coast station and it appears to be interfered with by a subsequent transmission from another mobile station, the latter must cease transmitting at the first request of either of the other two, except as priority may be otherwise determined by § 81.181. The station requesting this cessation must indicate the approximate length of the wait imposed upon the mobile station whose transmission is suspended.

(c) Communications between ship stations, between ships and aircraft stations, or between land stations and land mobile stations subject to this part, must not interfere with the work of coast stations. When this work is thus interfered with, the ship, aircraft land, mobile, or land station which causes such interference must stop transmitting or change to a different authorized frequency upon the first request of the

coast station concerned: *Provided*, That this requirement shall not apply to ships or aircraft stations when they are transmitting signals or communications relating to a ship or aircraft in distress.

(d) Coast stations when operating on a frequency below 3500 kilocycles or above 30 Mc/s shall not carry on, or attempt to carry on, communication with any station which, under the currently prevailing conditions of transmission or reception, is not within reliable communication range of the coast station: *Provided*, That this provision shall not apply in event of distress, either actual or impending.

§ 81.184 Transmission of traffic lists by coast stations.

(a) Public coast stations are authorized to transmit, on their normal working frequencies in the appropriate bands, lists of official call signs (or, alternatively in the use of telephony, the names of the respective ships), in alphabetical order so far as practicable, of all mobile stations for which they have traffic on hand. These traffic lists shall be transmitted at intervals of at least two hours and not more than four hours during the working hours of the coast station. The use of calling frequencies for this purpose is prohibited; however, coast stations may announce on a calling frequency that they are about to transmit such call lists on a specified working frequency.

(b) In operating pursuant to paragraph (a) of this section, public coast stations shall be governed by the applicable provisions of the International Radio Regulations.

NOTE: See paragraphs 1067 and 1300 of the International Radio Regulations, Geneva, 1959.

§ 81.185 Transmission to plurality of mobile stations.

Information for the general benefit of mariners (including storm warnings and ordinary weather and hydrographic information) and press material may be transmitted by a coast station simultaneously to a plurality of mobile stations in the maritime mobile service: *Provided*, That the times at which such transmissions (except storm warnings and urgency and safety messages) are scheduled to begin, the maximum duration of each such transmission, and the specific radio-channels and class of emission used therefor, shall, with respect to each coast station, be subject to approval by the Commission.

§ 81.186 Hours of service of stations on land.

(a) Each coast station or marine-utility station on shore whose hours of service are not continuous shall not suspend operation before having concluded all communication required in connection with a distress call or distress traffic.

(b) Each public coast station whose hours of service are not continuous shall not suspend operation before having concluded all communication (in addition to that designated in paragraph (a) of this section), within the scope of its normal operations, involving messages or calls originating in or destined to mobile stations or marine fixed stations which are within normal range of the coast station and which, in the case of mobile stations, have signalled their presence before the effective suspension of operation of the coast station.

(c) Unless otherwise authorized by the Commission upon adequate showing of need therefor, each class I public coast station shall maintain continuous hours of service during the entire period of validity of the station license.

(d) Unless otherwise specified by the Commission for particular stations, the hours of service of each class II and class III public coast station shall, within the scope of its normal operations, be such as to adequately meet the requirements of the particular region served by the station.

(e) Unless otherwise specified by the Commission for particular stations, the hours of service of limited coast stations and marine-utility stations on shore shall be determined by the station licensee in accordance with the requirements of the respective ships served by each station.

(f) The Commission, as public interest, convenience, or necessity requires, may order, at any time, the licensee of a public coast station not authorized for continuous hours of service to increase the hours of service of such station as may, in the discretion of the Commission, be required to provide adequate public service: *Provided*, That such requirement shall not be prescribed without the consent of the station licensee unless, after hearing, the Commission shall determine that such requirement will promote public convenience or interest or will serve public necessity, or the provisions of the Communications Act will be more fully complied with.

(g) Unless otherwise specified by the Commission for particular stations, the hours of service of stations subject to this part which are not operating in the maritime mobile service shall be determined by the station licensee in accordance with the requirements of the service carried on by the station(s) involved, subject to such applicable conditions and limitations as are imposed by the rules of the Commission or by the International Radio Regulations.

§ 81.187 Procedure relative to distress communication.

(a) *Applicable regulations.* In addition to the governing provisions of the Radio Regulations, Geneva, 1959 (see Article 36 thereof) applicable to the transmission and interception of distress signals and the handling of distress traffic, land stations which are subject to this part shall, in cases of distress, be governed by the following paragraphs of this section. No provision of the International Radio Regulations shall prevent the use by a land station, in exceptional circumstances, of any means by telecommunication available to it for the purpose of assisting a mobile station in distress. A land station receiving a distress message shall, without delay, take the necessary action to advise the appropriate authorities responsible for providing for the operation of rescue facilities.

(b) *Acknowledgment of distress message.* Stations of the maritime mobile service which receive a distress message from a mobile station which is, beyond any possible doubt, in their vicinity, shall immediately acknowledge receipt. However, if it appears that the mobile station in distress is not in their vicinity, a short interval of time shall be allowed to elapse before acknowledging receipt of the message, in order to permit stations nearer to the mobile station in distress to acknowledge receipt without interference. All stations which hear a distress call shall immediately cease any transmission capable of interfering with the distress traffic and shall continue to listen on the frequency used for the emission of the distress call.

(c) *Form of acknowledgment.* (1) The acknowledgment of receipt of a distress message is transmitted, when radiotelegraphy is used, in the following form:

(i) The call sign of the station sending the distress message, sent three times;

(ii) The word DE;

(iii) The call sign of the station acknowledging receipt, sent three times;

(iv) The group RRR;

(v) The distress signal SOS.

(2) The acknowledgment of receipt of a distress message is transmitted, when radiotelephony is used, in the following form:

(i) The call sign or other identification of the station sending the distress message, spoken three times;

(ii) The words THIS IS;

(iii) The call sign or other identification of the station acknowledging receipt, spoken three times;

(iv) The word RECEIVED;

(v) The distress signal MAYDAY.

(d) *Control of distress traffic.* (1) The control of distress traffic is the responsibility of the mobile station in distress or of the station which, in accordance with the governing provisions of the International Radio Regulations, has transmitted the distress message. These stations may, however, delegate the control of the distress traffic to another station.

(2) The station in distress or the station in control of distress traffic may impose silence either on all stations of the mobile service in the area or on any station which interferes with the distress traffic. It shall address these instructions "to all stations" or to one station only, according to circumstances. In either case, it shall use:

(i) In radiotelegraphy, the abbreviation QRT followed by the distress signal SOS. The use of the signal QRT SOS shall be reserved for the mobile station in distress and for the station controlling distress traffic;

(ii) In radiotelephony, the signal SEELONCE MAYDAY. The use of this signal shall be reserved for the mobile station in distress and for the station controlling distress traffic.

(3) If it is believed to be essential, any station of the mobile service near the ship, aircraft, or other vehicle in distress, may also impose silence. It shall use for this purpose:

(i) In radiotelegraphy, the abbreviation QRT followed by the word DISTRESS and its own call sign;

(ii) In radiotelephony, the word SEELONCE followed by the word DISTRESS and its own call sign or other identification.

(4) Any station which has been notified to cease transmission in connection with a situation of distress shall not resume transmission on any frequency which may cause interference to distress signals or traffic until notified by the station in control of the distress traffic that the distress traffic has ceased and transmission may be resumed, or until notified by the station issuing the original notice that transmission from the station in question will not interfere with the distress signals or traffic.

(e) *Transmission of a distress message by a station not itself in distress.* (1) A land station which learns that a mobile station is in distress shall transmit a distress message in any of the following cases:

(i) When the station in distress is not itself in a position to transmit the distress message;

(ii) When the person responsible for the land station considers that further help is necessary;

(iii) When, although not in a position to render assistance, it has heard a distress message which has not been acknowledged. At the same time, all necessary steps shall be taken to notify the authorities who may be able to render assistance.

(2) The transmission of a distress message under the conditions prescribed in subparagraph (1) of this paragraph shall be made on either or both of the international distress frequencies (500 kc/s radiotelegraph; 2182 kc/s radiotelephone) or on any other available frequency on which attention might be attracted.

(3) The transmission of the distress message under the conditions prescribed in subparagraph (1) of this paragraph shall always be preceded by the call indicated hereunder, which shall itself be preceded whenever possible by the radiotelegraph or radiotelephone alarm signal. (See § 81.188.) This call consists of:

(i) When radiotelegraphy is used:

(*a*) The signal $\overline{\text{DDD SOS}}$ $\overline{\text{SOS SOS}}$ $\overline{\text{DDD}}$;

(*b*) The word DE;

(*c*) The call sign of the transmitting station, sent three times.

(ii) When radiotelephony is used:

(*a*) The signal MAYDAY RELAY, spoken three times;

(*b*) The words THIS IS;

(*c*) The call sign or other identification of the transmitting station, spoken three times.

(4) When the radiotelegraph alarm signal is used an interval of 2 minutes shall be allowed, whenever this is considered necessary, before the transmission of the call mentioned in subparagraph (3) (i) of this paragraph.

§ 81.188 Radiotelegraph and radiotelephone alarm signals.

(a) The international radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. The purpose of this special signal is the actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency.

(b) The international radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2200 cycles per second and the other a frequency of 1300 cycles per second, the duration of each tone being 250 milliseconds. When generated by automatic means, the radiotelephone alarm signal shall be transmitted continuously for a period of at least 30 seconds, but not exceeding one minute; when generated by other means, the signal shall be transmitted as continuously as practicable over a period of approximately one minute. The purpose of this special signal is to attract the attention of the person on watch or to actuate automatic devices giving the alarm.

§ 81.189 Use of alarm signals.

(a) The radiotelegraph or radiotelephone alarm signal, as appropriate, shall only be used to announce:

(1) That a distress call or message is about to follow; or

(2) The transmission of an urgent cyclone warning. In this case the alarm signal may only be used by coast stations authorized by the Commission to do so; or

(3) The loss of a person or persons overboard. In this case the alarm signal may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal only, but the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal.

(b) In cases described in subparagraphs (2) and (3) of paragraph (a) of this section, the transmission of the warning or message by radiotelegraphy shall not begin until two minutes after the end of the radiotelegraph alarm signal.

§ 81.190 Radiotelegraph watch by coast stations.

(a) All coast stations (public and limited) licensed to use telegraphy on frequencies within the band 405–535 kc/s shall, during their hours of service, take the necessary measures to insure an efficient safety watch by a duly licensed radiotelegraph operator on the international distress frequency 500 kc/s for three minutes twice each hour, beginning at x h. 15 and x h. 45 Greenwich mean time. For this purpose, either headphones or a loudspeaker may be used, on condition that use of the loudspeaker is not less effective than use of headphones. While maintaining this watch, the operator shall not use or operate any radio equipment (such as, for examples, broadcast receivers, or amateur transmitters or receivers) not actually required in connection with maritime mobile service.

(b) All public coast stations licensed to use frequencies in the authorized bands between 405 and 535 kc/s shall, during their hours of service, remain on watch on the calling frequency 500 kc/s, except when the operator is transmitting on 500 kc/s, operating the station transmitting or receiving equipment on any other frequency authorized for transmission or reception in the maritime mobile service (including maintenance of the watch on 143 kc/s if required as provided by paragraph (c) of this section) if it is not possible to maintain at the same time, by any practicable means, the watch for calls on 500 kc/s. Any practicable means of maintaining this watch would include a loudspeaker or headphones energized, if necessary, by an additional radio receiver (other than the receiver actually in use for nonwatch purposes) which is tuned to 500 kc/s. The provisions of this section, however, shall not relieve the coast station from complying with the requirements for a safety watch as prescribed in paragraph (a) of this section.

(c) On condition that compliance with the following requirement shall in no way interrupt or reduce the efficiency of the safety watch prescribed in paragraph (a) of this section, each coast station equipped and licensed for communication by means of class A1 emission on frequencies within the band 90–160 kc/s shall, during its hours of service when not engaged in communication with another station of the maritime mobile service, keep watch for calls every hour on the frequency 143 kc/s for five minutes beginning at x h. 35 Greenwich mean time.

§ 81.191 Radiotelephone watch by coast stations.

(a) Each public coast station licensed to use telephony shall, during its hours of service, keep watch on the frequency(s) authorized for working, which are used normally by mobile stations for transmission by telephony to the particular coast station; or in lieu of such watch, the coast station shall, during its hours of service, monitor such frequency(s) by any apparatus which will automatically intercept signals from mobile stations with no less efficiency than that attainable by a watch and which automatically indicates the interception of such signals by either aural or visual means.

(b) As an alternative to keeping watch on (or monitoring) the working frequency(s) as prescribed by paragraph (a) of this section, a public coast station may, in the discretion of the station licensee, keep watch on (or monitor) the comparable frequency(s) designated for calling by telephony (assigned frequency 2182 kc/s, comparable to working frequencies within the band 1600–3500 kc/s; assigned frequency 156.8 Mc/s, comparable to working frequencies within the band 100 to 200 Mc/s).

(c) (1) Each public coast station licensed to transmit by telephony on one or more frequencies within the band 1600–3500 kc/s shall, during its hours of service for telephony, maintain an efficient watch for the reception of class A3 emission on the frequency 2182 kc/s

whenever such station is not being used for transmission on that frequency: *Provided,* That the Commission may exempt any coast station from compliance with this requirement if it considers that the frequency 2182 kc/s is adequately guarded by other stations or that circumstances relative to the operation or location of the involved coast station are such as to render this requirement unreasonable or unnecessary for the purpose of this paragraph. The watch referred to in this subparagraph will not be deemed "efficient" unless the coast station is capable of normally receiving class A3 emission on 2182 kc/s from mobile stations within the associated working frequency service area of the coast station, including periods of time when the coast station is transmitting on any other authorized frequency.

(2) Each public coast station licensed to transmit by telephony on one or more frequencies within the band 156–174 Mc/s shall, during its hours of service for telephony, maintain an efficient watch for the reception of class F3 emission on the frequency 156.8 Mc/s whenever such station is not being used for transmisison on that frequency: *Provided,* That the Commission may exempt any coast station from compliance with this requirement if it considers that the frequency 156.8 Mc/s is adequately guarded by other stations or that circumstances relative to the operation or location of the involved coast station are such as to render this requirement unreasonable or unnecessary for the purpose of this paragraph.

(d) Each limited coast station licensed to transmit by telephony on one or more of the working frequencies 156.6, 156.7, or 161.6 Mc/s shall, during its hours of service, maintain an efficient watch for class F3 emission on 156.8 Mc/s, whenever such station is not being used for transmission on that frequency. In the event 156.8 Mc/s is being used for distress, urgency, or safety, such station shall keep an additional watch on each assigned working frequency except in the case of 161.6 Mc/s where watch shall be kept on the associated ship frequency 157.0 Mc/s.

(e) With respect to those provisions of paragraphs (a), (b), (c), and (d) of this section pertaining to watch, the person who keeps such watch shall, in each instance, and at all times during the hours of service of the station, be a person who is authorized by the station licensee to operate, in accordance with applicable law and regulations, the appropriate radiotelephone transmitting apparatus of the particular station.

§ 81.192 Maintenance tests.

Stations subject to this part are authorized to engage in a minimum amount of test transmissions when considered by the station licensee to be necessary for the proper maintenance of the station: *Provided,* That precautions shall be taken always to avoid, in so far as may be possible, interference to other stations: *Further provided,* That this test transmission shall conform to such test operating procedure as is prescribed elsewhere in this part for the particular class of station involved.

§ 81.193 Inspection of antenna tower lighting.

(a) The licensee of a station subject to this part which has an antenna or antenna supporting structure(s) required to be illuminated pursuant to the provisions of section 303 (q) of the Communications Act shall:

(1) Make a daily check of the tower lights not later than one hour after local sunset either by visual observation of the tower lights or by observation of an automatic indicator to insure that all such lights are functioning properly as required;

(2) Report immediately by telephone or telegraph to the nearest Airways Communication Station or office of the Federal Aviation Agency any observed failure of any code and/or rotating beacon light(s) if such failure(s) is (are) not corrected within 30 minutes after observation thereof, regardless of the cause of such failure. Further notification by telephone or telegraph shall be given the above station or office immediately upon resumption of the required illumination; and

(3) Inspect at intervals of at least once each 3 months all code and rotating beacon light(s) and automatic lighting control devices to insure that such apparatus is functioning properly as required.

(b) The station licensee or his representative shall make entries in the radio station log appropriate to the requirements of paragraph (a) of this section, as follows:

(1) The date and time of each day that the tower lights are turned on and off, if manually controlled;

(2) The time that the daily check of proper operation of the tower lights was made, either by visual observation of the tower lights or by observation of an automatic indicator;

(3) In the event of any observed failure of the tower lighting:

(i) Nature of such failure;

(ii) Date and time that the failure was observed;

(iii) Date, time, and nature of the adjustments, repairs, or replacements made;

(iv) Entry showing the identification of the Airways Communication Station or office of the Federal Aviation Agency which was notified of the failure of any code and/or rotating beacon light(s) not corrected within 30 minutes after observation and an entry of the date and time that such notice was given;

(v) Date and time that notice was given to the Airways Communication Station or office of the Federal Aviation Agency that the required illumination was resumed;

(4) Upon completion of the periodic inspection required by paragraph (a) (3) of this section:

(i) The date of the inspection and the condition of all required lights and associated lighting control devices, together with the measured voltage under normal load at a reference point in the lighting circuit and the computed voltage at each lamp socket.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

§ 81.194 Maintenance of station log.

(a) Each station subject to this part which is required, under the provisions of this part pertaining to the particular class of station, to keep a radio station log, shall, in addition, comply with the applicable provisions of the following paragraphs of this section; the station licensee and the licensed radio operator (when a licensed operator is required) in charge of the station shall be responsible for compliance with this section.

(b) The log shall be kept in an orderly manner, in useable form, and in such detail that the information required for the particular class of station concerned is readily available. Key letters or abbreviations may be used if their proper meaning or explanation is contained elsewhere in the same log.

(c) The station log or any portion thereof shall not be erased, obliterated, or wilfully destroyed within the period of retention required by § 81.115. However, during this period any necessary correction may be made of such log but only by the person originating the entry and that person shall strike out the erroneous portion, initial the correction made, and indicate the date of correction.

Subpart H—Coast Stations, Use of Telegraphy

§ 81.201 Supplemental eligibility requirements for public coast station authorization.

Subject to the basic eligibility requirements set forth in § 81.23, an authorization for a public coast station may be granted to any person, or State or local government subdivision, or any agency of the Federal Government which is subject to the provisions of section 301 of the Communications Act, provided the applicant is legally, financially, and technically qualified to render the proposed service, and the public interest, convenience or necessity would be served by a grant thereof.

§ 81.202 Points of communication.

(a) Subject to the conditions and limitations imposed by the terms of the particular coast station license or by the applicable provisions of this part with respect to the use of particular radiochannels, public coast stations using telegraphy are authorized to communicate:

(1) With any ship station or aircraft station operating in the maritime mobile service, for the transmission or reception of safety communication;

(2) With any land station for the purpose of facilitating the transmission or reception of safety communication to or from a ship or aircraft station;

(3) With public ship stations, Government ship stations, aeronautical public service stations on board aircraft, and Government aircraft stations, for the transmission or reception of public correspondence:

(i) When the mobile station uses telegraphy on a frequency assignment available under the provisions of Part 83 of

this chapter for use by ship stations for communication by means of telegraphy with public coast stations, or;

(ii) In respect to a United States Government or foreign ship or aircraft station, when such mobile station uses telegraphy on a frequency assignment available in accordance with the International Radio Regulations for use by ship stations for communication by means of telegraphy with public coast stations.

(b) Upon application, a public coast station using telegraphy may be authorized to transmit press material, and meteorological and marine navigational information of benefit to mariners, additionally to designated fixed locations, whenever the same information is transmitted by such coast station simultaneously and primarily to ship stations: *Provided,* A sufficient need for such authorization is shown to exist.

(c) Each public coast station using telegraphy is authorized to communicate additionally with other public coast stations (includes Government stations open to public correspondence) using telegraphy when such communication is necessary to facilitate the disposal of message traffic (public correspondence or safety communication) destined to or originated at mobile stations (public ship stations or aeronautical public service stations aboard aircraft) subject to and in accordance with the express conditions hereinafter set forth in this paragraph:

(1) For the interchange of operating signals, brief service messages or safety communication;

(2) For the transmission or receipt of message traffic destined to a mobile station which, by reason of its known or reported geographic location at the time, can be communicated with more effectively or more expeditiously by the coast station which receives such message traffic for relay to the mobile station: *Provided, however,* That this procedure shall not be used for normal routing of radio traffic, but only when the coast station initially concerned is unable to communicate in an effective manner directly with such mobile station;

(3) For the transmission or receipt of message traffic, which originated at a mobile station, by a public coast station in the Great Lakes region exclusively, when the use of available point-to-point communication facilities would unduly delay the delivery of such message traffic to the addressee(s);

(4) Such communication as is permissible under subparagraphs (2) and (3) of this paragraph shall be conducted only in exceptional circumstances and with discretion, without incurring additional charges: *Provided,* Such utilization of radiotelegraphy shall not in any way replace or be used in lieu of point-to-point communication facilities which are available for the forwarding of message traffic to and from the particular coast stations involved;

(5) Only radio-channnels authorized for working with ship stations (and used primarily for that purpose) shall be employed for this communication between coast stations and, in so far as may be practicable, only authorized frequencies within the band 415 kc/s to 5000 kc/s shall be used;

(6) All communications engaged in under the provisions of this paragraph shall be confined exclusively to that which is actually required to facilitate the transmission or reception of ship-to-shore public correspondence or to enhance safety at sea;

(7) Neither harmful interference nor intolerable delay shall be caused to communication between mobile stations and land stations or to communication between mobile stations.

§ 81.203 Supplemental eligibility requirements for limited coast station authorization.

(a) Subject to the statutory eligibility requirements set forth in § 81.23, an authorization for a limited coast station using telegraphy may be granted to any person, or State or local government subdivision, or any agency of the Federal Government which is subject to the provisions of section 301 of the Communications Act: *Provided,* The applicant is:

(1) Regularly engaged in performing a service for one or more governmental agencies; or

(2) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is regularly engaged in performing a service for one or more governmental agencies; or

(3) A non-profit corporation or association, organized for the purpose of furnishing a maritime mobile service solely to persons who are regularly engaged in performing a service for one or more governmental agencies.

(b) Each application for station authorization for a limited coast station shall be accompanied by a written statement in detail sufficient to indicate clearly the applicant's eligibility under paragraph (a) of this section.

§ 81.204 Points of communication of limited coast stations.

(a) Limited coast stations using telegraphy are authorized to communicate normally with the categories of ship stations designated herewith, subject to the conditions and limitations imposed by the terms of their particular station licenses or by the applicable provisions of this part with respect to the use of particular radio-channels:

(1) Any ship station using telegraphy on the assigned frequency 500 kc/s;

(2) Specified limited ship stations licensed by the Commission and using telegraphy on a frequency assignment designated for this purpose;

(3) Specified public ship stations licensed by the Commission and using telegraphy on a frequency assignment designated for this purpose;

(b) With respect to the terms of paragraph (a) (2) and (3) of this section, the specific ship stations with which a limited coast station is authorized to communicate shall be designated appropriately in the license of such coast station.

§ 81.205 Nature of service of limited coast stations.

(a) Limited coast stations using telegraphy shall:

(1) Not be open to public correspondence;

(2) Not be used to render a communications common carrier service;

(3) Not be used for the transmission of press material or news items which are not required to serve a governmental purpose;

(4) Be used exclusively to serve governmental purposes including the transmission of safety communication.

(b) In areas where adequate and appropriate weather and hydrographic information is transmitted by means of telegraphy through the medium of one or more public coast stations or United States government stations, limited coast stations shall not duplicate that service. In all other respects, limited coast stations may transmit by means of telegraphy such weather and hydrographic information as is required for the ships with which they normally communicate.

§ 81.206 Assignable frequencies.

(a) Each of the specific frequencies in kilocycles hereinafter designated in this paragraph may be licensed as an assigned frequency for use by coast stations employing telegraphy and located in Puerto Rico, the State of Hawaii or within the indicated general portion of the seacoast area of the continental United States, excluding Alaska, subject to and in accordance with the provisions of paragraph (b)(1) of this section and Subpart E of this part, and upon the express condition that interference shall not be caused to any service or station which, in the discretion of the Commission, may have priority on the frequency or frequencies involved: *Provided,* That the use of each of these frequencies may be restricted by the Commission to specific areas or locations in order to avoid or minimize interference between stations; *Provided further,* That frequencies below 150 kc/s are assignable to Class I coast stations only; frequencies above 5000 kc/s are assignable primarily to Class I coast stations, and secondarily to Class II coast stations serving inland waters of the United States (including the Great Lakes) subject to showing of need therefor and on condition that interference shall not be caused to any Class I coast station:

North Atlantic: 112.85, 124.05, 130.35, 132.10, 134.55, 137.00, 143.00,[1] 146.80, 147.50, 418, 436, 442, 460, 472, 476, 482, 500,[2] 2036, 2040.5, 2046.5, 2051, 2054, 2060, 4268, 4331, 4343, 4346, 4367, 6376, 6414.5, 6418, 6502, 6505.5, 6512.5, 6519.5, 8502, 8514, 8586, 8610, 8630, 8658, 8686, 12745.5, 12925.5, 12948, 12961.5, 12997.5, 13020, 13024.5, 13033.5, 13060.5, 16968.8, 16973.6, 16997.6, 17021.6, 17093.6, 17242.4, 17271.2, 22407, 22485, 22503, 22521, 22599, 22617.

Central Atlantic: 428, 500,[2] 2063, 4346, 6484.5, 8502, 12885.0.

South Atlantic: 137.70, 143.00,[1] 434, 464, 472, 488, 500,[2] 2039, 2043.5, 2051, 2057, 4250, 4292, 6390, 6407.5, 6411, 8486, 8526, 8686, 8722, 12952.5, 12970.5, 13011, 13078.5, 17093.6, 17160.8, 17170.4, 17199.2, 17256.8, 22431, 22503, 22569.

North Pacific: 482, 488, 500,[2] 2058.5, 2063, 4349, 6411, 8582, 8658, 12907.5, 12916.5, 17007.2, 22539.

Central Pacific: 126.15, 143.00,[1] 147.85, 426, 436, 460, 476, 500,[2] 2037.5, 2045, 2061.5, 4247, 4274, 4358, 6365.5, 6477.5, 6488, 6516, 8556, 8618, 8642, 8714, 12808.5, 12844.5, 13002, 13033.5, 13114.5, 17016.8, 17026.0, 17088.8, 17184.8, 22425, 22479, 22515, 22557.

South Pacific: 418, 464, 482, 500,[2] 2049.5, 2055.5, 4283, 4367, 6463.5, 6523, 8590, 8606, 8642, 12912, 12993, 13033.5, 13110, 17064.8, 17088.8, 17218.4, 22413, 22467.

Gulf of Mexico: 143.00,[1] 416, 420, 434, 438, 478, 484, 500,[2] 2042, 2048, 2049.5, 2052.5, 2055.5, 2063, 4256, 4274, 4310, 4322, 6369, 6435.5, 6446, 6495, 8550, 8570, 8666, 8714, 8722, 8742, 12826.5, 12840, 13038, 13051.5, 13078.5, 13123.5, 17117.6, 17170.4, 17172.4, 17208.8, 17256.8, 22431, 22467, 22569.

Great Lakes: 482, 500,[2] 4316, 6474, 8534.

Hawaii: 484, 500,[2] 2052.5, 4295, 6407.5, 8542, 13029, 16978.4, 22509.

Puerto Rico: 143.00,[1] 486, 500,[2] 2052.5, 4244, 8726, 13119.

[1] Calling frequency.
[2] Calling and distress frequency.

(b) (1) In addition to the specific frequencies listed in paragraph (a) of this section, other frequencies within bands between 10 kc/s and 27,500 kc/s shown in the Commission's Table of Frequency Allocations contained in § 2.106 of this chapter as being allocated for use by coast stations using telegraphy may be assigned to such coast stations: *Provided, however,* That initial authorizations for such frequencies shall be limited to six months duration.

(2) In addition to the frequency assignment designated for telegraphy in the license of a coast station, such station when communicating by telegraphy with a mobile or coast station of the United States Government may, on the condition that its emission-bandwidth and frequency tolerance shall be within the respective limits thereof permitted for the government station, transmit on a radio-channel assigned to the United States Government when authorized or directed to do so by the government station responsible, or by the government department or agency for which the radio-channel is authorized. The coast station assigned frequency, the class of emission, and the permissible class of traffic on such radio-channel shall be designated by the government station, or the responsible government department or agency.

(c) Frequencies assigned to government radio stations are assignable to non-Government coast stations (public or limited) for communication with other non-Government stations by telegraphy when such communication is necessary in connection with activities performed in coordination with or in behalf of the Federal Government and where the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

§ 81.207 Frequencies for call and reply.

(a) (1) The frequency 500 kc/s is the general international calling frequency, which shall be used by any coast station engaged in radiotelegraphy in the authorized band 405–535 kc/s.

(2) The frequency for replying to a call sent on the general calling frequency is 500 kc/s, except where the calling station requests that the reply be made on an authorized working frequency. In Region 2, and in other areas of heavy traffic, ship stations should request coast stations to answer on their normal working frequency.

(3) In order to facilitate the reception of distress calls, all transmissions on the frequency 500 kc/s shall be reduced to a minimum.

(b) The frequency 143 kc/s (class A1 emission only) is the international calling frequency used by stations of the maritime mobile service in the band 90–160 kc/s. When a ship station which uses frequencies in the band 90–160 kc/s desires to establish communication with a coast station, it shall call on the frequency 143 kc/s unless the International List of Coast Stations provides otherwise. Coast stations shall reply on their normal working frequency in this band. The frequency 143 kc/s shall be used exclusively for individual calls, replies to such calls, and the transmission of signals preparatory to traffic.

(c) All radio-channels within the band 4000 kc/s to 23000 kc/s similarly authorized for working may be used for calling also: *Provided,* Interference is not caused to any communication in progress on the particular working channel.

(d) The normal calling frequency to be used by each coast station employing telegraphy when operating in the band 2035–2065 kc/s is its normal working frequency in this band. In addition to the transmission on the authorized working frequency in this band, coast stations may transmit on any frequency within the ship station calling band 2088.5 to 2093.5 kc/s for transmission of distress traffic exclusively.

§ 81.208 Frequencies for working.

(a) Each assigned frequency listed in § 81.206(a), and which is not identified therein with a specific use or function, is authorized as an assigned frequency for "working".

(b) The calling channel of which 500 kc/s is the assigned frequency may be used for the transmission of distress, urgency, and safety messages; any other use of this channel for working is prohibited.

(c) Coast stations having frequency assignments within the band 5000 kc/s to 25000 kc/s shall conduct their operations so as to reserve, in so far as is practicable, the use of frequencies within this band for communication over the relatively long distances for which these frequencies are particularly effective.

(d) In addition to the frequency assignment designated for telegraphy in the license of a ship station, such station, when working by means of telegraphy with a coast station, may, on condition that its emission-bandwidth and frequency tolerance shall be within the respective limits thereof permitted for the coast station, transmit:

(1) On a telegraph working channel of a coast station within the band 110 to 150 kc/s when directed to do so by the coast station for which the channel is authorized: *Provided,* Interference is not caused to the service of any land, fixed, broadcast, or radiolocation station: *And provided,* That the emission shall be class A1 only.

(2) On a telegraph working channel of a coast station within the band 415 to 490 kc/s when directed to do so by the coast station for which the channel is authorized.

(3) Coast stations are authorized to direct ship stations to operate in accordance with the provisions of this section, whenever such means of operation is possible and appropriate.

§ 81.209 Use of Morse Code required.

The signal code employed for telegraphy by stations in the maritime mobile service shall be the Morse Code signals specified in the Telegraph Regulations annexed to the International Telecommunication Convention, Geneva, 1959. However, for radiotelegraph communication of a special character, the use of other signals may be specifically authorized by the Commission in response to an appropriate application therefor.

§ 81.210 Identification of stations.

All radiotelegraph emissions of a coast station shall be clearly identified by transmission therefrom of the official call letters assigned to that station for telegraphy by the Commission. These call letters shall be transmitted by telegraphy in accordance with § 81.209 and the procedure set forth in the International Radio Regulations, and by means of the class of emission normally used by the station for telegraphy: *Provided,* They shall be transmitted always upon completion of any transmission when the station resumes its watch or suspends transmission for an indefinite time; in addition they shall be transmitted at intervals not exceeding 20 minutes whenever transmission is sustained for a period exceeding 20 minutes.

§ 81.211 Procedure in testing.

(a) Coast stations must use every precaution to insure that, when conducting operational transmitter tests, the emissions of the station will not cause harmful interference. Radiation must be reduced to the lowest practicable value and if feasible shall be entirely suppressed. When radiation is necessary or unavoidable, the radiotelegraph testing procedure described below shall be followed.

(1) The licensed radiotelegraph operator responsible for operation of the transmitting apparatus shall ascertain by careful listening that the test emissions will not be likely to interfere with transmissions in progress.

(2) The operator shall transmit the signal "IE" (two dots, space, one dot) on the test frequency as a warning that test emissions are about to be made on that frequency. When the frequency or frequencies of the test emissions is/are within the frequency-band 405 to 535 kc/s, a listening watch shall be maintained on 500 kc/s by a licensed radiotelegraph operator at the station throughout the test period.

(3) If, as a result of transmitting the test signal "IE", any station indicates, by transmitting the signal "AS" (wait), that it anticipates harmful interference, testing shall be suspended. When trans-

mission of "IE" is resumed and no response is observed, and careful listening indicates that harmful interference should not be caused, the operator shall proceed as set forth in subparagraph (4) of this paragraph.

(4) Test signals composed of a series of "VVV" followed by the call sign of the testing station shall be transmitted. The call sign shall be sent clearly and at relatively slow speed.

(b) When testing is conducted on the frequency 500 kc/s, the test signals shall not continue for more than 10 seconds, and no tests shall be conducted during the 500 kc/s silence periods. Care must be exercised not to so prolong and space the dash portion of the "VVV" series as to form the alarm signal.

§ 81.212 Radiotelegraph operating procedure.

(a) Except for the transmission of distress or urgency signals, all transmissions by coast stations must cease within the band 485 to 515 kc/s during each 500 kc/s silence period, i.e., for three minutes twice an hour beginning at x h. 15 and x h. 45, Greenwich mean time (G. M. T.).

(b) In order to facilitate radiotelegraph communication in the maritime mobile service, all coast stations transmitting by means of telegraphy shall, whenever practicable, use the service abbreviations ("Q" signals) listed in Appendix 13 to the International Radio Regulations, Geneva, 1959.

(c) In addition to compliance with all applicable sections of this part, the operation of coast stations using telegraphy for call, reply, and the transmission of message traffic shall, in particular, comply with all applicable provisions of Articles 29, 30, 31, 37, 38, and 39 of the International Radio Regulations, Geneva, 1959.

§ 81.213 Station documents.

(a) All public coast stations using telegraphy shall be provided with the following documents:

(1) A valid station license, available in accordance with the provisions of § 81.102;

(2) The necessary operator license(s), available in accordance with the provisions of § 81.155;

(3) The station log required by this part;

(4) The Alphabetical List of Call Signs of Stations used in the Maritime Mobile Service;

(5) The List of Ship Stations;

(6) The International Radio Regulations, Geneva, 1959;

(7) Parts 81 and 83 of this chapter.

(b) All limited coast stations using telegraphy shall be provided with the documents specified by subparagraphs (1), (2), (3), (6), and (7) of paragraph (a) of this section.

(c) These documents shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 81.214 Station records.

(a) Public coast stations using telegraphy shall maintain an accurate radiotelegraph log during their hours of service, as hereinafter specified:

(1) Each sheet of the log shall be numbered in sequence and dated and shall include the official call sign of the coast station and also the signature(s) of the licensed operator(s) performing operating duties.

(2) The entry "on duty" shall be made by the operator beginning a duty period, followed by his signature. The entry "off duty" shall be made by the operator being relieved or terminating a duty period, followed by his signature. All log entries shall be currently completed and all entries shall, unless otherwise stated, be made by a licensed operator on duty. The use of initials or signs is not authorized in lieu of any operator's signature required by this section.

(3) The date and time of making an entry shall be shown opposite the entry and the time shall be expressed in Greenwich mean time (GMT),[1] except that in the Great Lakes region, the time shall be expressed in eastern standard time (e. s. t.) (counted from 0000 to 2400 o'clock, beginning at midnight), and for coast stations which communicate exclusively with vessels on inland waters of the United States (other than the Great Lakes) the time shall be expressed in local standard time (e. s. t., c. s. t., etc., counted from 0000 to 2400 o'clock, beginning at midnight). The first entry in each hour shall consist of 4 figures; additional entries in the same hour may be expressed in 2 figures by omitting the hour designation. The abbreviation "GMT" (e. s. t. in the Great Lakes area) (e. s. t., c. s. t., etc., for stations serving inland waters exclusively) shall be marked at the head of the column in which the time is entered.

(4) With respect to coast stations which, by reason of the provisions of Subpart G of this part, are required to maintain a watch on the radio-channel designated for radiotelegraph calling and distress (assigned frequency 500 kc/s), entries shall be made showing each time this watch is begun, suspended, or concluded; without any requirement, however, of making such entries during interruption of this watch as may be necessary during hours of service for calling, answering, and exchanging operating signals and safety communications on this radio-channel. In respect to coast stations which, under applicable provisions of Subpart G of this part are required to maintain a watch on 500 kc/s during the 500 kc/s silence periods, a positive entry shall be made in respect to each such silence period, stating whether or not signals were received during that time and, if signals are received, entry shall be made of the call sign(s) of the station(s) heard and the time(s) of such reception. The use of a rubber stamp or equivalent device for making entries to show observation of the silence period is prohibited. Further, in respect to coast stations which, under applicable provisions of Subpart G of this part, are required to maintain a watch on 500 kc/s during their hours of service (i. e., not limited solely to the 500 kc/s silence periods), a positive entry shall be made at least once in each 15 minutes stating whether or not signals were received on this radio-channel (assigned frequency 500 kc/s) and, if signals are received, entry shall be made of the call sign(s) of the station(s) heard and the time(s) of such reception.

(5) All distress calls, alarm signals, urgency or safety signals and communications made or intercepted; the complete text, if possible, of such communications; and any information which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation or occurrence, identification of the radio-channels on which such signals or messages were transmitted or received, and the position of any ship or other mobile unit in need of assistance, if this can be determined.

(6) All calls transmitted from or received by the coast station, together with a brief notation of any messages transmitted or received, shall be entered, showing the respective times, official call signs of the mobile or land stations communicated with, and the assigned frequency(s) on which the operations occurred.

(7) Whenever harmful interference is experienced by or reported to the responsible operator an entry shall be made by such operator to that effect, stating the source of the interference, if known.

(8) All test transmissions shall be entered, together with the time of such transmissions, without regard to whether two-way communication with any other station is established.

(9) A daily entry shall be made regarding comparison of the time indicated by the required clock(s) with standard time, including a statement of any deviations observed and corrections made.

(10) Failure of apparatus to operate as required, failure of power supply, and incidents tending to unduly delay communication shall be entered.

(11) All measurements of the transmitter frequency(s) shall be entered, including such deviations from the assigned frequency(s) as may be observed, and a statement of any corrective action taken.

(12) Entries shall be made giving pertinent details of all installation, service, or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full-time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

(13) Entries shall be made also in reference to operation of the antenna tower lights when such entries are required by reason of applicable provisions of Subpart G of this part.

(b) Limited coast stations using telegraphy shall maintain an accurate radiotelegraph log, during their hours of

[1] For example, 8:01 p. m. eastern standard time should be entered as 0101 GMT; 8:30 a. m. eastern standard time should be entered as 1330 GMT; 7:45 p. m. eastern standard time should be entered as 0045 GMT.

service, in the same manner and to the same extent as is required by paragraph (a) of this section for public coast stations using telegraphy: *Provided, however,* That the entries specified by subparagraphs (6) and (10) thereof shall not be required for limited coast stations.

Subpart I—Public Coast Stations, Use of Telephony

§ 81.301 Supplemental eligibility requirements.

Subject to the basic eligibility requirements set forth in § 81.23, an authorization for a public coast station may be granted to any person, or state or local government subdivision, or any agency of the Federal Government which is subject to the provisions of section 301 of the Communications Act of 1934: *Provided,* The applicant is legally, financially, and technically qualified to render the proposed service, and the public interest, convenience or necessity would be served by a grant thereof.

§ 81.302 Points of communication.

(a) Subject to the conditions and limitations imposed by the terms of the particular coast station license or by the applicable provisions of this part with respect to the use of particular radiochannels, public coast stations using telephony are authorized to communicate:

(1) With any ship station or aircraft station operating in the maritime mobile service for the transmission or reception of safety communication;

(2) With any land station for the purpose of facilitating the transmission or reception of safety communication to or from a ship or aircraft station;

(3) With public ship stations, government ship stations, aeronautical public service stations on board aircraft, and government aircraft stations, for the transmission or reception of public correspondence:

(i) When the mobile station uses telephony on a frequency assignment designated in Part 83 of this chapter for ship-to-shore public correspondence by means of telephony;

(ii) In respect to a United States Government or foreign ship or aircraft station, when such mobile station uses telephony on a frequency assignment available in accordance with the International Radio Regulations for use by ship stations for communication by means of telephony with public coast stations.

(4) With marine fixed stations when the coast station uses for this purpose a frequency assignment below 4000 kc/s upon the express condition that neither harmful interference nor intolerable delay is caused to communication with mobile stations.

(b) Upon application, a public coast station using telephony may be specifically authorized by the terms of its station authorization to communicate with a designated station (government or non-government) at a remote fixed location isolated from the mainland where other communication facilities are not available: *Provided,*

(1) The station with which communication is carried on is duly authorized to communicate with the particular coast station involved; and

(2) The station with which communication is carried on shall transmit by telephony to the coast station:

(i) On a frequency assignment available for ship-to-shore public correspondence in accordance with the provisions of Part 83 of this chapter for public ship stations using telephony; or

(ii) On any other frequency assignment designated for this purpose in any other section of the Commission's rules or, with respect to United States Government stations, on any government frequency assignment duly authorized by the Government for this purpose.

(3) Any communication carried on shall be confined exclusively to that absolutely necessary for public safety or the protection of life or property; and

(4) Neither harmful interference nor intolerable delay is caused to safety communication with ship stations.

(c) Upon application, a public coast station using telephony may be authorized to transmit meteorological and marine navigational information, of benefit to mariners, additionally to designated fixed locations, whenever the same information is transmitted by such coast station simultaneously and primarily to ship stations: *Provided,* A sufficient need for such authorization is shown to exist.

§ 81.303 Duplication of facilities.

A public coast station shall not be authorized to provide a very high frequency maritime mobile service by the use of any frequency assignment above 100 Mc/s solely to any geographic area in which such service is already provided, or for which a valid construction permit or permits has or have been issued for the establishment of a station or stations to provide such service in that area, unless the applicant shall make an affirmative showing that the public interest, convenience or necessity would be served by such a grant, and, among other things, that there is a need for such additional facilities in the area involved, that the authorized facilities in that area are not, or will not be, adequate to meet the very high frequency communication needs in the area, and that the applicant's proposed facilities involving a frequency assignment above 100 Mc/s will serve the very high frequency communication needs in such area.

§ 81.304 Assignable frequencies.

(a) Each of the specific frequencies in kilocycles hereinafter designated in this paragraph may be licensed as an authorized carrier frequency for use by public coast stations employing telephony by means of amplitude modulation subject to and in accordance with paragraph (d) of this section, other applicable sections of this subpart, and Subpart E of this part:

2182—calling and distress.
2450
2466
2482
2490
2506
2514
2522
2530
2538
2550
2558
2566
2572
2582
2590
2598
2638
2738
2782
2784
4072.4
4377.4
4396.6
4409.4
4422.2
4428.6
4434.9
6240—Mississippi River system only.
6455—Mississippi River system only.
8210.8—Mississippi River system only.
8754.4
8767.2
8773.6
8799.2
8811.9
13161.5
13175.5
13182.5
13196.5
17307.5
17321.5
17342.5
17356.5
22681.5
22695.5
22716.5

(b) Each of the specific frequencies in megacycles hereinafter designated in this paragraph may be licensed as an authorized carrier frequency for use by public coast stations employing telephony by means of frequency modulation, subject to and in accordance with other provisions of other applicable sections of this subpart and Subpart E of this part:

156.8
161.8—Except in Puerto Rico and the Virgin Islands
161.85—Except in Puerto Rico and the Virgin Islands
161.9
161.95
162.0

(c) (1) The following specific frequencies may be licensed as authorized carrier frequencies for use by those public coast stations using telephony which, prior to September 1, 1950, were authorized to use a carrier frequency within the band 30 Mc/s to 40 Mc/s:

Carrier frequency:	*For assignment to public coast station(s) in the vicinity of—*
35.14 Mc/s	Philadelphia, Pa.
35.18 Mc/s	Great Lakes region.

(2) The stations authorized to transmit on the radio-channel of which either 35.14 Mc/s or 35.18 Mc/s is the authorized carrier frequency, may employ either frequency modulation or amplitude modulation. Each of these carrier frequencies is available for use on a shared basis with limited coast stations, ship stations, marine-utility stations, and aircraft stations operating in the maritime mobile service at any location on the same radiochannel; they are not available exclusively for public correspondence. Licensees having authority to transmit on these frequencies shall cooperate in the use thereof in order to minimize interference.

(3) Applicants for public coast station authorization, or modification or renewal of station authorization, whose applications request authority to transmit on 35.14 or 35.18 Mc/s may be required, in the discretion of the Commis-

sion, to show a need for the use of such frequencies for public correspondence in lieu of the specific frequencies above 156 Mc/s authorized in this subpart for public correspondence exclusively.

(4) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 35–36 Mc/s must recognize that the band is shared with various services in other countries; that harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

NOTE: No new radio systems will be authorized in the maritime mobile service on the frequencies listed in subparagraphs (1) through (4) of this paragraph. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

(d) Assignment of the specific carrier frequencies designated in paragraph (a) of this section and use of frequency assignments of which those frequencies are the authorized carrier frequencies shall be subject to the express limitations and conditions hereinafter set forth in this paragraph.

(1) The frequency 2182 kc/s is authorized for use on a shared basis primarily by ship stations and secondarily by coast stations.

(2) The frequencies 2514, 2550 and 2582 kc/s are authorized for use in the Great Lakes area on a shared basis with coast stations of Canada upon the express condition that, except in case of distress, the frequency 2550 kc/s shall not be used for transmission to ship stations of Canada and the frequency 2582 kc/s shall not be used for transmission to ship stations of the United States.

(3) The frequencies 4067, 4072.4, 4372.4, and 4377.4 kc/s are authorized for use by coast stations serving vessels on the Mississippi River and connecting inland waters only (except the Great Lakes); such use of these frequencies is authorized upon the express condition that interference shall not be caused to the service of any station which, in the discretion of the Commission, may have priority on the frequency or frequencies used for the service to which interference is caused.

(4) Use of the frequencies 6240 kc/s and 6455 kc/s are authorized for use by coast stations serving vessels on the Mississippi River and connecting inland waters only (except the Great Lakes), upon the express condition that interference shall not be caused to the service of any station which, in the discretion of the Commission, may have priority on the frequency or frequencies used for the service to which interference is caused. In order to avoid such interference, transmission on these frequencies during the period 8:00 p.m. until 5:00 a.m., c.s.t., is prohibited.

(5) The frequencies 8205.5 kc/s and 8210.8 kc/s are authorized for use by coast stations serving vessels on the Mississippi River and connecting inland waters only (except the Great Lakes) upon the express condition that transmission on these frequencies during the period 8:00 p.m. until 5:00 a.m., c.s.t., is prohibited.

(6) [Reserved]

(7) Each carrier frequency which is not to be used prior to a specified beginning date, may be used under appropriate station authorization for test transmission during a period commencing not more than two months in advance of such specified beginning date; solely to determine whether an existing coast station is capable of proper technical operation on that particular radio-channel preparatory to rendering regular service thereon: *Provided,* That harmful interference is not caused by such test transmission to the service of any other station.

(8) Use of the frequency 2638 kc/s by coast stations in certain geographic areas as prescribed in this part is authorized upon the express condition that harmful interference shall not be caused to intership communication on this frequency, nor to the service of any station which, in the discretion of the Commission, has priority on the frequency or frequencies to which interference results: *Provided,* That with respect to the stations of the maritime mobile service, this condition shall not be construed as prohibiting the operation of a coast station on this frequency pursuant to the provisions of §§ 81.181(b), 81.182 and 81.183 (b) and (c).

(e) In addition to the specific frequencies listed in paragraph (a) of this section, other frequencies within the bands between 2000 kc/s and 27.5 Mc/s, as shown in the Commission's Table of Frequency Allocations contained in § 2.106 of this chapter as being allocated for use by coast stations using telephony, may be assigned to such coast stations: *Provided, however,* That initial authorizations for such frequencies shall be limited to 6 months duration.

(f) (1) In addition to the frequency assignment designated for telephony in the license of a public coast station, such station when communicating by telephony with a mobile or coast station of the United States Government may, on the condition that its emission-bandwidth and frequency tolerance shall be within the respective limits thereof permitted for the government station, transmit on a radio-channel assigned to the United States Government when authorized or directed to do so by the government station responsible, or by the government department or agency for which the radio-channel is authorized. The coast station assigned frequency, the class of emission, and the permissible class of traffic on such radio-channel, shall be designated by the government station or the responsible government department or agency.

(2) Frequencies assigned to government radio stations are assignable to non-Government public coast stations for communication with other non-Government stations by telephony when such communication is necessary in connection with or in behalf of the Federal Government and where the Commission determines after consultation with the appropriate government agency or agencies, that such assignment is necessary.

§ 81.305 Frequencies for calling and distress.

(a) The frequency 2182 kc/s is the international radiotelephone distress and general calling frequency for the maritime mobile service. It may be used by public coast stations solely for transmission of:

(1) Distress signals and traffic as provided in Subpart G of this part.

(2) The international urgency signal, and very urgent messages (preceded by this signal) concerning the safety of a ship, aircraft or other vehicle, or the safety of some person on board or within sight of such ship aircraft, or vehicle.

(3) The international safety signal and call. The safety message which follows shall, where practicable, be sent on a working frequency and a suitable announcement to this effect shall be made at the end of the call.

(4) Normal calls, replies, and brief radio operating signals but only when the use of a different carrier frequency for this function appears to be impracticable by reason of operating or equipment limitations of a mobile station: *Provided,* That as a general rule radiotelephone stations on board foreign ships shall be called on the frequency 2182 kc/s.

(5) Brief announcements specifying the nature of a particular communication to be transmitted soon thereafter on other radio-channel(s) by the same coast station to a plurality of mobile stations, when such communication will be of general interest to mobile stations of the maritime mobile service, including ordinary weather and hydrographic information, or will consist of lists of mobile stations with which the coast station desires to communicate.

(6) Brief test signals in accordance with the provisions of § 81.311, as may be necessary to determine whether the radio transmitting equipment of the station is in good working condition on this frequency.

(b) The frequency 156.8 Mc/s is the international safety and calling frequency for the maritime mobile radiotelephone service in the band 156–174 Mc/s. This frequency may be used by public coast stations as prescribed in § 81.309.

(c) In addition to the radio-channels of which the carrier frequencies are specifically authorized herein for "calling", the radio-channels authorized in this subpart for "working" may be used for call and reply: *Provided,* Interference is not caused to any communication in progress on the particular working channel.

§ 81.306 Availability of frequencies below 30 Mc/s.

(a) The carrier frequencies designated herewith are assignable to class I public coast stations using telephony when the coast station and the mobile station transmit alternately on different radio-channels: *Provided*, That the designated carrier frequencies below 5000 kc/s and above 22650 kc/s are assignable only to coast stations located in the vicinity of the specific harbors, ports or places designated hereinafter opposite the respective coast station transmitting frequency: *Provided further*, That the coast station shall receive transmissions from mobile stations on the associated receiving frequency also designated herewith:

(1) Working frequencies below 5000 kc/s.

Coast station transmitting carrier frequency [1] (kc/s)	Coast station located in the vicinity of—	Coast station receiving carrier frequency (kc/s)
2506	San Francisco, Calif.	2406
2530	Hawaii	2134
2590	New York, N.Y.	2198
4377.4	San Francisco, Calif.	4072.4
4396.6	New York, N.Y.	4091.6
4409.4	do	4104.4
4422.2	Hawaii	4117.2
4434.9 [2]	New York, N.Y.	4129.9

[1] These frequencies are those which may be specified in applications for coast station authorizations.
[2] Available for use annually during period Dec. 15 to Mar. 15.

(2) Working frequencies between 5000 kc/s and 27.5 Mc/s.

Coast station transmitting frequency [1] (kc/s)	Coast station located in the vicinity of—	Coast station receiving carrier frequency (kc/s)
8754.4	San Francisco, Calif.	8204.4
8767.2	Hawaii	8217.2
8773.6	New York, N.Y.	8223.6
8811.9	do	8261.9
13161.5	do	12361.5
13175.5	Hawaii	12375.5
13189.5	San Francisco, Calif.	12382.5
13196.5	New York, N.Y.	12396.5
17307.5	Hawaii	16477.5
17321.5	New York, N.Y.	16491.5
17342.5	San Francisco, Calif.	16512.5
17356.5	New York, N.Y.	16526.5
22681.5	do	22031.5
22695.5	San Francisco, Calif.	22045.5
22716.5	New York, N.Y.	22066.5

[1] These frequencies are those which may be specified in applications for coast station authorizations.

(b) Subject to the specific limitations imposed in this paragraph and in § 81.304 (d) with respect to particular frequencies, the carrier frequencies designated are assignable for working purposes to class II public coast stations using telephony when the coast station and the mobile station transmit alternately on different radio-channels: *Provided*, That these frequencies are assignable only to coast stations located in the vicinity of the specific harbors, ports, or places designated hereinafter opposite the respective coast station transmitting frequency: *Provided further*, That each coast station shall receive transmissions from mobile stations on the associated receiving frequency also designated in this paragraph.

Coast stations located in the vicinity of—	Coast station transmitting carrier frequency [1]		Associated coast station receiving carrier frequency	
	Frequency (kc/s)	Specific limitations imposed upon availability for use [2]	Frequency (kc/s)	Specific conditions relating to use of these frequencies by ship stations for transmission as shown in § 83.354(a)(1) of this chapter. [2]
Boston, Mass.	2506	None	2406	None.
	2450	do	2366	Do.
New York, N.Y.	2482	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of New Orleans, La., to which this carrier frequency is assigned for transmission.	2382	Available on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of New Orleans, La., and is transmitting on this frequency to a coast station located in the vicinity of that port.
	2522	None	2126	None.
	2558	do	2166	Do.
	2590	do	2198	Do.
	4396.6	do	4091.6	Do.
	4409.4	do	4104.4	Do.
	4434.9	Available for use annually during period Dec. 15 to March 15.	4129.9	Available for use annually during period Dec. 15 to March 15.
Wilmington, Del.	2558	None	2166	None.
Baltimore, Md.	2558	do	2166	Do.
Norfolk-Quantico, Va.	2538	do	2142	Do.
	2450	Day only, available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2366	Day only, available on conditon that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Charleston, S.C.-Jacksonville, Fla.	2566	None	2390	None.
Lake Allatoona-Lake Sidney Lanier, Ga.	2450	Available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2366	Available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Miami, Fla.	2490	Available on a 24-hour basis, on condition that harmful interference shall not be caused to the police radio service in southern California.	2031.5	None.
	2514	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any coast station located in the vicinity of Miami, Fla., to which the carrier frequency 2490 kc/s is assigned for transmission; and, also on condition that harmful interference shall not be caused to the service of any coast station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.	2118	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec 15, annually; and also on condition that harmful interference shall not be caused to the service of any ship station in the Great Lakes area which in the discretion of the Commission has priority on the freqnency or freqnencies used for the service to which interference is caused.
	2550	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Tampa, Fla., to which this carrier freqnency is assigned for transmission.	2158	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of Tampa, Fla., and is transmitting on this freqnency to a coast station located in the vicinity of that port.
	4423.6	None	4123.6	None.

See footnotes at end of table.

Coast stations located in the vicinity of—	Coast station transmitting carrier frequency [1]		Associated coast station receiving carrier frequency	
	Frequency (kc/s)	Specific limitations imposed upon availability for use [2]	Frequency (kc/s)	Specific conditions relating to use of these frequencies by ship stations for transmission as shown in § 83.354(a)(1) of this chapter.[3]
Tampa, Fla.	2466	None.	2009	None.
	2550	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any coast station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.	2158	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any ship station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.
Mobile, Ala.	2572	None.	2430	None.
New Orleans, La.	2598	None.	2206	None.
	2558	Day only; also on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Mobile, Ala., to which the carrier frequency 2572 kc/s is assigned for transmission.	2166	Day only.
	2482	None.	2382	None.
Delcambre, La.	2506	Day only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2458	Day only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Galveston, Tex.	2530	None.	2134	None.
	2450	Day only; on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Boston, Mass., San Francisco or Eureka, Calif., to which this carrier frequency is assigned for transmission.[3]	2366	Day only; on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of Boston, Mass., and is transmitting on this frequency to a coast station located in the vicinity of that port.[3]
San Juan, P.R.	2530	None.	2134	None.
Great Lakes	2514	Subject to applicable provisions of § 81.304(d).	2118	None.
	2550	do	2158	Do.
	2582	do	2206	Not available to United States ship stations for transmission.
	4422.2	None.	4117.2	None.
	4434.9	do	4129.9	Do.
	8799.2	do	8249.2	Do.
Los Angeles-San Diego, Calif.	2566	None.	2009	None.
	2466	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Tampa, Fla., to which this carrier frequency is assigned for transmission.	2382	Available on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of New Orleans, La., and is transmitting on this frequency to a coast station located in the vicinity of that port.
	2598	7 a.m. to 7 p.m., P.s.t., only	2206	7 a.m. to 7 p.m., P.s.t., only.
	2522	do	2126	Do.
San Francisco-Eureka, Calif.	2450	Available on condition that harmful interference is not caused to police radio service in Kansas or Wisconsin.	2003	Available on condition that harmful interference shall not be caused to the service of any ship station which is within 300 nautical miles of Los Angeles or San Diego, Calif., and is transmitting on 2009 kc/s to a coast station located in the vicinity of either of these ports.
	2506	None.	2406	None.
	2538	7 a.m. to 7 p.m., P.s.t., only.	2142	7 a.m. to 7 p.m., P.s.t., only.
	4377.4	None.	4072.4	None.
Astoria-Portland, Oreg.	2598	None.	2206	None.
Coos Bay, Oreg.	2566	7 a.m. to 7 p.m., P.s.t., only.	2031.5	7 a.m. to 7 p.m., P.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Seattle, Wash.	2522	None.	2126	None.
	2482	Authorized for use during the following daily periods on condition that harmful interference is not caused to the service of any coast station located in the vicinity of New Orleans, La., nor to the service of any station in the Alaska area authorized in accordance with Part 85 of this chapter to which this carrier frequency is assigned for transmission: annually from Apr. 1 to Sept. 30, inclusive, from 5 a.m. to 9 p.m., P.s.t., only; and annually from Oct. 1 to Mar. 31, inclusive, from 6 a.m. to 11 p.m., P.s.t., only.	2430	Authorized for use south of 51 degrees north latitude and east of 142 degrees west longitude exclusively during the following daily periods on condition that harmful interference is not caused to the service of any station in the Alaska area authorized in accordance with Part 85 of this chapter to which this carrier frequency is assigned for transmission: annually from Apr. 1 to Sept. 30, inclusive, from 5 a.m. to 9 p.m., P.s.t., only; and annually from Oct. 1 to Mar. 31, inclusive, from 6 a.m. to 11 p.m., P.s.t., only.
Kahuku, Hawaii	2530	None.	2134	None.
	4422.2	do	4117.2	Do.
Hilo, Hawaii	2582	None.	2198	None.
Palmyra Island, Hawaii	2530	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Kahuku, Hawaii, to which the carrier frequency 2530 kc/s is assigned for transmission.	2134	Available on condition that harmful interference shall not be caused to the service of any ship station which is within 300 nautical miles of Kahuku, Hawaii, and is transmitting on this frequency to a coast station located in the vicinity of that port.
St. Thomas Island, V.I.	2506	8 a.m. to 9 p.m., A.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2009	8 a.m. to 9 p.m., A.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.

See footnotes at end of table.

[1] These frequencies are those which may be designated in applications for coast station authorizations.

[2] With respect to each specific date set forth, the associated limitations or conditions imposed shall terminate or begin as applicable, at 3 a.m., eastern standard time.

[3] This carrier frequency is to be made available by the Commission, for use (on a 24-hour basis except where specific hours of use are designated) by the maritime mobile service for ship-shore communication in respect to the particular coast station areas designated, on a specific beginning date to be designated in future rule-making as soon as practicable after its use (or the use of its associated transmitting or receiving frequency) by other radio services is terminated or is reduced to the extent necessary to avoid harmful interference to or from the maritime mobile service.

(c) Subject to the specific limitations imposed in this paragraph and in § 81.304 with respect to particular frequencies, the carrier frequencies designated herein are assignable for working purposes to Class II public coast stations using telephony when the coast station and the mobile station transmit alternately on the same radio channel: *Provided,* That these frequencies are assignable only to coast stations located in the vicinity of the specific harbors, ports, or places designated hereinafter opposite the respective frequency:

Coast stations located in the vicinity of—	Carrier Frequency (kc/s) [1]	Specific limitations imposed upon availability for use
Chicago, Ill.; Pittsburgh, Pa.; Louisville, Ky.; St. Louis, Mo.; Memphis, Tenn.; and other locations as required to serve vessels on the Mississippi River and connecting inland waters (other than the Great Lakes).	2782	None.
	4072.4	Subject to the applicable provisions of § 81.304.
	4377.4	Do.
	6240	Do.
	6455	Do.
	8210.8	Do.
Lake Dallas, Tex.; Lake Texhoma, Tex.	2738	None.
Lake Mead, Nev.; and other locations as required to serve vessels on inland waters of the southwestern continental United States.	2782	The use of this frequency at locations other than Lake Mead, Nev., is subject to the condition that harmful interference is not caused to the service of any other station.
The Dalles, Oreg.; Umatilla, Oreg.; and other locations as required to serve vessels on inland waters of the northwestern continental United States, excluding Alaska.	2784	The use of this frequency at locations other than The Dalles, Oreg., and Umatilla, Oreg., is subject to the condition that harmful interference is not caused to the service of any other station.

[1] These frequencies are those which may be designated in applications for coast station authorizations.

(d) The frequency 2638 kc/s is available for assignment as a working frequency for class II public coast stations for the transmission of safety and operational communications under the following conditions:

(1) No other frequency in the band 1600–5000 kc/s is available for assignment to public coast stations at the proposed location;

(2) The proposed station is to be located within the continental United States (excluding Alaska) not less than 100 miles from the seacoast, the shores of navigable bays and sounds adjacent to the open sea, the shores of the Great Lakes, the Saint Lawrence River, the Illinois and Ohio Rivers, and the Mississippi River south of Hastings, Minnesota;

(3) The use of the frequency shall be confined exclusively to safety and operational communications;

(4) Except for safety communications, use of the frequency shall be limited to day only: *Provided,* That operational communications may be continued beyond such time to the extent necessary for compliance with the provisions of § 81.186(b); and

(5) An affirmative showing is submitted with the original application and each renewal application evidencing the need for the desired safety and operational communications and establishing the fact that such communications cannot be provided by the use of frequencies above 156 Mc/s.

(e) Use of the working frequencies authorized in paragraphs (a), (b), (c) and (d) of this section is subject to the applicable conditions and limitations set forth in § 81.304(d). Further, and insofar as is practicable, class II coast stations shall use frequencies within the band 4000 kc/s to 30 Mc/s only when the use of frequency assignments outside this band will not provide effective communication.

§ 81.307 Availability of frequencies above 100 Mc/s.

(a) Carrier frequencies assignable to public coast stations for working are designated in this section. Frequencies will be assigned in such order as to minimize interference. Each of these frequencies is available on a shared basis only and shall not be construed as available for the exclusive use of any one station licensee. These frequencies are not authorized for use in communicating with stations aboard aircraft.

Channel designator	For transmission (Mc/s)	For reception (Mc/s)
24	[1] 161.80	[1] 157.20
25	[1] 161.85	[1] 157.25
26	161.90	157.30
27	161.95	157.35
28	162.00	157.40

[1] These frequencies are not available in Puerto Rico or the Virgin Islands.

(b) The frequencies specified in paragraph (a) of this section are assignable in the sequence 161.9, 161.95, 161.85, 161.80, and 162.00 Mc/s primarily to public coast stations which provide service to one or more principal harbors or ports.

(c) Public coast stations which provide service to other than a principal harbor or port may be assigned the frequencies for transmission specified in paragraph (a) of this section in the sequence 161.90, 161.95, 161.85, 161.80, and 162.00 Mc/s upon the express condition that (1) such assignment shall be on a secondary basis with respect to use of the assigned frequencies by a station or stations providing service (existing or in the future) to one or more principal harbors or ports, and (2) subject to the provisions of § 81.180 and 81.181, interference shall not be caused to the service rendered any principal harbor or port.

§ 81.309 Use of assigned frequency 156.8 Mc/s.

(a) The frequency 156.8 Mc/s is authorized for call, reply, and safety purposes. It may be used for messages preceded by the urgency and safety signals and, if necessary, for distress messages. It may also be used to announce transmission on another frequency of traffic lists and important maritime information, including ordinary weather and hydrographic reports.

(b) The use of this frequency by public coast stations for transmission of any other category is not authorized.

(c) In general, calling and replying by public coast stations shall be conducted on a frequency authorized primarily for working.

§ 81.310 Identification of station.

(a) All radiotelephone emissions of a public coast station shall be clearly identified by voice transmission therefrom in the English language of either the official call sign assigned to that station by the Commission or the approximate geographic location of the station as approved [1] in each case by the Commission upon request made by the station licensee or permittee: *Provided,* That in lieu of identification of the station by voice, the official call sign may be clearly transmitted by tone-modulated telegraphy in the International Morse Code either by a duly licensed radiotelegraph operator or by means of an automatic device approved [2] for this purpose by the Commission. Identification as herein prescribed shall be made:

(1) Upon completion of each communication with any other station;

(2) At the beginning and upon conclusion of each transmission made for any other purpose.

§ 81.311 Procedure in testing.

(a) Public coast stations using telephony are authorized to carry on such routine tests as may be required for the proper maintenance of the station provided each such station shall use every precaution to insure that, when conducting operational transmitter tests, the emissions of the station will not cause harmful interference. Radiation must be reduced to the lowest practicable value and if feasible shall be entirely suppressed. When radiation is necessary or unavoidable, the testing procedure described below shall be followed:

(1) The licensed radio operator responsible for operation of the transmitting apparatus shall ascertain by careful listening that the test emissions will not be likely to interfere with transmissions in progress;

(2) The official call sign and the geographic location of the testing station, followed by the word "test", shall be announced by voice on the radio-channel being used for the test, as a warning that test emissions are about to be made on that frequency;

(3) If, as a result of the announcement prescribed in subparagraph (2), any station transmits by voice the word "wait", testing shall be suspended. When, after an appropriate interval of time, such announcement is repeated and no response is observed, and careful listening indicates that harmful inter-

[1] Such voice identification as "Washington marine operator" to indicate that the station is located at or near Washington, D. C., may be approved if there will be no confict with identification of any other station.

[2] The conditions to be met by such a device in order to obtain the approval of the Commission will be determined and will be incorporated in proposed rule making.

ference should not be caused, the operator shall proceed as set forth in subparagraph (4) of this paragraph;

(4) The operator shall announce the word "testing" followed in the case of a voice transmission test by the count "1, 2, 3, 4 * * * etc." or by test phrases or sentences not in conflict with normal operating signals; or followed, in the case of other emission, by appropriate test signals not in conflict with normal operating signals. At the conclusion of the test, there shall be voice announcement of the official call sign of the testing station and its approximate geographic location.

(b) When testing is conducted on any frequency assignment within the band 2170 kc/s to 2194 kc/s or within the band 156.75 Mc/s to 156.85 Mc/s, the test transmission shall not continue for more than 15 seconds in any 15-minute period.

General Radiotelephone Operating Procedure

§ 81.312 General radiotelephone operating procedure.

(a) *Limitations on calling.* (1) Except when transmitting a general call to all stations within range for announcing or preceding the transmission of distress, urgency, or safety messages, a public coast station shall call the particular station(s) with which it intends to communicate.

(2) Public coast stations shall call ship stations by voice unless it is known that the attention of a particular ship station with which communication is intended may be secured by other means (such as automatic actuation of a selective ringing device).

(3) Public coast stations may use authorized classes of emission for selective calling on each frequency authorized for working. The use of selective calling on either 2182 kc/s or 156.8 Mc/s is prohibited.

(4) Calling a particular station, either by voice or by other means, shall not continue for a period of more than one minute in each instance. If the called station is not heard to reply, that station shall not again be called until after an interval of two minutes. When a station called does not reply to a call sent three times at intervals of two minutes, the calling shall cease and shall not be renewed until after an interval of fifteen minutes; however, if there is no reason to believe that harmful interference will be caused to other communications in progress, the call sent three times at intervals of two minutes may be repeated after a pause of not iess than three minutes. In event of an emergency involving safety, the provisions of this subparagraph shall not apply.

(5) Each public coast station, when using selective calling to secure the attention of a ship station with which it intends to communicate, shall transmit the type of signal and the particular signal code necessary to actuate the automatic attention device (selective ringer) known to be installed in the particular ship station and normally used for monitoring the coast station frequency which is used for transmitting such calls.

(6) Except in the event of an emergency involving safety, a public coast station, with respect to operation on any frequency which is used also by other coast stations within the same communication area, shall not answer, or attempt to answer, a ship station until the latter has transmitted the call sign or name of the particular coast station with which it desires to communicate.

(7) A public coast station shall not attempt to communicate with a ship station that has specifically called another coast station until it becomes evident that the called station does not answer, or that communication between the ship station and the called station cannot be carried on because of unsatisfactory operating conditions.

(b) *Time limitation on calling frequency.* Transmission by coast stations on the calling channel of which 2182 kc/s or 156.8 Mc/s is the authorized carrier frequency (including calls, answers, operating signals, and conversation pertaining to safety) shall be kept to a minimum and in general any one exchange of communications shall not exceed three minutes in duration. In the event of distress or other emergency, this time limitation shall not apply.

(c) *Change to working frequency.* After establishing communication with another station by call and reply on the calling channel of which 2182 kc/s or 156.8 Mc/s is the authorized carrier frequency, coast stations shall change to an authorized working channel for the transmission of messages which, under the provisions of this subpart, cannot be transmitted on the respective calling channel.

(d) *Use of busy signal.* A public coast station, when communicating with a ship station which transmits to the coast station on a radio-channel which is a different channel from that used by the coast station for transmission, may transmit a "busy" signal whenever transmission from the ship station is being received and during such other periods of time, pending completion of any one exchange of communications with a particular ship station, as may be considered necessary by the coast station to avoid or minimize interference from other stations.

§ 81.313 Station documents.

(a) Class I public coast stations, and class II public coast stations that provide communication with oceangoing vessels, shall be provided with the following documents:

(1) A valid station license, available in accordance with the provisions of § 81.102;

(2) The necessary operator license(s), available in accordance with the provisions of § 81.155;

(3) The station log required by this part;

(4) Parts 81 and 83 of this chapter;

(5) The Alphabetical List of Call Signs of Stations used in the Maritime Mobile Service;

(6) The List of Ship Stations;

(7) The International Radio Regulations, Geneva, 1959.

(b) Class II public coast stations that do not provide communication with oceangoing vessels, and class III public coast stations, shall be provided with the documents specified by subparagraphs (1), (2), (3), and (4) of paragraph (a) of this section.

(c) These documents shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 81.314 Station records.

(a) Public coast stations using telephony shall maintain an accurate radiotelephone log during their hours of service, as hereinafter specified:

(1) Each sheet of the log shall be numbered in sequence and dated and shall include the official call sign of the coast station and also the signature(s) of the licensed operator(s) performing operating duties.

(2) The entry "on duty" shall be made by the operator beginning a duty period, followed by his signature. The entry "off duty" shall be made by the operator being relieved of or terminating a duty period, followed by his signature. All log entries shall be currently completed and all entries shall, unless otherwise stated, be made by a licensed operator on duty. The use of initials or signs is not authorized in lieu of any operator's signature required by this section.

(3) The time of making an entry shall be shown opposite the entry and shall be expressed in Greenwich mean time (GMT), except that, in the Great Lakes region, the time shall be expressed in eastern standard time (e. s. t.) (counted from 0000 to 2400 o'clock, beginning at midnight) and for public coast stations which communicate exclusively with vessels on inland waters of the United States (other than the Great Lakes) the time shall be expressed in local standard time (e.s.t., c.s.t., etc., counted from 0000 to 2400 o'clock, beginning at midnight). The first entry in each hour shall consist of 4 figures; additional entries in the same hour may be expressed in 2 figures by omitting the hour designation. The abbreviation "GMT" (e. s. t. in the Great Lakes area) (e. s. t., c. s. t., etc., for stations serving inland waters exclusively) shall be marked at the head of the column in which the time is entered.

(4) With respect to public coast stations, which by reason of the provisions of Subpart G of this part, are required to maintain a watch on the radio-channel designated for radiotelephone calling and distress (assigned frequency 2182 kc/s), or on the radiotelephone calling channel above 100 Mc/s (assigned frequency 156.8 Mc/s), entries shall be made showing each time this watch is begun, suspended, or concluded; without any requirement, however, of making such entries during interruption of this watch as may be necessary during hours of service for calling, answering and exchanging operating signals and safety communications on this radio-channel. These entries shall be made by the licensed operator(s) on duty who is (are) designated and authorized by the station licensee to do so; the name and signature of the operator(s) making these entries and the operator(s) who actually maintains such watch shall appear in the log and shall be properly related to each particular entry for this purpose.

(5) All radiotelephone distress, urgency or safety signals and communications made or intercepted; the complete text, if possible, of such communications; and any information which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation or occurrence, identification of the radio-channel(s) on which such signals or messages were transmitted or received, and the position of any ship, or other mobile unit in need of assistance, if this can be determined. These entries shall be made by the licensed operator(s) on duty who is (are) designated and authorized by the station licensee to do so; the name and signature of the operator(s) making these entries shall appear in the log and shall be properly related to each particular entry of this category.

(6) All calls transmitted from or received by a coast station shall be entered, showing the call signs or names of vessels; the time, and the assigned frequencies involved: *Provided, however,* That when the manual operations of switching and handling of telephone calls directly between a ship telephone station and landline telephone facilities are not normally performed by a licensed radio operator, the entries prescribed by this paragraph may be omitted from the station log upon the express condition that equivalent records shall be currently maintained by the station licensee. Such records shall be made available upon request of an authorized Commission representative. The equivalent records shall include the time and such other notations as are necessary to identify the frequency(s) employed and the station(s) communicated with or heard. In addition, for each communication handled, a notation shall be made of the points of origin and destination of the communication. Local standard time may be used to record the occurrence in the equivalent record in lieu of Greenwich mean time or eastern standard time prescribed by subparagraph (3) of this paragraph: *Provided,* That the licensee may be required, upon request of an authorized Commission representative, to convert the standard time recorded to that specified in subparagraph (3) of this paragraph.

(7) Whenever harmful interference is experienced by or reported to the responsible operator, an entry shall be made by such operator to that effect, stating the source of the interference, if known.

(8) All test transmissions shall be entered, together with the time of such transmissions, without regard to whether two-way communication with any other station is established.

(9) A daily entry shall be made regarding comparison of the time indicated by the required clock(s) with standard time, including a statement of any deviations observed and corrections made.

(10) Failure of apparatus to operate as required, failure of power supply, and incidents tending to unduly delay communication shall be entered.

(11) All measurements of the transmitter frequency(s) shall be entered, including such deviations from the assigned frequency(s) as may be observed, and a statement of any corrective action taken.

(12) An entry shall be made giving pertinent details of all installation, service, or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed, and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full-time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

(13) Entries shall be made also in reference to operation of the antenna tower lights when such entries are required by reason of applicable provisions of Subpart G of this part.

Subpart J—Limited Coast Stations and Marine Utility Stations, Use of Telephony

§ 81.351 Supplemental eligibility requirements.

(a) Subject to the statutory eligibility requirements set forth in § 81.23, an authorization for a limited coast station or a marine-utility station may be granted to any person, or state or local government subdivision, or any agency of the Federal Government which is subject to the provisions of section 301 of the Communications Act provided the applicant is:

(1) Regularly engaged in the operation of one or more commercial transport vessels, or one or more vessels of a municipal or state government; or is

(2) Legally responsible for the operation, control, maintenance, or development of a harbor, port, or waterway used by commercial transport vessels; or is

(3) Engaged in furnishing a ship arrival and departure service, and will employ the station only for the purpose of obtaining the information essential to that service; or is

(4) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is regularly engaged in one or more activities set forth in subparagraphs (1), (2), and (3) of this paragraph; or is

(5) A non-profit corporation or association, organized for the purpose of furnishing a maritime mobile service solely to persons who are engaged in the operation of one or more commercial transport vessels.

(b) An authorization for a limited coast station for operation on 156.45 Mc/s may be granted to a person controlling public moorage facilities and otherwise serving the needs of vessels, or to a yacht club having moorage facilities.

(c) Each application for station authorization for a limited coast station or a marine utility station shall be accompanied by a written statement in detail sufficient to indicate clearly the applicant's eligibility under paragraph (a) or (b) of this section.

§ 81.352 Cooperative use of facilities.

(a) A person, state or local government subdivision, or any agency of the Federal Government subject to the provisions of section 301 of the Communications Act, engaged in the operation of one or more commercial transport vessels or government vessels may receive maritime mobile service from a limited coast station or a marine-utility station used on shore even though not the licensee of the limited coast station or the marine-utility station. The rendition of such service, however, will not be required of the licensee of the limited coast station or the marine-utility station without his consent, except as may be necessary in the enforcement of paragraph (c) of this section. The necessary cooperative arrangements for this purpose will be governed by the following provisions:

(1) Such persons, state or local government subdivisions, or Federal agencies may, and in the case of foreign persons shall, themselves be the licensees of the radio stations installed on board their respective vessels: *Provided,* That prior to receiving an authorization to render service to the involved ship station(s), the licensee of the coast station or the marine utility station from whom the service is to be received files a request for authority to render such maritime mobile service to the person or government agency who is to receive the service. The request must be signed but may be in letter form, submitted in duplicate. Upon approval of the request, the Commission will designate, on the coast station or marine utility station authorization, the persons or government agencies to whom service may be rendered.

(2) The licensee of a limited coast station or marine-utility station used on shore may install licensed ship radio stations on board United States commercial transport vessels of other persons or on board vessels of appropriate government agencies: *Provided,* That in each case such persons or government agencies shall enter into a written agreement verifying that the ship station licensee has the sole right of control of the involved ship stations, that the vessel operators shall use the ship stations subject to the orders and instructions of the licensee of the coast station or marine-utility station on shore, and that the said licensee shall have, at all times, such access to and control of the ship station equipment as will enable him to carry out his responsibilities under the ship station license. A copy of the agreement with vessel owners required hereby shall be kept with the coast station or marine-utility station records and held available for inspection by Commission representatives.

(3) All provisions of this section applicable to ship stations are applicable also to marine-utility stations while the latter are used on board vessels, and to stations on board commercial transport vessels of any foreign country.

(b) All cooperative arrangements entered into under the provisions of this section shall be governed by the following requirements as to costs and charges:

(1) The arrangement must be established on a non-profit, cost-sharing basis by written contract between the parties and a copy of the contract must be kept with the records of the coast station or the marine-utility station and held available for inspection by Commission representatives.

(2) Contributions to capital and operating expenses may be accepted only on a cost-sharing, non-profit basis, said costs to be prorated on an equitable basis among all persons or government agencies who are parties to the cooperative arrangement. Records which reflect the cost of the service and its non-profit, cost-sharing nature shall be maintained by the licensee of the coast station or the marine-utility station and held available for inspection by Commission representatives. A financial statement reflecting the non-profit, cost-sharing nature of the arrangement shall be submitted by the licensee of the coast station or the marine-utility station annually to the Commission's Washington office no later than three months after the close of the licensee's fiscal year.

(c) If, in a particular geographic area, the use and operation of limited coast stations and (or) marine-utility stations by a plurality of station licensees using the same frequency assignment(s) causes intolerable interference, even though all provisions of this subpart relative to the reduction of interference have been fully complied with, the Commission may, in accordance with the provisions of the Communications Act, require the involved station licensees to join in a single cooperative organization for rendition of the necessary maritime mobile service within the affected area by a single station licensee.

§ 81.354 Points of communication.

(a) Subject to the conditions and limitations imposed by the terms of the particular coast station license or by the applicable provisions of this part with respect to the use of particular radiochannels, limited coast stations and marine-utility stations are authorized to communicate:

(1) With any mobile station in the maritime mobile service for the transmission or reception of safety communication;

(2) With any land station for the purpose of facilitating the transmission or reception of safety communication;

(3) With the following categories of ship stations for the transmission or reception of communication essential to the business or operational needs of ships:

(i) Limited ship stations and marine-utility stations on board ship, licensed by the Commission and using telephony on a frequency assignment designated by the Commission for communication with limited coast stations or with marine-utility stations on shore;

(ii) Public ship stations licensed by the Commission and using telephony on a frequency assignment designated by the Commission for communication with limited coast stations or marine-utility stations on shore;

(iii) Ship stations of a foreign country using telephony except on the frequencies 156.35, 156.9, and 156.95 Mc/s.

(b) Upon application and satisfactory showing of a need therefor, two or more limited coast stations of the same station licensee may be specifically authorized by the terms of their respective station licenses to communicate on a secondary basis between themselves: *Provided,*

(1) Any communication carried on shall be confined exclusively to that absolutely necessary for the business or operational needs of the ship(s) with which at least one of the involved coast stations is authorized to communicate; and

(2) Other point-to-point communication facilities between the particular coast station locations are inadequate, inoperative, economically impracticable, or unavailable; and

(3) Any two coast stations of this category which communicate with each other are separated by not more than 100 miles; and

(4) Neither harmful interference nor intolerable delay is caused to communication with or between mobile stations; and

(5) Such communication shall occur only on the frequencies 156.35, 156.45, 156.55, 156.9, and 156.95 Mc/s.

§ 81.355 Nature of service.

(a) Limited coast stations and marine-utility stations using telephony shall:

(1) Not be open to public correspondence;

(2) Not be used to render a communications common carrier service;

(3) Not be used to transmit program material of any kind for use in connection with radio broadcasting;

(4) Not be used for the transmission of press material or news items which are not required to serve the business or operational needs of ships;

(5) Be used exclusively to serve the operational and business needs of ships, including the transmission of safety communication.

(b) In areas where adequate and appropriate weather and hydrographic information is transmitted by means of telephony through the medium of one or more public coast stations or United States Government stations, limited coast stations and marine-utility stations on shore shall not duplicate that service. In all other respects, limited coast stations and marine-utility stations on shore may transmit by means of telephony such weather and hydrographic information as is required for the business and operational needs of the ships with which they normally communicate.

(c) Each marine-utility station on shore shall be used and operated exclusively within the limits of the geographic area specified in the particular station license. Except as specifically provided otherwise in this part, each marine-utility station on shore shall be used and operated as a limited coast station and in accordance with all rules and regulations applicable to such coast stations.

§ 81.356 Assignable frequencies above 30 Mc/s.

(a) The frequencies above 156 Mc/s listed in the following table may be authorized to limited coast stations for communication with ship stations as indicated in this section (these frequencies are not authorized for use in communicating with stations aboard aircraft):

Channel designator	Frequency (Mc/s)		Authorized communications
	Coast	Ship	
7A	156.35	156.35	Business and operational.
9	156.45	156.45	Do.
10	156.50	156.50	Do.
11	156.55	156.55	Do.
12	156.60	156.60	Port operations. [2]
13	156.65	156.65	(1).
14	156.70	156.70	Port operations. [2]
16	156.80	156.80	Safety and calling.
18A	156.90	156.90	Business and operational.
19A	156.95	156.95	Do.
20	[3] 161.60	[3] 157.00	Port operations.

[1] Business and operational in the Great Lakes area only. In other areas, limited to communication with ship stations for the exchange of information concerning shore radar stations or for communication essential for the current passage of a ship or ships through locks, bridge areas, and Government controlled waterways.

[2] The frequencies 156.6 and 156.7 Mc/s are normally assignable in that sequence.

[3] These frequencies are not available in Puerto Rico or the Virgin Islands.

NOTE: Limited coast stations in the Great Lakes area authorized to use 156.4 Mc/s prior to October 1, 1962, may continue to use the frequency pursuant to their authorization until January 1, 1963.

(b) Carrier frequencies within the band 30–50 Mc/s which may be authorized for use by limited coast stations and marine utility stations on shore employing either frequency modulation or amplitude modulation for telephony, for transmission and reception on the same frequency for communication pertaining only to the business and operational needs of ships, are designated herewith: *Provided,* That each of these assignable frequencies is available on a shared basis only and shall not be construed as available for the exclusive use of any one station licensee:

Carrier frequency	*Normal geographic area of use*
35.06 Mc/s	Gulf coast area, Puerto Rico, and Virgin Islands.
35.10 Mc/s	Pacific coast area and islands of the Pacific Ocean.
35.14 Mc/s	Atlantic coast area.
35.18 Mc/s	Midcontinent area, including Great Lakes.

(c) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 35–36 Mc/s must recognize that the band is shared with various services in other countries; that harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

NOTE: No new radio systems will be authorized in the maritime mobile service on the frequencies listed in paragraphs (b) and (c) of this section. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

§ 81.357 Conditions imposed upon assignments in 35–36 Mc/s band.

Each application which requests assignment of a carrier frequency designated in § 81.356(c) shall designate normally the carrier frequency specified in that paragraph for use in the geographic area in which the coast station or the marine-utility station on shore is located. Normally, only that carrier frequency is assignable for use in that area. When any other of these carrier frequencies is requested for assignment in a specified area, the application therefor shall include a satisfactory showing that the carrier frequency designated in § 81.356(c) for use in the particular area will not meet the need of the proposed or existing service. When, in the opinion of the applicant, the location of the involved station is not clearly within one of the geographical areas designated in § 81.356(c), the applicant may obtain the necessary information in this respect by corresponding directly with the Commission at Washington, D.C.

NOTE: No new radio systems will be authorized in the maritime mobile service on frequencies within the 35–36 Mc/s band. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

§ 81.358 Conditions imposed upon assignments in the 156–174 Mc/s band.

Normally a limited coast station shall be authorized to use only one working frequency within the band 156.325–161.625 Mc/s in accordance with the table contained in § 81.356(a). Application for authority to use more than one frequency for working shall include a satisfactory showing of need for such additional frequency.

§ 81.359 Use of assigned frequency 156.8 Mc/s.

The frequency 156.8 Mc/s is authorized for call, reply, and safety purposes. It may also be used for messages preceded by the urgency and safety signals, announcing the transmission on another frequency in the 156–174 Mc/s band of important maritime information, and, if necessary, for distress messages. The use of this frequency by limited coast stations for transmissions of any other category is not authorized.

§ 81.360 Call and reply on working channels.

Although use of the assigned frequency 156.8 Mc/s by limited coast stations and marine-utility stations on shore for call and reply is authorized, calling and replying by these stations shall, in general, be conducted on a radio-channel authorized primarily for working.

§ 81.362 Limitations on use of marine-utility stations.

(a) Marine-utility stations on shore shall be used and operated solely within the local geographic area specified in the particular station license.

(b) The antenna structures of a marine-utility station on shore shall meet all applicable requirements of Part 17 of this chapter.

(c) Marine-utility stations on shore shall not be used or operated in the immediate vicinity of any radio transmitting or receiving installation of a coast station, a base station in any land mobile service, or a U. S. Government station, which transmits or receives on any radio-channel(s) above 30 Mc/s unless the fact has been established, by actual tests in cooperation with the involved station(s), that interference is not caused by such operation to the service of the coast, base, or government station(s) concerned.

§ 81.363 Use of working frequencies for calling.

In addition to any radio-channel of which the carrier frequency is specifically authorized herein for "calling", the radio-channels authorized in this subpart for "working" may be used for call and reply also, provided interference is not caused to any communication in progress on the particular working channel.

§ 81.364 Time limitation on communication.

All communication engaged in by limited coast stations and marine-utility stations shall be limited to the minimum practicable transmission time, and each station licensee shall employ standardized operating practices and procedures to this effect.

§ 81.365 Availability of 2738 kc/s, 2830 kc/s, and 2214 kc/s for limited coast stations.

(a) The frequencies 2738 kc/s and 2830 kc/s are available for assignment on a shared basis to limited coast stations in the areas where they are available for intership use upon showing that exceptional circumstances warrant the use of such frequencies to serve the safety, operational or business needs of commercial transport or government vessels. Communications between such coast stations and ships shall be conducted on the same working frequency. The frequency 2214 kc/s is available for assignment under like conditions to limited coast stations. Applicants for the frequencies must show that:

(1) The desired communications are primarily over distances for which frequencies above 30 Mc/s would not be suitable;

(2) Public coast station facilities would not provide the desired communications;

(3) Harmful interference would not be caused to the service of any United States Government station by the use of 2214 kc/s;

(4) Harmful interference would not be caused to the intership use of 2738 kc/s and 2830 kc/s;

(5) The maximum plate input power of the transmitter for such communication shall not exceed 150 watts.

(b) The frequencies 2738 kc/s and 2830 kc/s are available for assignment on a shared basis to limited coast stations in the areas where they are available for intership use upon a showing that the use of such frequencies is necessary to fulfill the need for communications with ships relating to safety of navigation at bridges, waterways, causeways and similar locations. Communications between such coast stations and ships shall be conducted on the same working frequency. On an adequate showing of need, both frequencies may be assigned. The maximum authorized transmitter power for such communications shall not exceed 50 watts.

NOTE: Commission Order (FCC 62-724) adopted July 13, 1962, appearing at 27 F.R. 6833, July 19, 1962, waived regulations contained in § 81.365 to permit the use of 2003 kc/s at a limited coast station licensed to Michigan State Highway Department.

§ 81.366 Availability of 2182 kc/s for limited coast stations.

(a) The frequency 2182 kc/s is the international radiotelephone distress and general calling frequency for the maritime mobile service. It may be used by limited coast stations solely for transmission of:

(1) Distress signals and traffic as provided in Subpart G of this part.

(2) The international urgency signal, and very urgent messages (preceded by this signal) concerning the safety of a ship, aircraft or other vehicle, or the safety of some person on board or within sight of such ship, aircraft, or vehicle.

(3) The international safety signal and call. The safety message which follows shall, where practicable, be sent on a working frequency and a suitable announcement to this effect shall be made at the end of the call.

(4) Normal calls, replies, and brief radio operating signals but only when the use of a different carrier frequency for this function appears to be impracticable by reason of operating or equipment limitations of a mobile station.

(5) Brief test signals in accordance with the provisions of § 81.311, as may be necessary to determine whether the radio transmitting equipment of the station is in good working condition on this frequency.

(b) When using this frequency for purposes other than distress calls and distress traffic, and urgency and safety signals and messages, the carrier power of the radio transmitter shall not exceed 100 watts.

§ 81.367 Procedure in testing.

(a) Limited coast stations and marine-utility stations using telephony are authorized to carry on such routine tests as may be required for the proper maintenance of the station provided each such station shall use every precaution to insure that, when conducting operational transmitter tests, the emissions of the station will not cause harmful interference. Radiation must be reduced to the lowest practicable value and if feasible shall be entirely suppressed. When radiation is necessary or unavoidable, the testing procedure described below shall be followed:

(1) The licensed radio operator responsible for operation of the transmit-

ting apparatus shall ascertain by careful listening that the test emissions will not be likely to interfere with transmissions in progress;

(2) The official call sign and the geographic location of the testing station, followed by the word "test", shall be announced by voice on the radio-channel being used for the test, as a warning that test emissions are about to be made on that frequency;

(3) If, as a result of the announcement prescribed in subparagraph (2) of this paragraph, any station transmits by voice the word "wait", testing shall be suspended. When, after an appropriate interval of time, such announcement is repeated and no response is observed, and careful listening indicates that harmful interference should not be caused, the operator shall proceed as set forth in subparagraph (4) of this paragraph;

(4) The operator shall announce the word "testing" followed in the case of a voice transmission test by the count "1, 2, 3, 4, * * * etc." or by test phrases or sentences not in conflict with normal operating signals; or followed, in the case of other emission, by appropriate test signals not in conflict with normal operating signals. At the conclusion of the test, there shall be voice announcement of the official call sign of the testing station and its approximate geographic location.

(b) When testing is conducted on any frequency assignment within the band 2170 kc/s to 2194 kc/s or within the band 156.75 to 156.85 Mc/s, the test transmission shall not continue for more than 15 seconds in any 15 minute period.

§ 81.368 General radiotelephone operating procedure.

(a) *Limitations on calling.* (1) Except when transmitting a general call to several stations within range for announcing or preceding the transmission of distress, urgency, or safety messages, a limited coast station or a marine utility station shall call the particular station(s) with which it intends to communicate.

(2) Limited coast stations shall call ship stations by voice unless it is known that the attention of a particular ship station with which communication is intended may be secured by other means (such as automatic actuation of a selective ringing device).

(3) Limited coast stations may use authorized classes of emission for selective calling on each frequency authorized for working. The use of selective calling on either 2182 kc/s or 156.8 Mc/s is prohibited.

(4) Calling a particular station, either by voice or by other means, shall not continue for a period of more than thirty seconds in each instance. If the called station is not heard to reply, that station shall not again be called until after an interval of three minutes. In event of an emergency involving safety, the provisions of this subparagraph shall not apply.

(5) Each limited coast station, when using selective calling to secure the attention of a ship station with which it intends to communicate, shall transmit the type of signal and the particular signal code necessary to actuate the automatic attention device (selective ringer) known to be installed in the particular ship station and normally used for monitoring the coast station frequency which is used for transmitting such calls.

(6) Except in the event of an emergency involving safety, a limited coast station or a marine utility station with respect to operation on any frequency which is used also by other stations within the same communication area, shall not answer, or attempt to answer, a station on board ship until the latter has transmitted the call sign or name of the particular coast station with which it desires to communicate.

(7) A limited coast station or a marine utility station shall not attempt to communicate with a ship station that has specifically called another station until it becomes evident that the called station does not answer or that communication between the ship station and the called station cannot be carried on because of unsatisfactory operating conditions.

(b) *Time limitation on calling frequency.* Transmission on the calling channel of which 2182 kc/s or 156.8 Mc/s is the authorized carrier frequency (including calls, answers, operating signals, and conversation pertaining to safety) shall be kept to a minimum and in general any one exchange of communications shall not exceed three minutes in duration. In the event of distress or other emergency, this time limitation shall not apply.

(c) *Change to working frequency.* After establishing communication with another station by call and reply on the calling channel of which 2182 kc/s or 156.8 Mc/s is the authorized carrier frequency, land stations shall change to an authorized working channel for the transmission of messages which, under the provisions of this subpart, cannot be transmitted on the respective calling channel.

§ 81.369 Station documents.

(a) Limited coast stations using telephony shall be provided with and have readily available to the responsible operator (except as otherwise permitted by §§ 81.102 and 81.155) during their hours of service, the following documents:

(1) A valid station license available in accordance with § 81.102;

(2) The necessary operator license or licenses available in accordance with § 81.155;

(3) The station log required by this part for stations of this category;

(4) Parts 81 and 83 of this chapter.

§ 81.370 Station records.

(a) Limited coast stations using telephony shall maintain an accurate radiotelephone log during their hours of service, as hereinafter specified:

(1) Each sheet of the log shall be numbered in sequence and dated and shall include the official call sign of the coast station and also the signature(s) of the licensed operator(s) performing operating duties.

(2) The entry "on duty" shall be made by the operator beginning a duty period, followed by his signature. The entry "off duty" shall be made by the operator being relieved of or terminating a duty period, followed by his signature. All log entries shall be currently completed and all entries shall, unless otherwise stated, be made by a licensed operator on duty. The use of initials or signs is not authorized in lieu of any operator's signature required by this section.

(3) The time of making an entry shall be shown opposite the entry and shall be expressed in local standard time EST, CST, etc.) counted from 0000 to 2400 o'clock, beginning at midnight. The first entry in each hour shall consist of 4 figures; additional entries in the same hour may be expressed in 2 figures by omitting the hour designation. The abbreviation "e. s. t.", "c. s. t.", etc., shall be marked at the head of the column in which the time is entered.

(4) With respect to limited coast stations, which, by reason of the provisions of Subpart G of this part, are required to maintain a watch on the radio-channel above 100 Mc/s designated for calling (assigned frequency 156.8 Mc/s[1]) entries shall be made showing each time this watch is begun, suspended, or concluded; without any requirement, however, of making such entries during interruption of this watch as may be necessary during hours of service for calling, answering and exchanging operating signals and safety communications on this radio-channel. These entries shall be made by the licensed operator(s) on duty who is (are) designated and authorized by the station licensee to do so; the name and signature of the operator(s) making these entries and the operator(s) who actually maintains such watch shall appear in the log and shall be properly related to each particular entry for this purpose.

(5) All radiotelephone distress, urgency or safety signals and communications made or intercepted; the complete text, if possible, of such communications; and any information which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation or occurrence, identification of the radio-channel(s) on which such signals or messages were transmitted or received, and the position of any ship, or other mobile unit in need of assistance, if this can be determined. These entries shall be made by the licensed operator(s) on duty who is (are) designated and authorized by the station licensee to do so; the name and signature of the operator(s) making these entries shall appear in the log and shall be properly related to each particular entry of this category.

(6) Whenever harmful interference is experienced by or reported to the responsible operator, an entry shall be made by such operator to that effect, stating the source of the interference, if known.

(7) All test transmissions shall be entered, together with the time of such

[1] Pending further development of the use of very high frequencies, no watch is required to be maintained by limited coast stations or marine utility stations on shore under the existing provisions of Subpart G of this part.

transmissions, without regard to whether two-way communication with any other station is established.

(8) All measurements of the transmitter frequency(s) shall be entered, including such deviations from the assigned frequency(s) as may be observed, and a statement of any corrective action taken.

(9) An entry shall be made giving pertinent details of all installation, service, or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full-time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

(10) Entries shall be made also in reference to operation of the antenna tower lights when such entries are required by reason of applicable provisions of Subpart G of this part.

(b) Marine-utility stations on shore shall maintain an accurate radiotelephone log during their hours of service as follows:

(1) Each sheet of the log shall be numbered in sequence and shall include notation of the geographic area(s) in which the station is operated; the date and local standard time of operation of the station; official call sign of the marine-utility station, the name and signature of the licensed operator (or other person in accordance with Subpart F of this part) who is responsible for operation of the marine-utility station. (The use of initials or signs in lieu of signatures is not authorized.)

(2) An entry shall be made giving pertinent details of all installation, service or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

§ 81.371 Use of United States Government frequencies for telephony.

Frequencies assignable to government radio stations are assignable to non-Government limited coast stations for communication with other non-Government limited coast stations by telephony when such communication is necessary in connection with activities performed in coordination with or in behalf of the Federal Government and where the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

§ 81.372 Station identification.

(a) All radiotelephone emissions of a limited coast station or a marine utility station shall be clearly identified by voice transmission therefrom in the English language of the official call sign assigned to that station by the Commission; provided that, in lieu of identification of the station by voice, the official call sign may be clearly transmitted by tone-modulated telegraphy in the International Morse Code either by a duly licensed radiotelegraph operator or by means of an automatic device approved for this purpose by the Commission. Identification as herein prescribed shall be made:

(1) At the beginning and upon completion of each communication with any other station;

(2) At the beginning and upon conclusion of each transmission made for any other purpose;

(3) At intervals not exceeding fifteen minutes whenever transmissions or communications are sustained for a period exceeding fifteen minutes.

Subpart K—Stations on Land in the Maritime Radiodetermination Service.

§ 81.401 Limitation on station authorizations.

For operation of transmitters other than radar in stations on land in the maritime radiodetermination service, only developmental station authorizations will be granted.

§ 81.402 Assignable frequencies.

(a) The following frequency bands are authorized for use by shore radionavigation stations (including shore radar stations):

2900 to 3100 Mc/s
9300 to 9500 Mc/s

(b) The following frequency bands are authorized for use by shore radiolocation stations:

(1) 2450 to 2500 Mc/s on condition that harmful interference shall not be caused to the fixed and mobile services, and on the condition that no protection shall be given from interference caused by emissions from industrial, scientific, or medical equipment.

(2)

2900 to 3100 Mc/s
5460 to 5650 Mc/s
9300 to 9500 Mc/s

The use of frequencies within these bands for radiolocation shall not cause harmful interference to the radionavigation service and to the Government radiolocation service. Each shore radiolocation station in the maritime radiolocation service (used for purposes other than navigation of ships or aircraft or warning of obstructions to navigation) authorized to operate in the band 3000–3246 Mc/s as of April 16, 1953, and which operates on frequencies between 3100 and 3246 Mc/s may continue to operate in the band 3100–3246 Mc/s for the duration of the term of its authorization in effect as of that date. Renewals of such authorizations, however, shall be contingent upon the condition that each such station shall not cause harmful interference to United States Government services.

§ 81.403 Special conditions imposed.

(a) An authorization granted for the construction and/or operation of a shore radionavigation station shall be subject to the express condition that in so far as the station may be operated to provide information to be used for the purpose of aiding in the movement of any ship, the station shall be treated as a private aid to navigation for which permission must be obtained by the station permittee or licensee from the Commandant, United States Coast Guard, as provided in section 759, Title 33, U. S. Code.

(b) Upon the grant of an authorization for the construction and/or operation of a shore radionavigation station, the Commission will forward to the Commandant, U. S. Coast Guard, Washington, D. C., notification thereof together with a copy of the authorization.

Subpart L—Fixed Stations Associated With the Maritime Mobile Service

Marine Fixed Stations

§ 81.451 Supplemental eligibility requirements.

(a) Subject to the basic eligibility requirements set forth in § 81.23, the following persons are eligible for authorizations for marine fixed stations:

(1) Persons engaged in prospecting for, producing, collecting, refining, or transporting petroleum or petroleum products in the immediate vicinity of the marine fixed station requested;

(2) Persons engaged in an activity in the immediate vicinity of the marine fixed station requested which activity is necessary to a construction project of a public character; or

(3) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one or more of the activities set forth in subparagraphs (1) and (2) of this paragraph.

(b) Additionally, and subject to the basic eligibility requirements set forth in § 81.23, authorizations for marine fixed stations may be granted to any non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged, in the immediate vicinity of the marine fixed station, in one or more of the activities designated in paragraphs (a)(1) and (a)(2) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis, said costs to be prorated on an equitable basis among all persons to whom service is rendered. Records which reflect the cost-sharing non-profit basis shall be maintained and held available for inspection by Commission representatives.

§ 81.452 Points of communication.

Marine fixed stations are authorized to communicate by means of telephony solely with class II public coast stations in the United States when these stations render a communication service of telephony in direct connection with the general public service land-line telephone system, provided the marine fixed station, in each instance, is located not more than 300 statute miles from each coast station of this class with which it communicates.

§ 81.453 Showing of need.

Applicants for authority to establish and operate marine fixed stations must satisfy the Commission, through information contained in the application or as otherwise determined by the Commission, that a need for the desired communication exists primarily in respect to the safety of life or property, and that the use of any communication facility to satisfy such need, other than a marine fixed station, is impossible or impracticable for the purpose involved.

§ 81.454 Assignable frequencies.

(a) Carrier frequencies within the band 2000 to 2450 kc/s, which are authorized by Part 83 of this chapter for use by public ship stations employing telephony for the transmission of public correspondence to public coast stations (normally providing direct connection with public service land-line telephone systems), are assignable to marine fixed stations for the same purpose; upon the condition that neither harmful interference nor intolerable delay is caused to communication between coast stations and mobile stations.

(b) In addition to the assignable frequencies designated in paragraph (a) of this section, the carrier frequency 2182 kc/s is assignable to marine fixed stations solely for use in transmitting, by means of telephony with an antenna power not exceeding 100 watts (when no modulation is present), distress calls and distress traffic, and urgency and safety signals and messages. The use of this radiochannel by marine fixed stations for ordinary calls and replies is prohibited.

§ 81.455 Technical requirements.

The authorized frequency tolerance, authorized class of emission, authorized emission-bandwidth, and authorized transmitter-power for marine fixed stations are set forth in Subpart E of this part.

§ 81.456 Scope of communication.

Marine fixed stations shall be used primarily for safety communication, as defined in § 81.7(a): *Provided, however,* That other than safety communication may be carried on, by these stations, with discretion and to the extent required in behalf of the specific activities set forth in § 81.451: *Provided,* That, in this respect priority at all times shall be given to use of the assigned radio channel(s) for ship to shore transmission.

§ 81.457 Station documents.

(a) Each marine fixed station shall be provided with the following documents:

(1) A valid station license.

(2) The necessary operator license or licenses.

(3) The station log required by § 81.458.

(4) Parts 81 and 83 of this chapter.

§ 81.458 Station records.

(a) Marine fixed stations shall maintain an accurate radiotelephone log during their hours of service as follows: all entries shall be made by the licensed operator on duty at the station, except as otherwise provided in subparagraph (2) of this paragraph:

(1) Each sheet of the log shall be numbered in sequence and shall include the date(s) and time(s) of operation of the station; official call sign of the station, the name and signature of the licensed operator who is responsible for operation of the station. (The use of initials or signs in lieu of signatures is not authorized.)

(2) An entry shall be made giving pertinent details of all installation, service or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

(3) All radiotelephone distress, urgency or safety signals and communications made or intercepted; the complete text, if possible, of such communications; and any information which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation or occurrence, identification of the radiochannel(s) on which such signals or messages were transmitted or received, and the position of any ship, or other mobile unit in need of assistance, if this can be determined.

(4) Whenever harmful interference is experienced by or reported to the responsible operator, an entry shall be made by such operator to that effect, stating the source of the interference, if known.

(5) All test transmissions shall be entered, including the date, time, and purpose thereof.

(6) The date and time of making each entry shall be shown opposite the entry and the time shall be expressed in local standard time as follows: the first entry in each hour shall consist of four figures; additional entries in the same hour may be expressed in two figures by omitting the hour designation. The abbreviation, e. s. t., c. s. t., etc., shall be marked at the head of the column in which time is entered.

§ 81.459 Station identification.

For the purpose of station identification, the provisions of § 83.364(a) of this chapter shall apply to marine fixed stations.

§ 81.460 Procedure in testing.

For the purpose of conducting operational or maintenance tests, the provisions of § 83.365(a) of this chapter shall apply to marine fixed stations.

§ 81.461 Operating procedure.

In the use and operation of marine fixed stations, these stations shall be governed by the provisions of § 83.366 (a) and (h) of this chapter.

MARINE RECEIVER-TEST STATIONS

§ 81.471 Eligibility requirements.

An authorization for a marine receiver-test station may be granted to the licensee of a public coast station using telephony and having a frequency assignment for this purpose within the band 2000–3500 kc/s or 156–174 Mc/s.

§ 81.472 Scope of service.

A marine receiver-test station shall be used solely for brief transmissions intended for interception by the regularly used radio-telephone receiving apparatus of an associated public coast station of the same station licensee; the purpose of such transmissions shall be limited to necessary determinations of the technical performance of such receiving apparatus. No other signals or communications shall be transmitted by marine receiver-test stations.

§ 81.473 Assignable frequencies.

The carrier frequency or frequencies assignable to a marine receiver-test station is (are) the specific carrier frequency or frequencies within the band 2000–3500 kc/s or 156–174 Mc/s used by public ship stations in transmitting by means of telephony to the particular public coast station with which the marine receiver-test station is associated; these frequencies with respect to ship stations of the United States are designated in §§ 83.354 and 83.359 of this chapter.

§ 81.474 Technical requirements.

The authorized frequency tolerance, authorized class of emission, authorized emission-bandwidth, and authorized transmitter-power for marine receiver-test stations are set forth in Subpart E of this part.

§ 81.475 Station identification.

The official call sign and the general geographic location of the marine receiver-test station shall be announced at the conclusion of each completed test transmission.

§ 81.476 Operating limitations.

The station licensee shall exercise such control over the transmissions of a marine receiver-test station as is necessary to avoid interference to calls from ship stations and to the exchange of public correspondence between ship and shore. The maximum amount of transmission time permitted on any one radio-channel authorized for use by a particular marine receiver-test station in a region of heavy radio traffic on the involved radiochannel shall not exceed 24 minutes in each 24-hour period.

§ 81.477 Station records.

(a) An accurate log shall be maintained with respect to the operation of each marine receiver-test station. The station licensee shall be responsible for compliance with this requirement. This log may be maintained and located at an authorized control point associated with the station.

(b) All log entries shall be made by the licensed operator responsible for operation of the station or by a person authorized and directed by the station licensee to make such entries.

(c) The log shall be maintained and entries made therein as follows:

(1) Each sheet of the log shall be numbered in sequence and shall include the date(s) and time(s) of operation of the station; official call sign of the station, the name and signature of the licensed operator who is responsible for operation of the station. (The use of initials or signs in lieu of signatures is not authorized.)

(2) An entry shall be made giving pertinent details of all installation, service or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed and dated by the responsible licensed operator who supervised or performed the work, and unless he is regularly employed on a full time basis at the station and has his operator license properly posted, shall also include his mail address and the class, serial number, and expiration date of his license.

(3) All radiotelephone distress, urgency or safety signals and communications made or intercepted; the complete text, if possible, of such communications; and any information which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation or occurrence, identification of the radio-channel(s) on which such signals or messages were transmitted or received, and the position of any ship, or other mobile unit in need of assistance, if this can be determined.

(4) Whenever interference to other stations is reported to the station licensee or to the responsible operator, an entry shall be made by the latter to that effect, stating the source of the interference report and the station(s) to which interference has been caused, if known.

(5) All test transmissions shall be entered, including the date, time, duration of the transmission, the class of emission and particular radio-channel used.

(6) The date and time of making each entry shall be shown opposite the entry and the time shall be expressed in local standard time as follows: the first entry in each hour shall consist of four figures (from 0000 to 2400 beginning at midnight local standard time); additional entries in the same hour may be expressed in two figures by omitting the hour designation. The abbreviation e. s. t., c. s. t., etc., shall be marked at the head of the column in which time is entered.

MARINE CONTROL STATIONS, MARINE REPEATER STATIONS, AND MARINE RELAY STATIONS

§ 81.481 Eligibility requirements.

Authorizations for marine control stations, marine repeater stations, and marine relay stations will be issued only to licensees of coast stations who have made a satisfactory showing of need therefor in relation to the particular coast station or stations of which they are the station licensee.

§ 81.482 Showing of need.

Applicants for such authorization must show (a) that a need exists for a point-to-point radio circuit for control, repeater, or marine relay purposes, (b) that telecommunication facilites other than a marine control, marine repeater, or marine relay station are not available, or if available would not provide effective results, and (c) that the service to be rendered through use of the marine control station, marine repeater, or marine relay station is necessary for, or will prove beneficial to, the service rendered by the associated coast station(s).

§ 81.483 Points of communication.

(a) Marine control stations are authorized to transmit exclusively to the particular coast station whose operation or emission is being controlled by such transmissions.

(b) Marine repeater stations are authorized to transmit exclusively to other authorized marine repeater stations, or to designated radio receiving locations to which the respective transmitted communication is addressed, or to an authorized message center at a designated fixed location.

(c) Marine relay stations are authorized to transmit to and receive from other authorized marine relay stations as specified in the station authorization.

§ 81.484 Frequencies assignable.

(a) In any area in the continental United States, a maximum of four carrier frequencies assignable in accordance with Part 2 of this chapter within either or both of the bands 72.02 Mc/s to 74.58 Mc/s and 75.42 Mc/s to 75.98 Mc/s are available in the aggregate for use by marine control stations, marine repeater stations and marine relay stations on condition that harmful interference shall not be caused to:

(1) Reception by the general public of emissions from television stations on television channels 4 and 5;

(2) The service of existing and previously authorized marine control stations, marine repeater stations, or marine relay stations;

(3) The service of existing and previously authorized stations operating in any aviation service.

Pursuant to Part 2 of this chapter, assignable frequencies for this purpose are spaced 40 kc/s apart, beginning with the frequencies 72.02 Mc/s and 75.45 Mc/s and ending with the frequencies 74.58 Mc/s and 75.98 Mc/s, respectively. Should the Commission find that public interest, convenience, or necessity would be served thereby, licensees of marine control stations, marine repeater stations, and marine relay stations authorized to operate on one or more frequencies within these bands shall be required to share, on a coordinated non-interference basis, the use of their respective frequency assignments with other licensees using the same frequencies.

(b) Assignment of the frequencies set forth in paragraph (a) is subject to the following conditions and restrictions:

(1) The applicant must agree to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are found necessary within 90 days of the time knowledge of said interference is first brought to his attention by the Commission and that if said interference is not cleared up within the 90-day period, operation of the fixed station will be discontinued.

(2) Vertical polarization must be used.

(3) Whenever it is proposed to locate a 72–76 Mc/s fixed station less than 80, but more than 10 miles from the site of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which such channels are assigned but are not in operation, the fixed station shall be authorized only if there are fewer than 100 family dwelling units (as defined by the U. S. Bureau of Census) located within a circle centered at the location of the proposed fixed station (family dwelling units 70 or more miles distant from the TV antenna site are not to be counted) the radius of which shall be determined by use of the chart entitled, "Chart for Determining Radius from Fixed Station in 72–76 Mc/s Band to Interference Contour Along Which 10% of Service From Adjacent Channel Television Station Would Be Destroyed." Two charts are provided, one for Channel 4 and one for Channel 5.

(4) Provided, however, that the Commission may, in a particular case, authorize the location of a fixed station within a circle as determined under subparagraph (3) above containing 100 or more family dwelling units upon a showing that:

(i) The proposed site is the only suitable location.

(ii) It is not feasible, technically or otherwise, to use other available frequencies.

(iii) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(iv) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by his operations.

(5) All applications seeking authority to operate with a separation of less than 10 miles will be returned without action.

(c) The frequency 27.255 Mc/s is available for use by marine control stations, marine repeater stations and marine relay stations on a shared basis with stations in other services and must accept any harmful interference from the operation of industrial, scientific and medical equipment in the frequency band 26.96 to 27.28 Mc/s.

§ 81.485 Technical requirements.

The authorized frequency tolerance, authorized class of emission, authorized emission-bandwidth, and authorized transmitter-power for marine fixed stations are set forth in Subpart E of this part.

§ 81.486 Limitation on station authorizations.

Pending additional development of the use and operation of marine control, marine repeater, and marine relay stations, and until the necessary scope of service required to be rendered by these classes of stations has been more completely determined, such stations will be authorized exclusively on a developmental basis in accordance with the provisions of Subpart M of this part.

In addition to the provisions of this subpart, the relevant conditions and limitations set forth in Subpart M shall apply to these classes of stations.

Subpart M—Developmental Stations

§ 81.501 Supplemental eligibility.

An authorization for developmental operation of a station in any of the services under this part will be issued only to those persons who are eligible to operate such stations on a regular basis.

§ 81.502 Showing and statement required.

(a) Except as provided in paragraph (c) of this section, each application for authorization for a developmental station shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the use of radio for a maritime purpose, or is in a field of maritime operation not already investigated;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program as proposed;

(6) The public interest, convenience, or necessity will be served by the proposed operation.

(b) Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

(c) The provisions of paragraph (a) of this section do not apply when an application is made for a developmental station solely for the reason that the frequency requested is restricted to such developmental use.

§ 81.503 Assignable frequencies.

(a) Stations engaged in developmental operation may be authorized to use a frequency or frequencies, available for the service and class of station which they propose to operate. The number of frequencies assignable to a particular station shall depend upon the specific requirements of the developmental program and the number of frequencies available for such use in the particular area where the station is to be operated.

(b) In addition to the specific frequencies and frequency-bands designated in this part as available for a particular service and class of station, each of the following frequencies and frequency-bands may be licensed as an assigned frequency or as an authorized frequency-band, respectively, for use by developmental stations subject to the applicable provisions of this part as follows:

(1) Available for coast stations:

6425–6575 Mc/s	11700–12200 Mc/s

(2) Available for coast stations and fixed stations:

2450–2500 Mc/s	13200–13250 Mc/s
8400–8500 Mc/s	16000–18000 Mc/s
10550–10700 Mc/s	26000–30000 Mc/s

NOTE 1: Stations operating within the bands 2450–2500 Mc/s or 17850–18000 Mc/s must accept any harmful interference that may be experienced from the operation of industrial, scientific and medical equipment.

NOTE 2: With respect to marine fixed stations operating in the frequency bands listed in this subparagraph, the provisions of § 81.453 requiring a showing that the use of any common carrier communication facility is impossible or impracticable for the purpose involved shall not apply.

(3) Available for operational fixed stations:

952–960 Mc/s	2500–2700 Mc/s
1850–1990 Mc/s	6575–6875 Mc/s
2110–2200 Mc/s	12200–12700 Mc/s

The class of emission, the frequency tolerance, the emission-bandwidth, and the maximum transmitter-power for use on the frequencies listed in this subparagraph shall be designated in each station authorization. With respect to operational fixed stations operating in the frequency bands listed in this subparagraph, the provision of § 81.482 requiring that applicants show that common carrier facilities are not available or, if available, would not provide effective results, shall not apply.

(c) In addition to the specific frequency bands designated by § 81.402 for shore radiolocation stations, the frequency bands 5350–5460 Mc/s and 9000–9200 Mc/s are authorized for use by developmental shore radiolocation stations. Use of frequencies within these bands shall not cause harmful interference to the aeronautical radionavigation service or the Government radiolocation service.

§ 81.504 Use of developmental stations.

(a) Developmental stations shall be constructed and used in such manner as to conform with all applicable technical and operating requirements contained in this part, unless deviation therefrom is specifically provided in the station authorization, in paragraph (d) of this section, or in other sections of this subpart.

NOTE: Such requirements are those applicable to the corresponding established class of station including provisions relating to operator requirements, station records, station documents, and assignments of call signs.

(b) Communication with any station of a country other than the United States is prohibited unless specifically authorized by the terms of the station authorization, by paragraph (d) of this section, or by other sections of this subpart.

(c) The operation of a developmental station is subject to the condition that harmful interference is not caused to the operation of stations regularly licensed in an established service under any part of the Commission's rules, nor to the service of any United States Government station or any foreign station which, in the discretion of the Commission, may have priority on the frequency or frequencies used for the service to which interference is caused.

§ 81.505 Developmental program.

(a) The developmental program as described by the applicant in the application for authorization shall be substantially followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by the general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions in each case as deemed necessary in the public interest, convenience or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 81.506 Report of operation required.

(a) A report on the results of the developmental program shall be filed with and made a part of each application for renewal of authorization, or in cases where no renewal of authorization is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on the following:

(1) The final objective of the developmental operation.

(2) Pertinent results of operation to date.

(3) Analysis of the results obtained.

(4) Copies of any published reports.

(5) Need for continuation of the program if such need exists.

(6) Number of hours of operation on each authorized frequency during the term of the license to the date of the report.

§ 81.507 Identification of station.

(a) The radiotelegraph and radiotelephone emissions of a developmental station shall be clearly identified in the manner provided for the corresponding established class of station.

(b) The facsimile emissions of a developmental station shall be identified either by telegraphy or by telephony as provided in paragraph (a) of this section.

(c) All other classes of emission of a developmental station shall be identified as prescribed in the respective station authorization.

Subpart N—Stations operated in the Land Mobile Service for Maritime Purposes

§ 81.521 Eligibility for shipyard base stations.

Under the provisions of this part, a station authorization will not be issued solely for a shipyard base station

in the land mobile service. Subject to the provisions of § 81.523 only a land station authorized to operate as a limited coast station in the maritime mobile service may be authorized, upon proper application therefor, to be used additionally, and on a secondary basis, as a shipyard base station in the land mobile service.

§ 81.522 Eligibility for shipyard mobile stations.

Under the provisions of this part, a station license will not be issued solely for one or more shipyard mobile stations in the land mobile service. Subject to the provisions of §§ 81.524 and 81.525, authority to construct, or to use and operate, one or more shipyard mobile stations in the land mobile service may be granted, upon proper application therefor, exclusively to the licensee or permittee of a limited coast station when that station is authorized to be used additionally and on a secondary basis as a shipyard base station in the land mobile service.

§ 81.523 Showing precedent to shipyard base station authorization.

(a) Prior to a grant by the Commission of any shipyard base station authorization pursuant to the provisions of § 81.521, the applicant therefor must establish, in connection with each related application, that:

(1) Such applicant controls and operates a shipyard, in commerce, which is regularly engaged in the construction, change in construction, or repair of commercial transport vessels and/or Government vessels;

(2) Each limited coast station to be used additionally as a shipyard base station will be operated primarily as a coast station for communication with one or more commercial transport vessels operated and controlled by the applicant, which are used in connection with the construction, change in construction, or repair of commercial transport vessels and/or Government vessels by the shipyard to which reference is made in subparagraph (1) of this paragraph.

§ 81.524 Showing precedent to shipyard mobile station authorization.

(a) Prior to a grant by the Commission of any shipyard mobile station authorization pursuant to the provisions of § 81.522, the applicant therefor must establish, in connection with each related application, that each shipyard mobile unit on which a shipyard mobile station is to be installed and operated is:

(1) Controlled and operated by the applicant;

(2) To be used for the expeditious transportation of shipyard personnel, material, or supplies within the local geographic area to which reference is made in § 81.523 (a) (1) in connection with the construction, change in construction, or repair of commercial transport vessels or Government vessels by that shipyard.

§ 81.525 Limitation on number of shipyard mobile stations.

(a) The number of shipyard mobile stations which may be authorized for each land station permittee or licensee pursuant to the provisions of §§ 81.522 and 81.524 shall be limited to a maximum of one shipyard mobile station for each three ship stations (for example, the licensee of up to and including 5 ship stations is entitled to one shipyard mobile station; the licensee of 6, 7, or 8 ship stations is entitled to two shipyard mobile stations, etc.) when each ship station included for this purpose is:

(1) Licensed in the name of the particular land station permittee or licensee;

(2) Located on board a commercial transport vessel operated and controlled by the particular land station permittee or licensee;

(3) Used for communication with one or more limited coast stations of the same station licensee, in connection with the construction, change in construction, or repair of commercial transport vessels and/or Government vessels.

§ 81.526 Points of communication.

(a) Subject to the provisions of § 81.527, a land station, when operating as a shipyard base station, is authorized to communicate exclusively with shipyard mobile stations of the same licensee.

(b) Subject to the provisions of § 81.527, each shipyard mobile station is authorized to communicate exclusively with any land station of the same licensee which is licensed to operate as a shipyard base station.

§ 81.527 Limitations on use.

(a) Communication between a land station, operating as a shipyard base station, and any shipyard mobile station may be transmitted only when:

(1) The involved facilities of the land station are not required at the same time for any maritime mobile service; and

(2) Both the land station and the shipyard mobile station are within a geographic area designated by the Commission in reference to those stations.

(b) Each shipyard mobile station shall be operated exclusively within the local geographic area specified in the applicable station authorization: *Provided*, That such stations shall not be operated in the immediate vicinity of any transmitting or receiving radio installation of any land station (other than a land station of the same licensee) or any U. S. Government station, which transmits or receives on any radio-channel(s) above 100 Mc/s unless the fact has been established, by actual tests in cooperation with the involved station(s), that interference is not caused by such operation to the service of the land station or Government station concerned.

(c) Under no circumstances shall the operation of a shipyard mobile station or a land station being used as a shipyard base station interfere with any maritime mobile service.

§ 81.528 Scope of communication.

(a) Each land station, when operating as a shipyard base station, and each shipyard mobile station is authorized to transmit:

(1) Communication concerning the use of shipyard mobile units for expediting the construction, change in construction, repair, servicing, or maintenance of commercial transport vessels or government vessels by the shipyard which controls and operates such mobile units;

(2) In an emergency, communication concerning the immediate safety of life or property when the use of other communication facilities might be less effective.

(b) Transmission of any other class of communication by shipyard base stations or shipyard mobile stations is not authorized.

§ 81.529 Assignable frequencies.

(a) Provided one of the following designated carrier frequencies in megacycles is authorized for use by a particular limited coast station in the maritime service in accordance with the applicable provisions of Subpart J of this part, such carrier frequency may be authorized for additional use by that land station for operation (on a secondary basis in reference to maritime mobile service) as a shipyard base station in a supplemental land mobile service:

156.35 156.45 156.55

(b) The carrier frequency which may be authorized for use (on a secondary basis in reference to maritime mobile service) by one or more shipyard mobile stations is the same as that authorized, in accordance with the provisions of paragraph (a) of this section, for use by a land station of the same permittee or licensee with which such mobile stations are to communicate: *Provided*, That the same carrier frequency is licensed also for use by ship stations of that permittee or licensee which regularly communicate with that land station.

§ 81.530 Technical requirements.

The authorized frequency tolerance, authorized class of emission, authorized emission-bandwidth, and authorized transmitter power for shipyard base stations and shipyard mobile stations shall be the same as is designated for coast stations in Subpart E of this part.

§ 81.531 Cooperative use of facilities.

If, in a particular geographic area, the use and operation of shipyard mobile stations and shipyard base stations by a plurality of station licensees using the same frequency assignment(s) causes intolerable interference, even though all provisions of this part relative to the reduction of interference have been fully complied with, the Commission may, in accordance with the provisions of the Communications Act, require the involved station licensees to join in a single cooperative organization for rendition of the necessary land mobile service within the affected area by a single station licensee.

§ 81.532 General operating procedure.

(a) All communication engaged in by shipyard base and mobile stations shall be limited to the minimum practicable transmission time, and each station licensee shall employ standardized operating practices and procedures to this effect.

(b) Each licensee of shipyard mobile stations shall exercise such control over the transmissions of those stations as is necessary to avoid interference to calls from ship stations which may be transmitted on the radio-channel used by the shipyard mobile stations.

(c) Calling a particular station, either by voice or by other means, shall not continue for a period of more than 30 seconds in each instance. If the called station is not heard to reply, that station shall not again be called until after an interval of three minutes. In event of an emergency involving safety, these time limitations shall not apply.

(d) Shipyard base stations may use authorized classes of emission for the selective calling of shipyard mobile stations on each radio-channel authorized for communication between such base and mobile stations.

§ 81.533 Identification of stations.

(a) All emissions of a shipyard base station shall be clearly identified by voice transmission therefrom in the English language of either (1) the official call sign assigned to that station (the official call sign assigned to the same station as a coast station in accordance with § 81.72) by the Commission, or (2) the name of the station licensee (in abbreviated form if practicable) as formally reported to and approved by the Commission; if the licensee operates more than one shipyard base station within mutual interference range, the name of the licensee shall be followed by a digit indicating distinctly the respective land station, as formally reported to the Commission.

(b) All emissions of a shipyard mobile station shall be clearly identified by voice transmission in the English language of either (1) the single official call sign assigned by the Commission to the shipyard mobile station(s) of that licensee in the particular geographic area, followed by two digits indicating distinctly the respective shipyard land mobile unit as reported to the Commission, or (2) the name of the station licensee (in abbreviated form if practicable) as formally reported to and approved by the Commission, followed by two digits indicating distinctly the respective shipyard land mobile unit as reported to the Commission.

(c) Identification of stations as prescribed in this section shall be made:

(1) Whenever another station is called;

(2) Upon completion of each communication with any other station;

(3) At the beginning and upon completion of each transmission made for any other purpose.

§ 81.534 Procedure in testing.

With respect to test transmission, the provisions of § 81.367 which apply to limited coast stations and marine-utility stations shall apply also to shipyard base stations and shipyard mobile stations: *Provided,* That the term "licensed radio operation" as used in paragraph (a) (1) of that section shall, with respect to test operation of shipyard mobile stations pursuant to this section, be construed in each instance to mean the operator licensee on duty at the control point of the associated shipyard base station as provided in § 81.156 (a) (1).

§ 81.535 Station documents.

(a) With respect to documents required to be available at a shipyard base station, the provisions of § 81.369 which apply to limited coast stations using telephony shall apply also to shipyard base stations.

(b) Each shipyard mobile station shall be provided with the following documents during its hours of service:

(1) A valid station authorization, available in accordance with § 81.102.

(2) The necessary operator license or licenses, available in accordance with § 81.155 (this requirement is not applicable when the station is operated under the provision of § 81.156).

§ 81.536 Station records.

(a) (1) With respect to station records required to be maintained by a shipyard base station, the provisions of § 81.370 which apply to limited coast stations using telephony shall apply also to shipyard base stations.

(2) Each licensee of a land station operated as a shipyard base station shall, upon specific request made by the Commission, be responsible for the submission of such reports as are requested by the Commission to show the value and practical performance of that station and the associated shipyard mobile station(s) in the land mobile service in relation to the maritime mobile service for which the same land station is licensed.

(b) Unless otherwise determined by the Commission subsequent to pertinent developments in the use and operation of shipyard mobile stations, no station records need be maintained by those stations upon the express condition that (1) such station records as are required by other applicable sections of this part (including §§ 81.109, 81.110, and 81.111) are maintained as part of the required records of the associated shipyard base station, and (2) the records of the latter station with respect to the log entries required by § 81.370(a) (7), (8) and (9) shall include the specified information concerning the involved shipyard mobile station(s).

Subpart O—Violations

§ 81.551 Answers to notice of violation.

Any person receiving official notice of a violation of the terms of the Communications Act, any legislative act, Executive order, treaty to which the United States is a party, terms of a station or operator license, or the rules and regulations of the Federal Communications Commission, shall, within ten days from such receipt, send a written answer, in duplicate, to the office of the Commission originating the official notice. If an answer cannot be sent, or an acknowledgment made within such ten-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. The answer shall contain a full explanation of the incident involved and shall set forth the action taken to prevent a continuation or recurrence thereof. If the notice relates to lack of attention to, or improper operation of the station, or to log or watch discrepancies, the answer shall give the name and license number of the licensed operator on duty.

§ 81.552 Reports of infringements of the International Radio Regulations.

In the event that infringement of the International Radio Regulations by a foreign station is detected, report thereof may be made by the submission to the Commission of a form similar to that set forth in the International Radio Regulations.

PART 83—STATIONS ON SHIPBOARD IN THE MARITIME SERVICES

NOTE 1: See Commission Order (FCC 61-952 adopted July 26, 1961, effective Sept. 1, 1961, in Docket 13953), 26 F.R. 6849, Aug. 1, 1961, providing for frequency pairing in the 952-960 Mc/s band and making certain other channels in the 952-960 Mc/s band available for omnidirectional operations.

NOTE 2: See Commission Order (FCC 61-1324) of Nov. 8, 1961, 26 F.R. 10925, Nov. 22, 1961, providing for the modification of licenses of (1) passenger ship stations using telegraph (2-27.5 Mc/s); and (2) ship stations using telephone (4-27.5 Mc/s). The general authorization shall be for a period which will extend from March 22, 1962, until termination of the present license authority, of ship stations affected, by the issuance of a modified or renewal license in response to an application therefor. All provisions in Part 83 which are inconsistent with the above authorization are hereby waived for the period specified.

NOTE 3: See Commission Order (FCC 61-1492) of Dec. 20, 1961, 26 F.R. 12519, Dec. 27, 1961, providing for the modification of licenses of coast and ship stations in Alaska and on the Mississippi River by the addition of certain frequencies. The general authorization shall be for a period which shall extend from December 22, 1961, until termination of the present license authority, of coast and ship stations affected, by the issuance of a modified or renewal license in response to an application therefor. All provisions in Part 83 which are inconsistent with the above authorization are hereby waived for the period specified.

Sec.

AUTHORITY: §§ 83.1 to 83.803 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI; 3 UST 3450, 3 UST 4726, 12 UST 2377.

§ 83.1 Basis and purpose.

(a) The basis for the rules following in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party.

(b) The purpose of the rules and regulations in this part is to prescribe the manner in which portions of the radio spectrum may be made available for radiocommunication and radiodetermination for maritime operations and for public correspondence which require radio transmitting facilities on board ship and, for certain maritime communications, including public correspondence, on board aircraft; and to prescribe, in so far as is necessary to carry out the provisions of statute and applicable treaties and agreements relative to radio operators and radio installations on board ships for safety purposes, the details as to location, manner of installation, use, and availability of the required equipment, apparatus, spare parts, and such supplementary equipment as may be necessary for the proper functioning of the required shipboard radio installations for the proper conduct of radio communication in time of emergency or distress.

Subpart A—Definition of Terms

§ 83.2 General.

(a) *Safety Convention.* The International Convention for the Safety of Life at Sea, London, 1948, including the regulations annexed thereto.

(b) *International Radio Regulations.* The Radio Regulations in force annexed to the International Telecommunication Convention, Geneva, 1959, as between the Government of the United States and other Contracting Governments; and such preceding international radio regulations as remain in force between the Government of the United States and other Contracting Governments.

(c) *Region 1, Region 2, and Region 3.* Those geographic areas defined as "Region 1", "Region 2", and "Region 3" in Article 5 of the International Radio Regulations, Geneva, 1959.

(d) *Great Lakes Agreement.* The Agreement for the Promotion of Safety on the Great Lakes by Means of Radio and the regulations referred to therein, made by and between the Governments of the United States and Canada, which came into force on November 13, 1954.

(e) *Telecommunication.* Any transmission, emission, or reception of signs, signals, writing, images, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems.

(f) *Radiocommunication.* Telecommunication by means of radio waves.

(g) *Public correspondence.* Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

(h) *Station.* One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radiocommunication service. Each station shall be classified by the service in which it operates permanently or temporarily.

(i) *Ship station license.* A license authorizing the operation of a ship station, a survival craft station associated with a ship, or a ship radionavigation station.

(j) *Person.* Includes an individual, partnership, association, joint stock company, trust, or corporation.

(k) *Hours of service.* The period of time during each calendar day when a station is used, in conformity with the terms of the station authorization, for the rendition of its normal service.

(l) *Day.* (1) Where the word "day" is applied to the use of a specific frequency assignment or to a specific authorized transmitter-power, such use of the word "day" shall be construed to mean transmission on such frequency assignment or with such authorized transmitter-power during that period of time included between one hour after local sunrise and one hour before local sunset.

(2) Where the word "day" occurs in reference to watch requirements, or to the provisions of § 83.449, such use of the word "day" shall be construed to mean the calendar day, from midnight to midnight, local ship's time.

(m) *Radio district.* The territory within each radio district, and the address of the Engineer in Charge of each radio district, is set out in § 0.121 of this chapter.

(n) *Ship or vessel.* "Ship" or "vessel" includes every description of watercraft or other artificial contrivance, except aircraft, used or capable of being used as a means of transportation on water, whether or not it is actually afloat.

(o) *Categories of ships.* (1) Where use of the term "passenger ship" or "cargo ship" occurs in reference to the provisions of Part II of Title III of the Communications Act, such use of the term shall be construed as follows: A ship is a passenger ship if it carries or is licensed or certificated to carry more than twelve passengers. A cargo ship is any ship not a passenger ship.

(2) Where use of the term "passenger ship" or "cargo ship" occurs in reference to the radio provisions of the Safety Convention or in reference to frequency assignment, such use of the term shall be construed as follows: A ship is a passenger ship if it carries more than twelve passengers. A cargo ship is any ship not a passenger ship.

(3) A "commercial transport vessel" is any ship or vessel which is used primarily in commerce (i) for transporting persons or goods to or from any harbor(s) or port(s) or between places within a harbor or port area, or (ii) in connection with the construction, change in construction, servicing, maintenance, repair, loading, unloading, movement, piloting, or salvaging of any other ship or vessel.

(4) The term "passenger carrying vessel", as used in this part solely in reference to requirements of the Great Lakes Agreement, means any vessel transporting persons for hire.

(p) *Safety Convention Certificates*—(1) *Exemption Certificate.* A certificate issued to a ship which is granted exemption from applicable provisions of the Safety Convention.

(2) *Safety Certificate.* A certificate issued upon application, after inspection and survey by proper authorities, to a passenger ship which complies in an efficient manner with the requirements of the Safety Convention.

(3) *Safety Radiotelegraphy Certificate.* A certificate issued upon application, after inspection by proper authorities, to a cargo ship which complies in an efficient manner with the Safety Convention radio requirements applicable to cargo ships carrying radiotelegraph installations for the purpose of meeting such requirements.

(4) *Safety radiotelephony certificate.* A certificate issued upon application, after inspection by proper authorities, to a cargo ship which complies in an efficient manner with the Safety Convention radio requirements applicable to cargo ships carrying radiotelephone installations for the purpose of meeting such requirements.

(q) *Installed.* As used in this part with respect to the requirements of radio apparatus authorized under the provisions of this part for use on board ship or in stations subject to this part, the term "installed" means installed on board the particular ship or in the particular station to which the pertinent rule or regulation, involving the use of this term, is applied.

(r) *Great Lakes.* This term, as used in this part solely in reference to the Great Lakes Agreement, means all of the Great Lakes, their connecting and tributary waters, and the St. Lawrence River as far east as the lower exit of the Lachine Canal and the Victoria Bridge at Montreal, but shall not include tributary rivers which are not also connecting rivers, and shall not include the Niagara River (including the Black Rock Canal).

(s) *Destination.* In reference to the Great Lakes Agreement this term means a port which a vessel enters for the purpose of initiating or completing the specific activity which characterizes the vessel. For example, with respect to vessels carrying passengers or goods, a port at which a vessel, either partially or completely, loads or unloads passengers or goods, would constitute its destination.

§ 83.3 Maritime mobile service.

(a) *Mobile service.* A service of radiocommunication between mobile and land stations, or between mobile stations.

(b) *Maritime mobile service.* A mobile service between coast stations and ship stations, or between ship stations, in which survival craft stations may also participate. (Aircraft stations, when transmitting on frequencies allocated to the maritime mobile service, may communicate in this service with ship stations and coast stations.)

(c) *Mobile station.* A station in the mobile service intended to be used while in motion or during halts at unspecified points.

(d) *Ship station.* A mobile station in the maritime mobile service located on board a vessel, other than a survival craft, which is not permanently moored.

(e) *Public ship station.* (1) A ship station open to public correspondence.

(2) Public ship stations authorized to employ telegraphy for public correspondence are further classified according to their hours of service for telegraphy as designated in this section:

First Category. These stations carry on a continuous service of public correspondence.

Second Category. These stations carry on a designated service of public correspondence of prescribed but limited duration at least during the period designated for ship stations of the second category by the International Radio Regulations or, in the case of voyages of short duration, as otherwise designated by the Commission in accordance with those Regulations.

Third Category. These stations carry on a service of public correspondence, the duration of which is prescribed but is less than that of stations of the "Second Category," or is not prescribed but is determined by the master of vessel pursuant to his authority under section 360 of the Communications Act.

(f) *Limited ship station.* A ship station not open to public correspondence.

(g) *Marine-utility ship station.* A ship station, readily portable for use as a limited ship station on mobile vessels within a designated local area.

(h) *Marine-utility coast station.* A coast station, readily portable for use as a limited coast station at unspecified points ashore within a designated local area.

(i) *Marine-utility station.* A coast or ship station in the maritime mobile service having a frequency assignment which is available for both marine-utility coast stations and marine-utility ship stations, and licensed under one station authorization to operate as either a marine-utility coast station or a marine-utility ship station according to its location, pursuant to the provisions of paragraphs (g) and (h) of this section, at the time it is being operated.

(j) *Survival craft station.* A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, liferaft or other survival equipment.

§ 83.4 Maritime radiodetermination service.

(a) *Radiodetermination.* The determination of position, or the obtaining of information relating to position, by means of the propagation properties of radio waves.

(b) *Radiodetermination service.* A service involving the use of radiodetermination.

(c) *Maritime radiodetermination service.* A radiodetermination service intended for the benefit of ships.

(d) *Radionavigation.* Radiodetermination used for the purposes of navigation, including obstruction warning.

(e) *Radionavigation service.* A radiodetermination service involving the use of radionavigation.

(f) *Maritime radionavigation service.* A radionavigation service intended for the benefit of ships.

(g) *Radionavigation mobile station.* A station in the radionavigation service intended to be used while in motion or during halts at unspecified points.

(h) *Ship radionavigation station.* A radionavigation mobile station located

on board a ship and used solely for maritime radionavigation service.

(i) *Radar.* A radiodetermination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

(j) *Ship radar station.* A ship radionavigation station utilizing radar.

(k) *Radiolocation.* Radiodetermination used for purposes other than those of radionavigation.

(l) *Radiolocation service.* A radiodetermination service involving the use of radiolocation.

(m) *Maritime radiolocation service.* A radiolocation service intended for the benefit of ships.

(n) *Radiolocation mobile station.* A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.

(o) *Ship radiolocation station.* A radiolocation mobile station located on board a ship and used solely for maritime radiolocation service.

(p) *Ship radiolocation test station.* A ship radiolocation station used solely for testing maritime radionavigation apparatus incident to its manufacture, installation, repair, servicing, and/or maintenance.

(q) *Radio direction finding.* Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.

(r) *Direction finder (radio compass).* Apparatus capable of receiving clearly perceptible radio signals and capable of taking bearings on these signals from which the true bearing and direction of the point of origin of such signals with respect to the point of reception may be determined.

§ 83.5 Developmental Maritime stations on board ship.

(a) *Developmental mobile station.* A mobile station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-Government mobile service which has been specifically allocated the authorized frequency (or frequencies) of the developmental mobile station.

(b) *Developmental radiodetermination station.* A radiodetermination station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-Government radiodetermination service (including the non-Government radionavigation service) which has been specifically allocated the authorized frequency (or frequencies) of the developmental radiodetermination station.

(c) *Specific classification.* The specific classes of developmental stations on board ships in the maritime mobile service and in the maritime radiodetermination service (including maritime radionavigation service) are the same as the classes defined in preceding sections of this part; however, for purposes of identification, the particular class of station is followed by the parenthetical indicator "(developmental)"; for example: "limited ship station (developmental)".

§ 83.6 Operational.

(a) *Safety communication.* The transmission or reception of distress, alarm, urgency, or safety signals, or any communication preceded by one of these signals, or any form of radiocommunication which, if delayed in transmission or reception, may adversely affect the safety of life or property.

(b) *Superfluous radiocommunication.* Any transmission that is not necessary in properly carrying on the service for which the station is licensed.

(c) *Harmful interference.* Any emission, radiation, or induction which endangers the functioning of a radionavigation service or of other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with regulations in this chapter.

(d) *500 kilocycles silence period.* The three-minute period twice an hour beginning at x h. 15 and x h. 45, Greenwich mean time, during which the International Radio Regulations require that all transmission (except for certain emissions designated in those Regulations) must cease on all frequencies within a designated frequency band centered on 500 kc/s.

(e) *Watch.* The act of listening on a designated frequency.

(f) *Calling.* Transmission from a station solely to secure the attention of another station, or other stations, for a particular purpose.

(g) *Working.* Radiocommunication carried on, for a purpose other than calling, by any station or stations using telegraphy, telephony, or facsimile.

(h) *Operational communication.* Radiocommunication concerning the navigation, movement, or management of a ship or ships.

(1) *Navigation.* This includes the piloting of a vessel.

(2) *Movement.* This includes information and necessary communication relative to when and where the boat or ship will move or be moved as, for example, rendezvous at a port, basin, or marina, or for maneuvers during a cruise.

(3) *Management.* This includes the obtaining of necessary supplies for the ship, limited to immediate needs, and the scheduling of repairs or modifications to the ship, limited to communications with those directly involved in the repairs or modifications or concerned with changes in the movement of the ship because of those repairs or modifications.

(i) *Business communication.* Radio communication pertaining to economic, commercial, or governmental matters related directly to the purposes for which the ship is being used.

(j) *Port operations.* Communications in or near a port, or in locks or waterways, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the movement and safety of ships and, in emergency, to the safety of persons.

§ 83.7 Technical.

(a) *Spurious emission.* Emission on a frequency or frequencies which are outside the necessary band, and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, and intermodulation products, but exclude emissions in the immediate vicinity of the necessary band, which are a result of the modulation process for the transmission of information.

(b) *Authorized carrier frequency.* A specific carrier frequency authorized for use by a station from which the actual carrier frequency is permitted to deviate, solely because of frequency instability, by an amount not to exceed the frequency tolerance.

(c) *Frequency tolerance.* The maximum permissible departure by the center frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. The frequency tolerance is expressed in parts in 10^6 or in cycles per second.

(d) *Frequency band.* A continuous range of frequencies extending between two designated limiting frequencies.

(e) *Bandwidth.* The number of cycles or kilocycles per second expressing the difference between the limiting frequencies of a frequency band.

(f) *Radio channel.* A frequency band, sufficient in width to permit its use for radiocommunication, comprised of the emission bandwidth, the interference guard bands, and the frequency tolerance.

(g) *Emission bandwidth.* The frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. In some cases, for example multichannel frequency-division systems, the percentage of 0.5 percent may lead to certain difficulties in the practical application of the definitions of occupied and necessary bandwidth; in such cases a different percentage may prove useful. (This definition coincides with the definition of "Occupied Bandwidth" which appears as paragraph 90 of the International Radio Regulations, Geneva, 1959.)

(h) *Interference guard bands.* The two frequency bands additional to and on either side of the authorized frequency band, which may be provided to minimize the possibility of interference between different radio channels.

(i) *Assigned frequency.* The center of the frequency band assigned to a station.

(j) *Frequency assignment.* The specific frequency or frequencies authorized for the emission(s) of a particular station, expressed for each radio channel by:

(1) The authorized carrier frequency, the frequency tolerance, and the authorized emission bandwidth in relation to the authorized carrier frequency;

(2) The authorized emission bandwidth in reference to a specific assigned frequency (when a carrier does not exist); or

(3) The authorized frequency band (when a carrier does not exist).

(k) *Modulation.* The process of producing a wave some characteristic of which varies as a function of the instantaneous value of another wave, called the modulating wave.

(l) *Modulation factor.* (1) In an amplitude modulated wave, the ratio of half the difference between the maximum and minimum amplitudes to the average amplitude;

(2) In a frequency modulated wave, the ratio of the actual frequency swing to the frequency swing defined as 100 percent modulation.

(m) *Percentage modulation.* The modulation factor expressed in percent.

(n) *Amplitude modulation* (AM). Modulation in which the amplitude of a wave is the characteristic subject to variation.

(o) *Frequency modulation* (FM). Modulation in which the instantaneous frequency of a sine wave carrier is caused to depart from the carrier frequency by an amount proportional to the instantaneous value of the modulating wave.

(p) *Frequency deviation.* In frequency modulation, the peak difference between the instantaneous frequency of the modulated wave and the carrier frequency.

(q) *Frequency swing.* In frequency modulation, the peak difference between the maximum and the minimum values of the instantaneous frequency.

(r) *Deviation ratio.* In frequency modulation, for a sinusoidal modulating wave, the ratio of the maximum frequency deviation to the maximum frequency of the modulating wave.

(s) *Last radio stage.* In an electron tube radio transmitter, the radiofrequency oscillator or power amplifier stage which supplies all radiofrequency power to the antenna, either directly or through the medium of a transmission line.

(t) *Plate (anode) input power.* The electrical power delivered to the plate (anode) of an electron tube by the source of supply; this power being the product of the indicated anode voltage and the indicated anode current.

(u) *Antenna power.* The power supplied by a particular radio transmitter to the antenna used in connection with that transmitter, at a radio frequency or frequencies within an authorized frequency band.

(v) *Authorized transmitter power.* The power of a particular transmitter as designated in the respective station license. Unless specifically expressed otherwise, this power is the total plate input power to all electron tubes in the last radio stage of the transmitter which are used to supply radiofrequency power to the antenna, without modulation present in the case of a transmitter used for telephony by means of class A3 emission.

(w) *Frequency band of emission.* A frequency band of emission is a frequency band of which the two designated limiting frequencies are established by an emission bandwidth referred to a particular carrier frequency. For the purpose of this definition, when a carrier is not present, a frequency normally coinciding with the center of the frequency band occupied by the emission is substituted therefor.

§ 83.8 Installation for safety communication.

(a) *Existing installation.* The term "existing installation", as used in this part solely in reference to requirements of part II of title III of the Communications Act or of the Safety Convention, means an installation installed on a ship prior to November 19, 1952, in the case of a United States ship subject to the radio provisions of the Safety Convention, or one installed on a ship prior to August 13, 1955, in the case of other ships subject to part II of title III of said Act.

(b) *New installation.* The term "new installation", as used in this part solely in reference to requirements of part II of title III of the Communications Act or of the Safety Convention, means an installation which replaces an existing installation or, in the case of a United States ship subject to the radio provisions of the Safety Convention, one installed on a ship subsequent to November 19, 1952, and in the case of other ships subject to part II of title III of said Act, one which is installed subsequent to August 13, 1955.

Subpart B—Applications

§ 83.21 Authorization required for operation of a radio station.

Any radio station required by the Communications Act to be licensed shall not be operated in any service regulated by this part except under and in accordance with a valid station authorization granted by the Commission. Further, the operation of such apparatus shall be conducted in conformity with the provisions of statute, international treaty or agreement, and the rules of the Commission relative to the licensing of operators.

NOTE: The Commission has exempted certain low power radio devices from its general licensing requirements; the extent of this exemption and related matters are set forth in Part 15, "Radio Frequency Devices", of this chapter. Licensing procedures and exemptions applicable to radio apparatus used for medical purposes, industrial heating, and other miscellaneous purposes not involving radiocommunication are set forth in Part 18, "Industrial, Scientific, and Medical Equipment", of this chapter.

§ 83.22 Administrative classification of stations.

(a) Stations in the maritime mobile service subject to this part are licensed according to the class of station normally as designated below:

(1) Public ship stations authorized to employ telegraphy for public correspondence:

(i) First category;

(ii) Second category;

(iii) Third category.

(2) Public ship stations not authorized to employ telegraphy for public correspondence;

(3) Limited ship stations;

(4) Marine utility stations;

(5) Survival craft stations.

(b) Public ship stations not authorized to employ telegraphy for public correspondence are licensed as public ship stations (one class) without distinction relative to hours of service for public correspondence.

(c) Limited ship stations are licensed (one class) without distinction relative to hours of service.

(d) One ship station license is issued in behalf of one station licensee to authorize the operation of a station which is within more than one class as enumerated in paragraph (a) of this section. In all such cases, if the station by reason of any portion of its use or operation comes within the definition of a public ship station (as defined by § 83.3 (e)), it is licensed as a public ship station. If the station is authorized to employ telegraphy for public correspondence, it is further classified in accordance with paragraph (a) (1) of this section.

(e) Survival craft stations are normally authorized by listing the transmitting equipment on the ship station license.

(f) Stations in the maritime radiolocation service subject to this part are licensed according to the class of station, normally as designated below:

(1) Ship radiolocation stations;

(2) Ship radiolocation test stations.

(g) Stations in the maritime radionavigation service subject to this part, including ship radar stations, are normally licensed as ship radionavigation stations.

§ 83.23 Statutory eligibility for station license.

Section 310 of the Communications Act places the following express limitations on the granting and holding of station licenses:

(a) A station license shall not be granted to or held by:

(1) Any alien or the representative of any alien;

(2) Any foreign government or the representative thereof;

(3) Any corporation organized under the laws of any foreign government;

(4) Any corporation of which any officer or director is an alien;

(5) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country;

(6) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(7) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representatives thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

(8) Nothing in subparagraphs (1) through (7) of this paragraph shall prevent the licensing of radio apparatus on board any vessel, aircraft, or other mobile station of the United States when

the installation and use of such apparatus is required by Act of Congress or any treaty to which the United States is a party.

§ 83.24 Application precedent to authorization.

(a) Except as otherwise provided by §§ 83.26, 83.41, and 83.42, no authorization will be granted for use or operation of any radio station on board ship in any service governed by this part unless formal written application therefor in proper form first is filed with the Commission at its offices in Washington, D.C., 20554, or pursuant to § 83.35 at a Field Engineering Office of the Commission.

(b) Except as otherwise provided by §§ 83.35, 83.41, and 83.42, an application in writing should be filed at least sixty days prior to the earliest date on which it is desired that the requested authorization be granted by the Commission, in order that action thereon may be taken by that date.

(c) Each application shall be specific and complete with regard to the information requested in the application form, or otherwise specifically requested by the Commission. Unless otherwise specified in a particular case or for a particular form, each application shall be filed in original only.

NOTE: Standard forms are prescribed herein for use in connection with the majority of applications submitted for Commission consideration. These forms may be obtained without cost from the Commission at Washington, D. C., or from any of its field offices.

§ 83.25 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 83.26 Informal applications.

An application not submitted on a standard form prescribed by the Commission is an informal application. Each informal application shall be submitted in duplicate, normally in letter form, and with the original properly signed. Each application shall be clear and complete within itself as to the facts presented and the action desired.

§ 83.27 Defective applications.

(a) An application which is not made in accordance with the Commission's rules or other requirements will be considered defective unless accompanied by a request to waive or petition to amend the rule or other requirement with which the application is in conflict. The reasons which are believed to support such a request or petition shall be set forth in detail.

(b) If an applicant is requested by the Commission to file any documents or information not included in the prescribed application form, a failure to comply with such request will constitute a defect in the application.

(c) When an application in written form is considered to be incomplete or defective, the Secretary of the Commission or, in the case of an application for regular ship station license or modification of license filed at a Field Engineering Office of the Commission accompanied by a request for interim ship station license, either the Secretary of the Commission or the Engineer-in-Charge of the particular Engineering Field Office, will return it to the applicant unless the Commission should otherwise direct. The reason for return of the application will be indicated, and, if appropriate, necessary additions or corrections may be suggested.

§ 83.28 Amendment or dismissal of application.

Any application may be amended or dismissed without prejudice upon request of the applicant prior to the time the application is granted or designated for hearing. Each amendment of, or request for dismissal of, an application shall be signed and submitted in the same manner and with the same number of copies as required for the original application. All related correspondence or other material which is to be considered as a part of an application already filed shall be submitted in the form of an amendment to the application concerned.

§ 83.29 Partial grant of application.

Whenever the Commission, without a hearing grants an application (other than a grant of an interim ship station license) in part, or with any privileges, terms, or conditions other than those requested, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which public announcement of such grant is made, or from its effective date if a later date is specified, file with the Commission a written protest, rejecting the grant as made. Upon receipt of such protest, the Commission will vacate its original action upon the application, if necessary, and set the application for hearing in the same manner as other applications are set for hearing.

§ 83.30 Request for amendment or waiver of rules.

(a) Any provisions of this part (except these provisions which set forth specific requirements, not subject to waiver or change, of any applicable statute, or any applicable international agreement to which the United States is a signatory party) may be repealed, amended or supplemented, subject to the provisions of the Administrative Procedures Act. Any interested person may petition for issuance, amendment, or repeal of any rule or regulation governing stations in the maritime mobile or maritime radio-location service. Such petition may be filed in relation to specific applications for station authorization, or independently thereof, and shall show the text of the proposed rule(s), and shall set forth the reason(s) in support of the petition.

(b) Any provision of this part (except these provisions which set forth specific requirements, not subject to waiver or change, of any applicable statute, or any applicable international agreement to which the United States is a signatory party) may be waived by the Commission, if the Commission finds that important or exceptional circumstances require such waiver and that the public interest will be served thereby. A request for such waiver may be filed in relation to specific applications for station authorization, or independently thereof, and shall set forth in detail the reason(s) said waiver is considered to be necessary, and how the public interest would be served thereby.

§ 83.31 Applications concerning marine-utility stations.

Whenever a marine-utility station is to be used and operated at any location on land (whether or not it is to be used and operated additionally on board mobile vessels), such station is subject to the applicable provisions of Part 81 of this chapter and an application for construction permit to establish such station shall be filed with the Commission, pursuant to the requirements therefor contained in that part.

§ 83.32 Application for station license.

(a) In accordance with § 83.24 application for station license to authorize the use and operation of radio transmitting apparatus on board ship shall be submitted on the appropriate Federal Communications Commission form as prescribed in § 83.36.

(b) Each application for a public ship station license which requests authority to employ telegraphy for public correspondence shall designate the class of station desired to be authorized, in accordance with the terms of § 83.3(e).

§ 83.33 Changes during license term.

When, during the term of a station license (other than an interim ship station license) any change is to be made in respect to the station, or with respect to its use and operation, which would result in a deviation from the terms of the license and/or any supplemental instrument of authorization, application for modification of license on the appropriate FCC form as prescribed in § 83.36 shall, except as otherwise provided by §§ 83.35, 83.41, and 83.42, be submitted in accordance with § 83.24 not less than 60 days prior to the date contemplated for such modification of license in order that action thereon may be taken by that date.

§ 83.34 Renewal of license.

Except as otherwise provided by § 83.42, application for renewal of station license shall be submitted on FCC Form 501. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the provisions of this chapter, made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

§ 83.35 Request for interim ship station license.

(a) A formal application for ship station license, or for modification of existing license including modification to cover replacement of radiotelephone transmitting apparatus and/or radar (but not including renewal of station license), to authorize the use of telephony and/or radar on board a vessel when accompanied by a request for an interim ship station license, shall be filed in accordance with § 83.36 and presented in person by the applicant or his agent at the nearest Field Engineering Office of the Commission or at the Commission's main office in Washington, D.C.: *Provided,* That, as an alternative procedure, an applicant, in Alaska, for such a ship station license may submit an application by mail to the Commission's Field Engineering Office at Anchorage, Alaska, when accompanied by a written request for an interim ship station license.

(b) Such application as prescribed in paragraph (a) of this section may be filed, without regard to the filing time specified in §§ 83.24(b) and 83.33 whenever need arises for necessary authority to use a ship station for telephony and/or radar under the limitations of an interim ship station license on board any vessel pending action by the Commission at Washington, D.C., on the related formal application for regular license or modification of license.

(c) In the event the use of a ship station under the limitations of an interim license would not meet the requirements of an applicant or when an application for renewal of station license is involved, the applicant may, subject to and in accordance with the conditions set forth in § 83.41 or 83.42, whichever is applicable, apply to the Commission at Washington, D.C., for special temporary station authorization or for license or modification or renewal of license in an emergency.

§ 83.36 Application forms for station authorizations.

(a) FCC Form 501 shall be used for filing formal application for new, modified, or renewal ship station license.

(b) FCC Form 401 shall be used for filing formal application for new or modified station license in the maritime radiolocation service.

(c) FCC Form 405–A shall be used for filing application for renewal of station license in the maritime radiolocation service.

§ 83.37 Application for consent to voluntary transfer of control; nonassignment of license.

(a) Application for consent to voluntary transfer of control of a corporation holding a license (other than an interim license) covering any class of station governed by this part shall be filed with the Commission on FCC Form 703 "Application for Consent to Transfer of Control of Corporation Holding Construction Permit or Station License" at least 60 days prior to the contemplated effective date of the transfer of control in order that action thereon may be taken by that date.

(b) In the case of stations on board ships licensed to operate in any service governed by this part, voluntary assignment of licenses will not be made. Whenever there is a change of ownership of a ship radio station, the new owner must apply for a new license. Upon receipt of the new license, the former license must be surrendered for cancellation.

(c) In the case of ship stations licensed to operate in any service governed by this part, involuntary assignment of licenses will not be made. Upon the death or legal disability of the licensee, such licenses shall be surrendered for cancellation.

§ 83.38 Applications filed concurrently.

Applications of different category but in respect to the same station and radio service may be filed concurrently by the same applicant as prescribed in this section:

(a) Applications for modification of station license and for renewal of station license;

(b) Applications for modification of station license and for consent to voluntary transfer of control of a corporation holding a station license;

(c) Applications for renewal of station license and for consent to voluntary transfer of control of a corporation holding a station license.

§ 83.39 One application for plurality of stations.

(a) One application may be filed for several station authorizations to cover similar stations on board different ships: *Provided,* The following elements are the same for all stations covered by such application:

(1) Nature of application (license, modification of license, or special temporary authority);

(2) Applicant;

(3) Licensee (when request is for modification or renewal);

(4) Nature of service and class of station as set forth in § 83.22;

(b) Paragraph (a) of this section shall apply only when the individual stations covered by such application are clearly identified therein and properly related to the information supplied which is applicable to the respective authorization requested for each station.

§ 83.40 Application for station of portable nature (other than marine-utility station).

(a) Upon application as appropriate under §§ 83.26, 83.36, 83.41 or 83.42 including a supplemental statement as prescribed in subparagraphs (1) and (2) of this paragraph, the Commission may grant a license, modification of license, renewal of license, or special temporary authorization, permitting operation of a station of an established class in the maritime mobile or maritime radiolocation service which is readily portable for use as the occasion requires on board a ship or ships of the United States: *Provided,* The applicant makes a satisfactory showing that:

(1) The station will be operated as an established class of station on board ship in conformity with all applicable rules of the Commission, and

(2) Unusual circumstances exist whereby a station license to cover such operation is necessary to eliminate the necessity of frequently filing applications for special temporary authority, licenses, or modifications of license in order to permit on short notice the temporary operation of specified apparatus on board a designated ship or ships of the United States.

§ 83.41 Application for special temporary station authorization.

(a) Application for special temporary authority in lieu of or supplemental to normal form of station license for use and operation of radio transmitting apparatus on board ship in the maritime mobile service or the maritime radiolocation service, not involving an emergency found by the Commission, shall be limited to circumstances in which need exists for temporary use, for a limited period of time, of:

(1) Radio transmitting apparatus not currently authorized for the desired operation, or

(2) An authorized station in a manner or at times not permitted by the current station authorization.

(b) In accordance with paragraph (a) of this section written application for special temporary authority for the use and operation of radio transmitting apparatus on board ship may be filed informally as prescribed by § 83.26, except that such application shall be filed not less than 10 days prior to the earliest date of proposed operation unless an accepta-

ble reason for failure to meet this time limitation is included in the application or is otherwise evident to the Commission.

(c) (1) Each application for special temporary authority submitted under the provisions of this section shall contain, as a minimum requirement, the following information:

(i) Name of applicant;

(ii) Name of agent, if application is made by an agent, in cases under § 1.913 of this chapter;

(iii) Official call letters of any valid station authorization or construction permit already held by applicant, and the related station location;

(iv) Name and type of ship;

(v) Official registry number of ship, if available;

(vi) Official call letters or radio call sign, if any, assigned to ship;

(vii) Explanation of need for special temporary authority in lieu of normal form of station license;

(viii) Class of station and nature of service desired;

(ix) Complete particulars concerning purpose and nature of proposed operation;

(x) Specific station(s) or class of station(s), whichever is appropriate, with which communication is intended;

(xi) Frequency assignment, authorized transmitter power, and authorized class or classes of emission desired;

(xii) Equipment to be used, specifying the manufacturer, model number, rated power, and frequency stability to be maintained;

(xiii) The date(s) and time(s) of the proposed operation.

(2) Each application for special temporary authority submitted under the provisions of this section shall, in addition to the information specified in subparagraph (1) of this paragraph, contain such of the following information as is not already on file with the Commission:

(i) Address of applicant;

(ii) Address of agent, if application is made by an agent, in cases under § 1.913 of this chapter;

(iii) Relation of applicant to owner of vessel;

(iv) Factual statements to the extent necessary for the Commission to determine whether or not the granting of the desired authorization will be in accordance with the citizenship requirements of section 310 of the Communications Act.

§ 83.42 Application for license or modification or renewal of license in an emergency.

(a) In cases of emergency involving danger to life or property or due to damage to equipment wherein the grant of an interim ship station license as provided by § 83.35 is not possible or such grant would not satisfy the requirements of the emergency, applications for a station license, or for modification or for renewal of a station license, to authorize certain use and operation of radio transmitting apparatus on board ship in the maritime mobile or maritime radiolocation service in accordance with applicable provisions of treaty, statute, and rules of the Commission, may be filed at any time by telegram or letter. In the event that the Commission finds that such an emergency exists, temporary authorization may be granted to operate a station in accordance with the request for the duration of such emergency: *Provided,* That in such cases as may be considered necessary by the Commission, the applicant may be required to supplement such request by filing, as soon as practicable thereafter, a written application for the same authorization as normally prescribed by applicable provisions of this part.

NOTE: For example, an emergency is found by the Commission when the desired authorization is urgently needed for the use of shipboard radio apparatus for purposes of safety at sea, and circumstances beyond control of the applicant have prevented the filing of a written application, as normally prescribed by applicable provisions of this part, on a date which would assure its receipt by the Commission in time sufficient for the Commission to take appropriate action thereon.

(b) (1) Each application submitted under the provisions of paragraph (a) of this section shall contain, as a minimum requirement, the following information:

(i) Name of applicant;

(ii) Name of agent, if application is made by an agent, in cases under § 1.913 of this chapter.

(iii) Name and type of ship;

(iv) Official registry number of ship, if available;

(v) Official call letters or radio call sign, if any, assigned to ship;

(vi) Class of station desired (not required for renewal, nor for modification unless class of station is to be modified);

(vii) Frequency assignment, authorized transmitter power(s), and authorized class or classes of emission desired (not required for renewal; required for modification only to the extent such information may be involved);

(viii) Equipment to be used, specifying the manufacturer and model number (not required for renewal; required for modification only to the extent such information may be involved);

(ix) Specific station(s) with which communication is desired (not required for renewal; otherwise required only when applicable under the Commission's rules);

(x) Statement of facts which, in the opinion of the applicant, constitute an emergency to be found by the Commission for the purpose of this section, including estimated duration of emergency.

(2) Each application for a station license submitted under the provisions of paragraph (a) of this section shall, in addition to the information specified in subparagraph (1) of this paragraph, contain such of the following information as is not already on file with the Commission:

(i) Address of applicant;

(ii) Address of agent, if application is made by an agent, in cases under § 1.913 of this chapter;

(iii) Relation of applicant to owner of vessel;

(iv) Factual statements to the extent necessary for the Commission to determine whether or not the granting of the desired authorization will be in accordance with the citizenship eligibility requirements of section 310 of the Communications Act.

(c) As provided by and in accordance with the provisions of paragraphs (a) and (b) of this section in respect to applications for a station license or modification or renewal of a station license, applications also may be filed, in cases of emergency involving danger to life or property or due to damage to equipment, for a permit to be issued by cable, telegraph, or radio for the operation of a station on board a ship at sea, and in the event the Commission finds such an emergency exists such permit may be granted to be effective in lieu of a station license until such ship shall return to a port of the continental United States.

§ 83.43 Application precedent to hearing.

Whenever the Commission regards an application for renewal of license as essential to the proper conduct of a hearing or investigation and specifically directs that the licensee file such application by a certain date, the application shall be filed within the time thus specified. If the licensee fails to file such application within the prescribed time, the hearing or investigation shall proceed as if such renewal application had been received.

§ 83.44 Failure to prosecute applications.

An applicant not desiring to prosecute his application may request that it be dismissed without prejudice. Where an applicant fails to respond within a reasonable time to official correspondence or request for additional material, the application will be dismissed without prejudice.

§ 83.45 Inconsistent or conflicting applications.

When an applicant has an application pending or undecided, no other inconsistent or conflicting application filed by the same applicant, his successor or assignee, or on behalf of or for the benefit of said applicant, will be considered by the Commission.

NOTE: §§ 83.46 to 83.49, inclusive, relate only to ship radio installations required by law for safety purposes.

§ 83.46 Application for inspection and certification.

(a) Application for inspection and certification shall be submitted on the appropriate form as prescribed in this section to the Engineer in Charge of the radio district office nearest the desired place of inspection, at least 3 days in advance of the day on which inspection is desired. Such application shall be filed by the vessel owner, the vessel's operating agency, the ship station licensee, or the master of the vessel.

(b) FCC Form 801 shall be used to apply for annual inspection of radio stations on board ships subject to the provisions of part II of title III of the Communications Act or to the radio provisions of the Safety Convention. In the case of passenger ships, such inspec-

tion should coincide with the annual inspection of the ship by the United States Coast Guard. A service representative of the ship station licensee and (unless otherwise notified by the Commission's representative) sufficient personnel to lower and raise antennas and to launch any required radio equipped survival craft shall be available on the ship at the time inspection is to be performed. In the case of radiotelegraph stations, the service representative shall hold a radiotelegraph first- or second-class operator license; in the case of radiotelephone stations, the service representative shall hold a first- or second-class operator license, either radiotelegraph or radiotelephone.

(c) FCC Form 809 shall be used to apply for annual survey of radio stations on board ships subject to the provisions of the Great Lakes Radio Agreement.

(d) FCC Form 812 shall be used to apply for biennial inspection of radio stations on board vessels subject to the provisions of part III of title III of the Communications Act.

§ 83.47 Application for temporary waiver of annual inspection.

(a) Informal application for temporary waiver of the annual inspection required under section 362(b) of the Communications Act, as provided in that section, shall be filed by the vessel owner, the vessel's operating agency, the ship station licensee, or the master of the vessel not earlier than 3 days in advance of the vessel's arrival at a United States port. The application shall be filed with the Commission's Engineer in Charge of the radio district office nearest the port of arrival, and shall include:

(1) The ship's name and radio call sign;

(2) The name of the first United States port of arrival directly from a foreign port;

(3) The date of such arrival;

(4) The date and port at which annual inspection will be formally requested to be conducted;

(5) Reason for requesting waiver; and

(6) An affirmation that the ship's required radio equipment is in effective operating condition.

(b) Temporary waiver of annual inspection may be granted in response to a properly filed application therefor, or may be issued by the Engineer in Charge on his own motion upon receipt of an application for annual inspection, for a period not to exceed 30 days from the time of first arrival of the ship at a United States port directly from a foreign port in cases where:

(1) The duration of the vessel's scheduled stay in port is too short to permit completion of annual inspection during normal working hours;

(2) The distance to the vessel would not permit completion of annual inspection, including travel time, during normal working hours;

(3) Commission inspection personnel are not available to conduct the annual inspection during normal working hours;

(4) Annual inspection in the port could probably not be completed inasmuch as, during normal working hours, the vessel is scheduled to load or discharge inflammable or unstable cargo or the exigencies of cargo handling renders required antennas unavailable; or

(5) Replacement of the required radio equipment or a major component thereof is scheduled to be made at the alternate port proposed for the annual inspection.

§ 83.48 Extra compensation for overtime services by engineers in charge and radio engineers.

(a) Pursuant to section 4(f)(3) of the Communications Act, Engineers in Charge and Radio Engineers of the Field Engineering Bureau of the Federal Communications Commission, who may be required to remain on duty to perform services in connection with the inspection of ship radio equipment and apparatus for the purposes of Part II of Title III of the act or the Great Lakes Agreement at night or on Sundays and holidays, shall receive extra compensation, to be paid by the master, owner, or agent of the vessel, under the following regulations:

(1) The rates of extra compensation are payable in cases where the services of such engineers have been duly requested and they have reported for duty, even though no actual service may be performed.

(2) The extra compensation for overtime services is in addition to the regular compensation paid by the government in the case of engineers whose compensation is fixed on the ordinary per diem basis and those receiving compensation per month or per annum.

(3) Extra compensation for "waiting time" will not be allowed unless and until the engineer actually reports for duty.

(4) For the purpose of computing extra compensation, the word "night" shall mean the time between the established closing hour of one day at the office involved and the established opening hour of the following business day at such office, but shall not include any such time within the 24 hours of a Sunday or holiday. Each Sunday and each holiday shall comprise the 24 hours between midnight and midnight. For the purposes of this section the time between the established closing hour of an office and midnight of the day immediately preceding a Sunday or holiday and the time from midnight until the established opening hour of the day immediately following the said Sunday or holiday will be considered as a single night. The term "holiday" shall include only national holidays, viz. January 1, February 22, May 30, July 4, the first Monday in September, November 11, Thanksgiving Day (when designated by the President), December 25, and such other days as may be designated national holidays by the President or by Congress.

(5) For authorized service in excess of 8 hours on any day excluding Sunday and holidays, extra compensation equivalent to one-half day's pay is payable for each 2 hours or fraction thereof of at least 1 hour that the overtime extends beyond the said 8 hours provided that the overtime is not less than 1 hour. The maximum amount which may be paid for such authorized overtime services on any one day other than on a Sunday or holiday shall not exceed 2½ days' pay.

(6) In computing the amount earned for overtime at the rate of "one-half day's pay for each 2 hours or fraction thereof of at least 1 hour that the overtime extends beyond the established closing hour", one-half day's pay shall be one-half of the gross daily rate of pay; each 2 hours is the time period for the purpose of computation; at least 1 hour means the minimum service in any such 2-hour overtime period for which extra pay may be granted, and each additional period in the amount of 2 hours or fraction thereof of at least 1 hour will entitle the engineer to an additional one-half day's pay. Payment of extra compensation for services consisting of at least 1 hour is authorized from the established closing hour, even though such services may not actually begin until later, provided that the engineer rendering the service remained on duty after the established closing hour, in which case the time between the established closing hour, and the time of beginning the actual services shall be computed as waiting time. Where the performance of actual service is preceded by such a waiting time there should be an affirmative statement that the engineer was required to remain on duty between the established closing hour and the time of beginning the actual services.

(7) In computing extra compensation where the services rendered are in broken periods, the time served should be combined with the waiting time and computed as continuous service.

(8) The same considerations shall apply when charging for waiting time as govern the charge for services actually rendered. No charge should be made unless after having reported for duty the waiting time amounts to at least 1 hour.

(9) For any authorized services performed on Sundays and holidays, totalling not more than 8 hours, extra compensation is payable equivalent to two days' pay in addition to any regular compensation for such days. For any authorized service in excess of 8 hours (starting either before or after 5 p. m. local time) extra compensation at the rate of one-half day's pay, based on the normal daily rate of pay, for each two hours of service or fraction thereof of not less than 1 hour, is payable in addition to the extra compensation payable for service up to and including 8 hours of service. The maximum extra compensation payable for work on Sundays and holidays is 4½ days' pay.

(10) When engineers are in travel status overtime shall apply the same as at official station. However, compensation for such overtime shall not include travel time.

(11) Assessments and collection of fees against steamship companies for overtime services shall be made even though the payment to employees for such services may not be made until funds are appropriated for that purpose.

(12) An application on a form prescribed by the Commission shall be filed with the office being requested to furnish overtime services before such assignment can be made.

(13) Overtime services shall be billed to the steamship companies as soon as possible after the services have been performed and on collection voucher provided for that purpose. Remittance shall be by postal money order or certified check payable to the "Collector of Customs, Treasury Department" and forwarded to that officer at the port indicated on the voucher, who shall in turn deposit such remittance on a properly designated receipt account.

(14) Protests against the exaction of extra compensation shall be forwarded to the Commission at Washington, D. C., and a copy thereof sent to the office which furnished the overtime services.

§ 83.49 Application for exemption.

(a) Application for exemption from radio equipment and operator requirements, or for modification or renewal of exemption previously granted, shall be submitted by the vessel owner, the vessel's operating agency, or the master of the vessel to the Secretary, Federal Communications Commission, Washington, D.C., 20554, on the appropriate form as prescribed in this section. In cases of emergency found by the Commission, the Commission may consider an informal application which should include the full information normally furnished on the formal application.

(1) FCC Form 820 shall be used for filing formal application for exemption from requirements of parts II or III of title III of the Communications Act, and/or the Safety Convention;

(2) FCC Form 820–A shall be used for filing formal application for exemption from requirements of the Great Lakes Radio Agreement.

(b) When an exemption under and in accordance with the provisions of the Safety Convention is granted by the Commission on behalf of a cargo ship, the Commission issues an Exemption Certificate to the vessel.

(c) When an exemption under and in accordance with the provisions of the Safety Convention is granted by the Commission on behalf of a passenger ship, the Commission certifies the necessary particulars to the United States Coast Guard, requesting that agency to issue an Exemption Certificate to the vessel.

NOTE: A list of general exemptions is contained in § 83.803.

§ 83.50 Application for exceptional authority to communicate with amateur stations.

Upon proper application, including a supplemental statement as herein prescribed, the Commission may grant a license, modification of license, renewal of license, or special temporary authorization, permitting a ship telegraph station on board a vessel not engaged in commerce or a vessel used, or intended to be used, for scientific research or expedition, to transmit by means of class A1 or A2 emission on authorized ship telegraph frequencies within the band 2000 kc/s to 25,000 kc/s, for the purpose of exchanging radiotelegraph communications directly with licensed amateur stations on land in accordance with the provisions of § 83.70: *Provided,* The applicant includes a supplemental statement satisfactorily showing that:

(a) Unusual circumstances during the contemplated voyage(s) are anticipated which will make direct communication with amateur stations extremely beneficial to persons on board the vessel or to the person(s) responsible for the scientific research or expedition for which the vessel is used or is intended to be used;

(b) The messages to be exchanged with amateur stations will contain no material relating directly or indirectly to a commercial transaction; and

(c) Transmission for this purpose will be conducted on a secondary basis so as to avoid interference to commercial message traffic and other authorized emissions of stations operating in the maritime radiolocation service.

FEES

§ 83.53 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 83.54 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 83.54 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part shall be accompanied by the fees prescribed below:

All applications for radio station authorizations governed by this part	$10
Applications for exemption from the radio equipment and operator requirements of Part II or Part III of Title III of the Communications Act of 1934, as amended, and/or the Safety of Life at Sea Convention, or application for modification or renewal of exemption previously granted thereunder	10
Application for exemption from the requirements of the Great Lakes Agreement, or modification or renewal thereof	10

(b) Fees are not required in the following instances:

Applications filed pursuant to §§ 83.41 and 83.42 (informal applications for special temporary authority and applications in an emergency).

Informal exemption applications filed pursuant to § 83.49 in cases of emergency.

Applications for ship inspections pursuant to the Great Lakes Agreement, the Safety of Life at Sea Convention and Parts II and III, Title III, of the Communications Act of 1934, as amended.

Applications filed by governmental entities.

Subpart C—Station Authorizations

§ 83.62 Changes in equipment of licensed stations.

A licensed transmitter on board ship may be modified without making application to the Commission and without specific authorization from the Commission: *Provided,* (a) the change does not result in operation inconsistent with the rules of the Commission nor with the terms of the outstanding authorization for the station involved; (b) the change does not result in any impairment of the ability of the station licensee or the owner, operating agency, or shipmaster, to comply with any duty or obligation imposed by statute or international treaty or agreement for purposes of safety; (c) a description of the change is incorporated in the next application for renewal or modification of license; and (d) changes in type accepted and type approved equipment are made in accordance with the applicable provisions in Part 2 of this chapter.

§ 83.63 License term.

(a) Licenses for stations in the maritime service are normally issued to expire at 3:00 a.m., e.s.t., five years from date of grant. Licenses, issued in response to applications filed prior to and including June 1, 1963, for ship stations subject to § 83.139(a)(2), will normally be issued to expire at 3:00 a.m., e.s.t., four years from date of grant.

(b) Unless otherwise directed by the Commission, each license, modification of license or renewal of license issued solely on the basis of an application filed in accordance with § 83.42 shall become effective at the time when granted by the Commission and shall expire at a time not beyond the period of the emergency found by the Commission as provided by that section; *Provided,* That each renewal license granted under the provisions of that section prior to expiration of the license which it will renew, shall become effective only upon expiration of the latter license.

(c) A permit for the operation of a station on board a ship at sea, issued by cable, telegraph, or radio, as the result of an application therefor filed under the provisions of § 83.42 shall become effective at the time when granted by the Commission and shall be effective, in lieu of a station license until such ship first arrives at a port of the continental United States subsequent to the time of issuance of such permit.

(d) A license for a developmental station on board ship shall be issued specif-

ically upon a temporary basis for a period beginning at 3:00 a. m. e. s. t. and not exceeding one year from the date on which it becomes effective.

(e) Each special temporary authorization granted on the basis of an application filed under the provisions of § 83.41 shall be issued specifically upon a temporary basis for a specified period of time designated in such authorization and not extending beyond expiration of the outstanding license of the particular station to which it applies or otherwise not exceeding the normal license term of stations of the particular class and in the particular service designated in such special temporary authorization.

(f) An interim ship station license granted under the provisions of § 83.64 shall become effective when issued and shall expire at 3:00 a.m., e.s.t., on a date six months from the date of grant, unless terminated earlier by the Commission pursuant to the provisions of § 83.64.

§ 83.64 Interim ship station license.

Upon request made in accordance with § 83.35, an interim ship station license may be granted by the Commission at its main office in Washington, D.C., or at any of its Engineering Field Offices to authorize the use of a ship station for telephony and/or radar in conformity with the conditions and limitations of §§ 83.369 and 83.405(a) for an interim period of six months pending action by the Commission at Washington, D.C., on the related formal application for regular ship station license or modification of license filed as prescribed by §§ 83.35 and 83.36. Unless otherwise directed by the Commission in exceptional circumstances, an interim ship station license shall not be renewed and the authority conferred by such license may be terminated, without hearing, at any time prior to its normal expiration date if, in the discretion of the Commission, the need for such action arises.

§ 83.65 Issuance of modified and renewed license simultaneously.

When an application is granted by the Commission which necessitates the issuance of a modified station license to become effective less than 60 days prior to the expiration date of the license sought to be modified, and when an application for renewal of said license is granted subsequent or prior thereto, but within 30 days of the date of expiration of the outstanding license, the modified license as well as the renewed license shall be issued as one document in accordance with the combined action of the Commission.

§ 83.66 One license for plurality of stations.

(a) Unless otherwise determined by the Commission in exceptional circumstances, one station license may be granted to authorize the use and operation of a designated maximum number of stations in the maritime mobile service—normally in multiples of ten stations—on board two or more ships of the United States which do not engage on voyages to any foreign country whenever telephony is the sole type of transmission authorized and the following license elements are the same for each station and the requirements specified in paragraph (b) of this section are fulfilled:

(1) The station licensee;

(2) The conditions which establish and maintain control of the station by the station licensee;

(3) The class of station and nature of service;

(4) The type(s) of transmitting equipment to be authorized (different types of transmitting equipment, which are recognized by the Commission as being equivalent on an engineering basis, shall, for the purpose of this section, be considered as the same type);

(5) The authorized transmitter-power of identical types of transmitting equipment to be authorized;

(6) The frequency assignment and the authorized transmitter-power and class or classes of emission authorized on each radio-channel.

(b) The issuance of one station license as provided in paragraph (a) of this section shall be contingent upon compliance by the applicant and station licensee with the following requirements:

(1) The licensee shall, at the time the application(s) for license is(are) filed and during the entire period in which the station license is valid, keep the Commission at Washington, D. C. and the Commission's Engineer in Charge of each radio district in which the stations are operated currently informed in writing of the names, registration number and respective classes of ships which are provided with stations authorized in accordance with the terms of the station license;

(2) The transmitting equipment is not installed on board ship for the purpose of complying with the provisions of any statute or international agreement requiring the installation or use of such equipment for safety purposes;

(3) The transmitting equipment shall not be authorized in any other instrument of authorization issued by the Commission.

§ 83.67 Transfer or assignment of station authorization (see also § 83.37).

Section 310(b) of the Communications Act expressly provides that a station license granted by the Commission, the frequencies authorized to be used by the licensee, and the rights therein granted shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, or indirectly by transfer of control of any corporation holding such license, to any person, unless the Commission shall, after securing full information, decide that said transfer is in the public interest, and shall give its consent in writing.

§ 83.68 Authority for survival craft stations.

Authority to operate a survival craft station will be granted only when the parent vessel is equipped with and authorized to operate a ship station.

§ 83.69 Authority for transmission from cable buoy.

Provided the transmitting equipment to be used on a cable marker buoy is adequately described and the necessary technical data is supplied in an application for station license for a ship station on board a cable repair ship with which the buoy is associated, the use of such transmitting equipment for radiolocation in accordance with § 83.403 will be specifically authorized by the related ship station license.

§ 83.70 Authority to communicate with amateur stations.

(a) A ship station shall not communicate with or transmit to any amateur station unless it is specifically authorized by the Commission to do so. When authorized to communicate with duly licensed amateur stations, a ship station shall conduct all operation for this purpose in conformity with the relevant terms of its station license and, except as otherwise permitted by the station license, shall for this purpose,

(1) Transmit by means of A1 or A2 emission only on a frequency between 2000 kc/s and 25,000 kc/s authorized for such emission;

(2) Not cause harmful interference to stations in the maritime mobile service nor to stations in the radiolocation service;

(3) Not engage in any communications relating directly or indirectly to a commercial transaction.

(b) Communication with amateur stations of foreign countries shall be limited to communications with such amateur stations as are authorized to communicate with the ship station concerned; in addition, the nature of the communications exchanged with foreign amateur stations shall, in addition to the requirements of paragraph (a) of this section, be in accordance with the International Radio Regulations and in conformity with the regulations of the foreign administration(s) having jurisdiction over the amateur station(s) involved.

§ 83.71 Limitations concerning stations of portable nature (other than marine-utility stations).

Advance notice in writing or by telegram shall be given to the Commission and to the Engineer in Charge of the radio district where the operation is to take place by the licensee of a station of a portable nature (other than a marine-utility station) authorized for use on board ship prior to any operation contemplated on board a particular ship. Such notice shall state the call sign of such station, name of licensee, approximate date(s) of intended operation on board the designated ship, and the geographic area in which the ship is to be navigated. A station of a portable nature, (other than a marine-utility station) authorized to be operated on board a ship or ships, shall not be retained on board any one ship during any continuous period exceeding three months without giving further notice to the Commission and to the Engineer in Charge of the radio district where the operation is to take place: *Provided*, That the foregoing requirements shall not apply to operation of a station of a portable nature on board small boats (tenders, dories, lifeboats, etc.), which are regularly associated with a parent ship, when

such station is specifically identified in the license of such parent ship.

§ 83.72 Authority for ship-radar station.

Any license issued for a ship-radar station shall be subject to the condition that the station licensee in relation to the proper operation of the station in accordance with the radio law and rules and regulations of the Commission, will be represented on board the radar-equipped vessel by the person who at any given time occupies the position of master.

§ 83.73 Permanent discontinuance of station operation.

In case of permanent discontinuance of operation of a station on board ship in the maritime mobile service or the maritime radiolocation service, the licensee of that station shall, as soon as possible, return the station license to the Secretary, Federal Communications Commission, Washington, D.C., 20554, and shall as soon as possible, request by telegram or letter addressed to the Secretary that such license be cancelled. In the event, however, that such license is not available for this purpose, the licensee shall, by telegram or letter, inform the Secretary of that fact stating the reason why the license is not available, and shall request that the license be cancelled. If the station is within the United States, a copy of each telegram or letter sent to the Secretary pursuant to this section shall be forwarded at the same time to the Commission's Engineer in Charge of the radio district in which the station then is located.

§ 83.74 Assignment of call signs.

(a) Ship stations in the maritime mobile service other than those designated in paragraphs (b), (c), (d) and (e) of this section shall be assigned call signs consisting of four-letter combinations commencing with the letter "K" or the letter "W". (Examples: KBCD or WBDC.)

(b) Ship stations authorized to use telephony (except those specified in paragraph (c) of this section), but not authorized to use telegraphy except secondarily for purposes incidental to the use of telephony, located on board ships whose survival craft being carried, if any, are not authorized to operate radio transmitting equipment, shall be assigned call signs consisting of two-letter, four-digit combinations (the digits 0 and 1 may not immediately follow a letter) beginning with WA2000 and progressing numerically through WA9999 and beginning again with WB2000 and progressing thus through the "W" series of prefixes. In cases of vessels having or eligible for signal letters assignable by the United States Treasury Department, the Commission may, if it deems such action necessary or desirable, make exceptions to the foregoing provisions and assign call signs of such character as is legally permissible and as it may deem appropriate in each particular case.

(c) Normally, an individual call sign shall be assigned to each ship (other than survival craft attached to a parent ship) carrying a station licensed in the maritime mobile service, provided that a single call sign shall be assigned to a plurality of stations authorized by one station license in accordance with § 83.66 whenever such stations are easily identified by means other than call signs and their signal of identification or characteristics of emission are published, when required by international agreement, in appropriate international documents.

(d) Stations of lifeboats, liferafts and other survival craft carried aboard ships shall be assigned call signs consisting of the call sign that has been assigned, or that would be assigned, to the ship station located on board that particular parent ship, followed by two digits (the digits 0 and 1 may not immediately follow a letter). (Example: If the call sign that has been assigned, or would be assigned, to a ship station on board a parent ship is KBCD, the survival craft station shall be KBCD followed my two digits, such as KBCD 45.)

(e) Ship-radar stations shall be assigned call signs for administrative purposes only. Such stations located on board ships having a ship station licensed in the maritime mobile service shall be assigned the same call sign as that ship station. If in a particular case the ship has no ship station licensed in the maritime mobile service, the ship-radar station shall be assigned a call sign consisting of a two-letter, four-digit combination (the digits 0 and 1 may not immediately follow a letter) beginning with the letter "W". (Examples: If a ship station licensed in the maritime mobile service with call sign WA2000, or KBCD, or WBCD, the ship-radar station call sign shall be respectively, WA2000, or KBCD, or WBCD. If the ship has no station licensed in the maritime mobile service, the ship-radar station call sign shall be of the type WA2000.) In case of a ship having, or eligible for, signal letters assignable by the United States Treasury Department, the Commission may if it deems such action necessary or desirable, make exceptions to the foregoing provisions and assign a call sign of such character as is legally permissible and as it may deem appropriate in each particular case.

(f) Each station license issued to authorize the use and operation of one or more marine-utility stations shall designate a single call sign consisting of two letters (taken from the group KA through KZ) followed by four digits (the digits 0 and 1 may not immediately follow a letter).

§ 83.75 Operation during emergency.

(a) The licensee of any ship station or developmental station in the maritime mobile service on board ship, may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication service in communicating in a manner other than that specified in the instrument of authorization or in the rules and regulations governing the maritime mobile service: *Provided*, (1) That as soon as possible after the beginning of such emergency use, notice shall be sent to the Commission at Washington, D.C., and to the Commission's Engineer in Charge of the district in which the station is located, stating the nature of the emergency and the emergency use being made of the station; (2) that such emergency use of the station shall be discontinued as soon as substantially normal communication facilities are again available; and (3) the Commission and the Engineer in Charge be notified immediately when such special use of the station is terminated: *And provided further*, That in no event shall any ship station or developmental station on board ship engage in emergency transmission on frequencies other than, or with power in excess of, that specified in the instrument of authorization or as otherwise expressly provided for by the Commission, or by law: *And provided further*, That the Commission may, at any time, order the discontinuance of any such emergency communication undertaken under this section.

(b) The Commission may authorize the licensee of any radio station governed by this part during a period of national emergency to operate its facilities upon such frequencies, with such power and points of communication, and in such a manner beyond that specified in the station license as may be requested by the Army, Navy, or Air Force.

Subpart D—General Station Requirements

§ 83.101 Inspection of station.

(a) Pursuant to section 303(n) of the Communications Act, the radio installation on board any ship of United States registry shall be available for inspection by duly authorized representatives of the Commission at any reasonable time and at such frequent intervals as within the discretion of the Commission will insure compliance with applicable regulations, laws, and treaties.

(b) The governments or appropriate administrations of countries, where a ship equipped with a radio station calls, may require the production of the station license for examination. The operator of the station, or the person responsible for the station, must facilitate this examination. The station license must be available so that it can be produced without delay. When the license cannot be produced or when manifest irregularities are observed, governments or administrations may inspect the radio installation in order to satisfy themselves that the installation conforms to the conditions imposed by the International Radio Regulations.

§ 83.102 Posting station licenses and transmitter identification cards or plates.

(a) Except for certain stations to which paragraphs (b) or (c) of this section are applicable, the original license for each station on board ship subject to this part shall be conspicuously posted at the principal location on board at which each such station is operated: *Provided*, That when a ship is fitted with two or more stations authorized by a single license document:

(1) The original license shall be conspicuously posted at the principal

operating location of the compulsorily-provided station;

(2) If no station is compulsorily-provided, the original license shall be conspicuously posted at the principal operating location of any station authorized for telephony.

(b) With respect to stations of a portable nature, including marine-utility stations but excluding stations authorized in accordance with § 83.66, where posting of the station license is impracticable, the requirement of paragraph (a) of this section shall not apply: *Provided*, That in lieu thereof the original station license or a photocopy thereof is retained on board the vessel (other than survival craft carried on board a parent ship) during the entire time the station is located thereon.

(c) A current license authorizing a plurality of stations, pursuant to § 83.66, shall be retained by the licensee at any location where it is readily accessible for inspection. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection to each transmitter: *Provided*, That if the transmitter is not in view of the operating position or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the principal transmitter operating position or posted adjacent thereto.

(d) Notwithstanding the provisions of paragraphs (a), (b), and (c) of this section, notification by telegram or by letter, in each case by the Secretary of the Commission, stating that the Commission has granted an appropriate station authorization, may be posted in lieu of such authorization if the latter has not yet been received by the station licensee or permittee: *Provided*, That as the result of an official inspection of the station by an authorized representative of the Commission the posting of such notification may not be accepted in lieu of the formal station authorization until additional information pertaining thereto, as may be deemed necessary by that representative for purposes of official inspection, has been obtained from the Commission at Washington, D. C.

§ 83.103 Location of station.

All components of a station on board ship subject to this part, including the antenna(s), antenna supporting structures, and source(s) of power used to energize the station equipment, shall be located on board the vessel identified in the station license, even though the vessel be temporarily moored. For purposes of communication, no component of a ship station shall be connected by wire line directly or indirectly to any equipment, apparatus, or facilities which are not located entirely on board the vessel identified in the station license: *Provided*, That the limitations of this section shall not apply (a) when the station is being operated in an emergency under the provisions of § 83.75, or (b) when it is necessary, while the ship is temporarily moored, to energize one or more components of a main installation or an emergency installation by means of a source of power not located on board the ship, for the purpose of assuring compliance with any applicable safety radio requirement of law.

§ 83.104 Operating controls.

(a) In each ship station, operating controls shall be readily available at the principal operating location of the station for instant use by the authorized operator in accordance with the provisions of § 83.154, whenever the station is being used for transmission, capable of being used to:

(1) Commence and discontinue normal operation of the station;

(2) Change normally from each operating radio-channel to any other associated operating radio-channel in the same characteristic portion of the spectrum; and

(3) Change normally from transmission to reception and vice-versa.

(b) Every ship station using telegraphy for normal traffic shall be provided with a device permitting change-over from telegraph transmission to telegraph reception and vice versa without manual switching. In addition, these stations should be able to listen on the reception frequency during the course of periods of transmission.

(c) Every ship station using telephony shall, when an authorized operator is present at the principal operating location, be capable of change-over from telephone transmission to telephone reception and vice-versa within a total period of two seconds under circumstances which do not require a change in operating radio-channel at the same time.

(d) Every ship station shall, during its hours of service and when the authorized operator is present at the principal operating location, be capable of:

(1) Commencing operation within one minute after the need to do so occurs;

(2) Discontinuing all emission within five seconds after emission is no longer required or after the necessity arises for emission to cease.

(e) Each ship station using a multi-channel installation for telegraphy (except equipment intended for use only in emergencies on frequencies below 515 kc/s) shall, when the authorized operator is present at the principal operating location, be capable of changing, after the need to do so occurs, from each operating radio channel to any other operating radio channel for transmission or reception by means of telegraphy within:

(1) A period of five seconds if the particular radio channels are within the same characteristic portion of the spectrum; or

(2) A period of fifteen seconds if the particular radio channels are not within the same characteristic portion of the spectrum.

(f) Every ship station and marine-utility station using a multi-channel installation for telephony shall, when the authorized operator is present at the principal operating location, be capable of changing, after the need to do so occurs, from one operating radio-channel to another operating radio-channel for transmission or reception by means of telephony within:

(1) A period of five seconds, when changing from the calling frequency to a working frequency and vice versa within the band 1600–4000 kc/s; or

(2) A period of three seconds, when changing from the calling frequency to a working frequency and vice versa within the band 156–174 Mc/s.

(g) Whenever the same radio-channel is used for radiotelephone transmission and reception, means shall be provided so that transmission of the carrier wave may be either automatically "voice-controlled" or controlled manually by the person whose speech is being transmitted.

(h) (1) Subject to the provisions of subparagraph (2) of this paragraph, each ship station using telegraphy on frequencies within the band 405 kc/s to 535 kc/s must, with respect to the use of any transmitter capable of a plate input power in excess of 450 watts and completed in construction subsequent to January 1, 1952, be provided with an arrangement readily permitting the use of a plate input power for telegraphy which is not in excess of 200 watts. Each such transmitter shall be furnished with a durable nameplate with the month and year of its completion permanently inscribed thereon.

(2) The requirement of subparagraph (1) of this paragraph shall not apply when there is available in the same station a duly authorized radiotelegraph transmitter capable of operation on the international calling frequency 500 kc/s and at least one working frequency within the band 405 kc/s to 485 kc/s, capable of being energized by a source of power other than an emergency power supply installed for compliance with applicable provisions of treaty or statute, and not capable of a plate input power in excess of 450 watts when operated on such frequencies.

§ 83.105 Required radio channels for telegraphy.

(a) Each ship station using telegraphy on frequencies within the band 405–535 kc/s shall be capable of transmitting and receiving classes A1 and A2 emission on the frequency 500 kc/s, and on at least two working frequencies within this band. When a radiotelegraph installation is compulsorily fitted for safety purposes, a fourth frequency within this band which is authorized specifically for direction finding must be provided also.

(b) Each ship station using telegraphy on frequencies within the band 90–160 kc/s shall be capable of transmitting and receiving class A1 emission on the frequency 143 kc/s, and on at least two additional frequencies within this band (except within the band 140–146 kc/s) which are authorized for working.

(c) Each ship station using telegraphy on the specific frequencies in the bands between 4000 and 27,500 kc/s authorized by the International Radio Regulations, Geneva, 1959, exclusively for the maritime mobile service shall, in each of the bands for which facilities are provided to carry on its service, be capable of

transmitting and receiving class A1 emission on at least one frequency authorized for calling and at least two frequencies authorized for working.

(d) Each ship station using, when in Region 2, telegraphy on frequencies within the band 2065–2107 kc/s shall be capable of transmitting and receiving class A1 emission on at least one frequency in this band authorized for working in addition to a frequency in this band authorized for calling.

§ 83.106 Required radio channels for telephony.

(a) Each ship radiotelephone station licensed to operate in the band 1605–3500 kc/s shall be able to transmit and receive on the frequency 2182 kc/s, and if used for other than safety communication shall be capable also of transmitting and receiving on at least two working frequencies within this band.

(b) Each ship radiotelephone station which operates in the band 156–174 Mc/s shall be able to transmit and receive on the frequencies 156.3 Mc/s and 156.8 Mc/s.

(c) The requirement contained in paragraph (b) of this section shall not be applicable when such station is equipped to operate on only one of the frequencies 156.35, 156.9, or 156.95 Mc/s.

(d) Upon the express condition that harmful interference shall not be caused to the service of any maritime mobile station which is operated in accordance with the provisions of paragraph (b) of this section, the requirement contained in paragraph (b) of this section shall not be applicable when a ship station is equipped to operate:

(1) On only one of the frequencies 157.2, 157.25, 157.3, 157.35, or 157.4 Mc/s; or

(2) On 156.65 Mc/s only, and the station is also capable of operation on the frequency 500 kc/s and two working frequencies in the band 415–515 kc/s, or the frequency 2182 kc/s and two working frequencies for telephony in the band 1605–3500 kc/s.

(e) The exception provided in subparagraph (2) of paragraph (d) of this section does not apply in the Great Lakes area.

§ 83.107 Antenna requirements.

(a) The antenna(s) of each public ship station and of each ship station compulsorily provided on board a vessel for safety purposes pursuant to statute or international agreement shall, insofar as is practicable in each case, have electrical characteristics that will, in conjunction with the particular transmitting apparatus employed, assure good efficiency in the conversion of antenna power to radiated power.

(b) All emission of a ship station, or a marine-utility station on board ship, using telephony on any frequency assignment within the frequency-band 30 Mc to 200 Mc normally shall be polarized vertically at the source when the vessel carrying the station is in a normal vertical plane: *Provided*, The Commission may authorize the use of any other form of polarization in addition to or in lieu of vertical polarization if the applicant or station licensee makes a satisfactory showing that such authorization is necessary for effective communication or reduction of interference and would be beneficial to reception of the emission by other stations in the maritime mobile service.

(c) When a ship station is operating on any carrier frequency below 25 Mc/s authorized for radiotelephony and the effective operation of the antenna employed is not independent of a ground connection on the frequency in use, the radio station ground system of each such ship station for operation on such frequency shall consist of:

(1) An effective radio ground to the hull for a vessel having a metallic hull, or

(2) In the case of a vessel not having a metallic hull, the most effective radio ground practicable under the circumstances. Preferably the ground shall be to a bare plate or strips, or a combination thereof, of corrosion-resistant metal of at least 12 square feet in aggregate area affixed to the hull below the waterline.

§ 83.108 Adjustment of equipment.

The transmitting equipment of each station subject to this part shall be operated, tuned, and adjusted so that there will be no radiation of emissions outside the authorized frequency-band that causes harmful interference or is capable of causing harmful interference to the service of any other station. Any spurious emissions, including radio frequency harmonics and audio frequency harmonics, shall be maintained at the lowest practicable level.

§ 83.109 Modulation requirements.

(a) Transmitters using A3 emission shall be capable of proper technical operation with modulations of 75 percent on peaks but not more than 100 percent on negative peaks.

(b) Transmitters using F1, F2, or F3 emission shall be capable of proper technical operation with a frequency deviation of 15 kc/s, which is defined as 100 percent modulation.

§ 83.110 Maintenance of transmitter power.

(a) The actual power of each radio transmitter in a ship station shall be maintained within the following tolerance of the specific power authorized by the Commission for that transmitter:

(1) When the maximum authorized transmitter power only is indicated, the actual power shall, insofar as is practicable, not be more than that necessary to carry on the service for which the station is licensed and in no event more than 20 percent above the maximum power authorized;

(2) When the exact authorized transmitter power is indicated the actual power shall, whenever the transmitter is being operated, be within the limits of 120 percent and 80 percent of the authorized power.

(b) For the purpose of assuring adherence to the requirement of paragraph (a) of this section, each radio transmitter in a ship station which is rated by the manufacturer as being capable of a plate input power in excess of 200 watts or an antenna power in excess of 100 watts shall be fitted with the instruments necessary to determine the actual plate power to the transmitter whenever the latter is in use.

§ 83.111 Transmitter measurements.

(a) The carrier frequencies of each transmitter shall be determined to be within the prescribed tolerance as follows:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the carrier frequencies or stability thereof;

(3) Upon receipt of an official notice of off-frequency operation.

(b) When the manufacturer's rated power of a ship transmitter is more than 120 percent of the maximum authorized power the actual power shall be determined as follows:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may increase its power.

(c) A determination shall be made that each radiotelephone transmitter produces peak modulation between 75 and 100 percent insofar as practicable as follows:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect its modulation characteristics.

(d) The determinations required by paragraphs (a) and (c) of this section may be made at a test or service bench, provided the load conditions are equivalent to those of actual operation.

(e) The results of the determinations of paragraphs (a), (b), and (c) of this section shall be entered in or made a part of the station log.

§ 83.112 General requirements for receiving apparatus.

The radio equipment of each ship station, or marine-utility station, using telegraphy or telephony, must be capable of permitting the reception of the class or classes of emission on the frequency or frequencies, normally received for the service carried on. The technical arrangement of the station apparatus shall be such that the necessary reception of emissions, including in particular that necessary for compliance with the provisions of §§ 83.181 and 83.240, can be readily effected prior to the transmission of any signals or communications by the ship station on the associated transmitting frequency.

§ 83.113 Installation of power source.

The exact location and physical arrangement on board a vessel of any storage battery, or engine-driven generator and fuel tank, used as a source of power

for any component of a licensed radio station subject to this part and located on board such vessel, and the method of ventilating the battery or engine compartment, shall be in accordance with applicable rules or regulations promulgated by the United States Coast Guard. If the Commission finds that such rules or regulations are not complied with by a particular station of this category, an application for license or modification or renewal of license thereafter filed in behalf of that station may be designated by the Commission for hearing to determine whether or not the granting of such application would meet the public interest, convenience or necessity.

NOTE: Inquiries concerning applicable regulations of the Coast Guard may be addressed to The Commandant, United States Coast Guard, Washington, D.C., 20226, or to the nearest District Headquarters Office of the Coast Guard.

§ 83.114 Clock required.

(a) Each ship station not required by law to be installed, which is licensed to operate on frequencies below 515 kc/s, shall be provided with a reliable clock equipped with a seconds hand, preferably a sweep seconds hand. This clock shall be securely mounted in such a position that the entire dial can be easily and accurately observed by the operator from his normal operating position, from the operating position at which he would ordinarily transmit the international radiotelegraph alarm signal by hand, and from the position used for testing the radiotelegraph auto alarm (if installed) for response to signals from the testing device.

(b) Each ship station not required by law to be installed, which is licensed to operate only on frequencies above 1500 kc/s, shall, as may be necessary during operation, have available to the operator a reliable clock or timepiece, preferably equipped with a seconds hand.

§ 83.115 Retention of radio station logs.

(a) All station logs which are required under those provisions of this part pertaining to the particular classes of stations subject to this part shall be retained by the licensee for a period of one year from date of entry and for such additional periods as required by the following subparagraphs:

(1) Station logs involving communications incident to a distress or disaster shall be retained by the station licensee for a period of 3 years from date of entry;

(2) Station logs which include entries of communications incident to or involved in an investigation by the Commission and concerning which the station licensee has been notified shall be retained by the station licensee until such licensee is specifically authorized in writing by the Commission to destroy them;

(3) Station logs incident to or involved in any claim or complaint of which the station licensee has notice shall be retained by such licensee until such claim or complaint has been fully satisfied or until the same has been barred by statute limiting the time for the filing of suits upon such claims.

NOTE: See Part 42 of this chapter concerning preservation of records of common carriers.

(b) Station logs shall be made available to an authorized representative of the Commission upon request.

(c) Ship station logs shall be fully completed at the end of each voyage and before the operator(s) (or other person(s) responsible under the applicable provisions of this part) leave the ship. The radio log currently in use shall be kept by the licensed operator(s) of the station or as otherwise authorized by the applicable provisions of this part, and during use shall be located in the principal radio operating room of the vessel. At the conclusion of each ocean voyage terminating at a port of the United States (includes Puerto Rico, and Virgin Islands), the original radio log (or a duplicate thereof) dating from the last departure of the vessel from a United States port shall be retained under proper custody on board the vessel for a sufficient period of time (not more than 24 hours) to be available for inspection by duly authorized representatives of the Commission. After retention on board the vessel as herein stipulated, the original log (and the duplicate log if provided) may be filed at an established shore office of the station licensee, and shall be retained as stipulated by paragraph (a) of this section.

NOTE: Duplicate logs are not required by the provisions of this paragraph, unless the original log is removed prior to opportunity for official inspection.

(d) Logs of ships of the United States containing entries required to be made by reason of the Great Lakes Agreement or § 83.368(c) of this part shall be kept at the principal radiotelephone operating location while the vessel is being navigated. All entries in their original form required by said agreement or § 83.368(c) shall be retained on board the vessel for a period of not less than one month from the date of entry. After retention on board the vessel as herein stipulated, the entries shall be filed at a place where they will be readily available to an authorized representative of the Commission upon request, and shall be retained as stipulated by paragraph (a) of this section.

Subpart E—Standard Technical Requirements

§ 83.131 Authorized frequency tolerance.

(a) Unless the particular instrument of authorization specifically provides otherwise, the frequency tolerances authorized for stations on board ships subject to this part shall be as prescribed in paragraphs (b) through (e) of this section.

(b) Authorized frequency tolerances for ship and survival craft stations operating on frequencies below 515 kc/s or within the frequency band 1600–27,500 kc/s:

Frequency ranges	Tolerance Parts in 10^6
(1) From 100 to 515 kc/s (except for transmitters of the classes specified in (2) and (3) below)	1000
(2) From 100 to 515 kc/s; emergency transmitters only, the use of which is confined solely to safety communication as defined in § 83.6(a)	3000
(3) Survival craft stations on 500 kc/s	5000
(4) Ship stations from 1600 to 2070 kc/s and 2080 to 3500 kc/s	200
(5) Ship stations from 2070 to 2080 kc/s	50
(6) Survival craft stations on 2182 kc/s	200
(7) Stations when using frequencies within the band 4000 to 27,500 kc/s:	
Ship stations using class A1 emission	200
Ship stations using other than A1 emission	50
Survival craft stations on 8364 kc/s	200

(c) Authorized frequency tolerances for ship and survival craft stations operating on frequencies above 30 Mc/s:

Frequency ranges	Tolerance Parts in 10^6
(1) From 30 to 50 Mc/s:	
For stations licensed to operate with a plate input power not in excess of 3 watts	200
For all other stations	100
(2) From 100 to 200 Mc/s except for 121.5 Mc/s: [1]	
Until Jan. 1, 1964 for ship stations	50
On and after Jan. 1, 1964 for ship stations	20
(3) Survival craft stations on 121.5 Mc/s	50

[1] Transmitters with a plate power input not in excess of 3 watts are permitted a tolerance of 100 parts in 10^6 until Jan. 1, 1966. After that date a tolerance of 20 parts in 10^6 is applicable.

(d) For stations in the maritime radiodetermination service (other than ship radar stations) the authorized frequency tolerance shall be specified in the instrument of authorization.

(e) The frequency tolerance authorized for ship radar stations is prescribed as follows: The frequency at which maximum emission occurs shall be within the authorized frequency band and shall not be closer than 1.5/T megacycles per second to the upper and lower limits of the authorized frequency band, where "T" is the pulse duration in microseconds.

§ 83.132 Authorized classes of emission.

(a) When the class of emission is specifically designated in the instrument of authorization, stations on board ship subject to this part shall use emission in conformity with the terms of that document. Otherwise, such stations are authorized to employ classes of emission as follows:

Frequency band	*Classes of emission* [1]
(1) Stations using telegraphy:	
100 to 160 kc/s	A1; and for brief testing A0.
160 to 515 kc/s	A1, A2,[2] A2a,[2] A2b; [2] and for brief testing A0.
2065 to 2070 kc/s and 2080 to 25,000 kc/s.	A1; and for brief testing A0. Survival craft stations may, in addition, use class A2 emission.
2070 to 2080 kc/s	Wide band telegraphy, fascimile and special transmission systems. Manual International Morse code and telephony are excluded.
(2) Stations using telephony:	
1600 kc/s to 30 Mc/s [3]	A3, A3a, A3b; for brief operating signals A1, A2, A2a, A2b; and for brief testing A0.
30 to 50 Mc/s	A3, A3a, A3b, F3; for brief operating signals A1, A2, A2a, A2b, F1, F2; and for brief testing A0, F0.
121.5 Mc/s	A2 for survival craft stations.
156 to 174 Mc/s	F3; for brief operating signals F1 and F2; and for brief testing F0.
For other frequencies or frequency bands.	As designated in the station authorization.
(3) Ship-radar stations:	
Above 3000 Mc/s	P0.

(4) Stations of any category not designated in subparagraphs (1), (2), and (3) of this paragraph shall use the class or classes of emission specified in the particular station authorization.

[1] The letter "a" following class A2 or A3 emission means the emission of a single sideband, with reduced carrier. The letter "b" following class A2 or A3 emission means the emission of two independent sidebands, with reduced carrier.

[2] Permissible by keying the modulated emission. Keying the modulating audio frequency only, without interruption of the carrier wave, is not permissible. The use of any audio frequency pulse device such as a so-called "chopper" is prohibited except for stations of survival craft.

[3] See § 83.366 (a) (3).

(b) Classes of emission not authorized in paragraph (a) of this section may be authorized by the Commission in special circumstances, subsequent to a satisfactory showing by the applicant of a need therefor and provided harmful interference will not result from the use thereof. Each application requesting such special authorization shall fully describe the emission desired to be used, shall indicate the emission-bandwidth required for effective operation, and shall state the purpose for which such emission is required.

NOTE: For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2 of this chapter.

§ 83.133 Authorized emission-bandwidths.

(a) When the authorized emission-bandwith is specifically designated in the instrument of authorization, a station on board ship subject to this part shall use emission-bandwidth(s) in conformity with the terms of that document. Otherwise, such stations shall use emission-bandwidths not exceeding those set forth in this section for the respective classes of emission authorized in § 83.132.

(b) The authorized emission-bandwidths hereinafter designated are established in relation to the operational factors set forth in the following subparagraphs:

(1) Class A0 emission means the incidental radiation of an unmodulated carrier wave from a station which is authorized to use normally an amplitude-modulated wave;

(2) Class A1 emission means a carrier wave (without the use of modulating audio frequency) keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters;

(3) Class A2 emission means a carrier wave amplitude-modulated at audio frequency not exceeding 1250 cycles per second, the modulated carrier wave being keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters. (The authorized emission-bandwidths for classes A2, A2a, and A2b emission are designated hereinafter on this basis);

(4) Class A3 emission means a carrier wave amplitude-modulated at audio frequencies corresponding to those necessary for intelligible speech transmitted at conversational speed. (The authorized emission-bandwidths for classes A3, A3a, and A3b emission are designated hereinafter on this basis);

(5) Class F0 emission means the incidental radiation of an unmodulated carrier wave from a station which is authorized to use normally a frequency-modulated wave;

(6) Class F1 emission means a continuous wave (without the use of modulating audio frequency), the frequency of which is alternately shifted between the normal value and another specific value, by keying normally for telegraphy, so as to transmit intelligence in the International Morse Code. The authorized bandwidth for class F1 emission is designated hereinafter on the basis of the bandwidth authorized for class F2 emission;

(7) Class F2 emission means a continuous wave frequency-modulated at such audio frequency and with such deviation ratio as to not exceed the authorized emission-bandwith, the modulating frequency being keyed normally for telegraphy so as to transmit intelligence in the International Morse Code at a speed not exceeding 40 words per minute, with the average word composed of 5 letters;

(8) Class F3 emission means a continuous wave frequency-modulated at audio frequencies corresponding to those necessary for intelligible speech transmitted at conversational speed, with a deviation ratio of any value necessary for effective communication, provided the resulting emission shall not exceed the authorized emission-bandwidth;

(9) The keying of a carrier wave or the amplitude modulation of a carrier wave by means of audio or sub-audible frequency or frequencies, so as to transmit in each instance a selective-signalling code intended to acuate a selective-calling device, shall be construed as class A1 emission or class A2, A2a, or A2b emission, respectively, within the limits of the respective authorized emission-bandwidths hereinafter set forth: *Provided*, That for class A2, A2a, or A2b emission, the frequency of modulation does not exceed 1300 cycles per second on radio-channels authorized for telegraphy, nor 3000 cycles per second on radio-channels authorized for telephony;

(10) The frequency-shift keying of a carrier wave or the frequency-modulation of a carrier wave at audio or sub-audible frequency or frequencies, so as to transmit in each instance a selective signalling code intended to actuate a selective-calling device, shall be construed as class F1 emission or class F2 emission, respectively, within the limits of the respective authorized emission-bandwidths hereinafter set forth: *Provided*, The frequency deviation used, and in the case of class F2 emission the modulating frequency or frequencies used, is (are) such that the emission in fact does not exceed the respective authorized emission-bandwidth;

(11) Class P0 emission means pulse transmission with the absence of any modulation intended to carry information, as used by ship-radar stations licensed by the Commission.

(c) (1) The authorized emission-bandwidths for the classes of emissions authorized in § 83.132 shall be as follows:

Class of emission	Emission designator	Emission-bandwidth authorized for transmission of intelligence
A0	None	None.
A1	0.16A1	224 cycles per second.
A2	2.66A2	2724 cycles per second.
A2a	1.33A2a	1362 cycles per second.
A2b	2.66A2b	2724 cycles per second.
A3	6A3	8000 cycles per second.
A3a	3A3a	4000 cycles per second.
A3b	6A3b	8000 cycles per second.
F0	None	None.
F1:		
For 30 to 50 Mc/s	Variable [1]	40000 cycles per second.
For 156 to 174 Mc/s	do [1]	Do.
F2:		
For 30 to 50 Mc/s	36F2	Do.
For 156 to 174 Mc/s	36F2	Do.
F3:		
For 30 to 50 Mc/s	36F3	Do.
For 156 to 174 Mc/s	36F3	Do.
P0	Variable [2]	Variable.[2]
Wideband telegraphy, facsimile and special transmission systems:		
For 2070 to 2080 kc/s	do	Variable but not to exceed 5000 cycles per second.

[1] In the case of Class F1 emission, the emission designator will vary according to the frequency deviation, the number of words per minute, and other factors involved.

[2] In the case of Class P0 emission, the emission designator and the authorized emission-bandwidth will vary according to the specific values of the controlling technical factors. Reference may be made to individual station authorizations which specify therein the respective emission designator and the respective authorized emission-bandwidth. Note also the provisions of § 83.131(e) concerning authorized frequency tolerance for radar transmitters.

(2) When a specific "emission designator", as expressed in subparagraph (1) of this paragraph appears in a station authorization applicable to any station subject to this part, such designator specifies, for that station and for the particular radio-channel(s) involved, the corresponding authorized emission-bandwidth as set forth in subparagraph (1) of this paragraph.

(3) In the actual operation of a ship station, unless otherwise provided by the station authorization:

(i) When a carrier is present, the frequency coinciding with the center of the frequency-band occupied by the emission-bandwidth shall, when class A2, A2b, A3, F2, or F3 emission is being used, be the same as the carrier frequency;

(ii) When a carrier is not present, the frequency-band occupied by the emission-bandwidth shall be within the authorized frequency-band.

(d) Bandwidths in excess of those set forth in paragraph (c) of this section or emission-bandwidths for other classes of emission may be authorized and set forth in the instrument of authorization if approved by the Commission subsequent to a satisfactory showing by the applicant of need therefor. Each application requesting such special authorization shall fully describe the emission desired to be used, shall indicate the emission-bandwidth required for effective operation, and shall state the purpose for which such emission-bandwidth is required.

§ 83.134 Authorized transmitter power.

(a) Stations on board ship subject to this part may use such antenna power as is necessary to carry on the service for which the station is licensed, on condition that the maximum authorized transmitter power shall, subject to the provisions of § 83.110(a), not be exceeded; and on condition that the minimum authorized transmitter power shall not be less than that designated in paragraph (c) of this section. Unless the station authorization specifically provides otherwise, the maximum authorized transmitter power (as defined in § 83.7(v)) shall not exceed the particular power set forth in paragraphs (b) through (h) of this section which is applicable under the controlling factors designated therein in direct relation to that power. Unless the station license specifically provides otherwise, the minimum authorized transmitter power shall not be less than the particular power set forth in paragraph (c) of this section.

(b) For ship stations on board passenger vessels of 5000 gross tons and over, the maximum authorized transmitter-power is set forth as follows:

For telegraphy below 25000 kc/s: 8000 watts (with or without modulation).

For telephony below 25000 kc/s:

Class of radiofrequency amplifier used in last radio stage of transmitter	Maximum authorized transmitter-power in watts (when no modulation is present)			
	2000 to 4000 kc/s band, except on U. S. inland waters [1]		4000 to 25000 kc/s band, except on U. S. inland waters [1]	2000 to 25000 kc/s band, on U. S. inland waters [1]
	Ship to shore	Ship to ship		
Class C—plate or plate and screen-grid modulated	1,000	150	3,000	150
Class C—control, screen, or suppressor-grid modulated	2,000	300	6,000	300
Class C—cathode modulated	1,600	240	4,800	240
Class B—linear	2,000	300	6,000	300
Class BC—high efficiency	1,200	180	3,600	180
Other classes	As specified in the station authorization			

[1] Means for this purpose the Great Lakes area and the Mississippi River (north of Baton Rouge, La.) and connecting inland waters.

(c) (1) For ship stations on board any category of vessel, other than the class of passenger ship prescribed in paragraph (b) of this section, the maximum authorized transmitter power is set forth as follows:

For telegraphy below 25,000 kc/s: 2,000 watts (with or without modulation).

For telephony below 25,000 kc/s:

Class of radiofrequency amplifier used in last radio stage of transmitter	Maximum authorized transmitter-power in watts (when no modulation is present)			
	2000 to 4000 kc/s band, except on U. S. inland waters [1]		4000 to 25000 kc/s band, except on U. S. inland waters [1]	2000 to 25000 kc/s band, on U. S. inland waters [1]
	Ship to shore	Ship to ship		
Class C—plate or plate and screen-grid modulated	400	150	1,000	150
Class C—control, screen, or suppressor-grid modulated	800	300	2,000	300
Class C—cathode modulated	640	240	1,600	240
Class B—linear	800	300	2,000	300
Class BC—high efficiency	480	180	1,200	180
Other classes	As specified in the station authorization.			

[1] Means for this purpose the Great Lakes area and the Mississippi River (north of Baton Rouge, La.) and connecting inland waters.

(2) For ship stations on board any category of vessel, the authorized transmitter power on frequencies between 2000 and 27,500 kc/s assigned for communication by telephony shall not be less than the power designated in the following table: *Provided, however,* That the Commission may specifically license the use of authorized transmitter power less than that specified in the following table for telephone communication on frequencies within the band 2000–4000 kc/s on condition that the applicant or station licensee shall make a satisfactory showing to the Commission that, with the plate (anode) input power to be used (see § 83.7(t)), a minimum radio frequency field intensity of 7.4 millivolts per meter will be obtained on each such frequency at a distance over seawater of one statute mile (over fresh water, the minimum radio frequency field intensity is reduced to 4.8 millivolts per meter at one statute mile) from the ship station independent of the direction in which the ship is headed.

Class of radio frequency amplifier used in last radio stage of transmitter	*Minimum authorized transmitter power in watts (when no modulation is present)*
Class C—Plate, or plate and screen grid modulated.	15.
Class C—Control, screen, or suppressor grid modulated.	30.
Class C—Cathode modulated	24.
Other classes	Equivalent values as specified in the station authorization.

(d) For ship stations and marine-utility stations using telephony on any frequency assignment within the frequency-band 35 Mc/s to 44 Mc/s and employing amplitude modulation (AM):

Class of radio-frequency amplifier used in last radio stage of transmitter	Maximum authorized transmitter-power (when no modulation is present)	
	Ship stations	Marine-utility stations
Class C—plate, or plate and screen-grid modulated	100 watts	10 watts.
Class C—control, screen, or suppressor-grid modulated	200 watts	20 watts.
Class C—cathode modulated	160 watts	16 watts.
Class B—linear	200 watts	20 watts.
Class BC—high efficiency	120 watts	12 watts.
Other classes	As specified in the station authorization	

(e) For ship stations (except marine utility ship stations) using class F3 emission in the band 35–44 Mc/s, the maximum authorized transmitter power is 100 watts. For marine utility ship stations the maximum authorized transmitter power in this band is 10 watts.

(f) For ship stations (except marine utility ship stations) using class F3 emission on any authorized frequency except 156.65 Mc/s in the band 156–174 Mc/s, the maximum authorized transmitter power is 100 watts in Regions 2 and 3, and 40 watts in Region 1. The maximum authorized transmitter power for use on 156.65 Mc/s is 100 watts in the Great Lakes area, and 15 watts in other areas. The maximum authorized transmitter power for marine utility ship stations in the band 156–174 Mc/s is 10 watts.

(g) For stations on board ship which are licensed to transmit on frequencies above 174 Mc/s, the authorized transmitter power shall be specified in the respective station license.

(h)(1) For the purpose of assuring adherence to the requirements of this section or the applicable terms of the station authorization, the authorized transmitter power, with reference to paragraphs (t) and (v) of § 83.7, may be computed for electron tube transmitters by the method set forth in the following subparagraphs: *Provided,* That when the particular transmitter is used for telephony by means of amplitude modulation (class A3 emission and secondarily class A2 or special emission for operating signals) the authorized transmitter power may be measured when modulation is not present.

(2) The authorized transmitter-power shall be the sum of the product(s) obtained by multiplying the indicated anode (plate) voltage, applied to each electron tube of the last radio stage supplying radio-frequency power to the antenna, by the indicated anode (plate) current flowing through each such tube, or shall be the sum of the indicated powers supplied to each such tube.

(3) Indication of the anode (plate) voltage may be accomplished by means of a direct-current type voltmeter (as applicable) or an alternating current type voltmeter of proper frequency range (as applicable), each such instrument having an accuracy and reliability acceptable to the Commission. Where the same voltage is applied to more than one electron tube, indication of this voltage shall be regarded as indication of the voltage applied to each individual electron tube of that particular group.

(4) Indication of the anode (plate) current may be accomplished by means of a direct-current (d'Arsonval galvanometer movement) type ammeter having an accuracy and reliability acceptable to the Commission. Where the anode (plate) current through more than one electron tube flows through a common point in the electrical circuit, indication of the current at this point shall be regarded as indication of the total anode (plate) current flowing through all electron tubes of that particular group.

(5) Indication of the power in watts supplied to the anode (plate) circuit of one or more electron tubes shall be acceptable: *Provided,* A wattmeter properly activated by the form of voltage and current supplied is employed, and has an accuracy and reliability acceptable to the Commission.

(6) When any current, in addition to the anode (plate) current, flows through an ammeter or wattmeter being used for indications in accordance with this paragraph (such as screen-grid current), such current, unless separately indicated or specified by the manufacturer, shall not be deducted from the current measured for the purpose of this paragraph.

§ 83.135 Suppression of interference from receiving apparatus.

(a) The use or operation of any radio receiving system or apparatus on board a ship of the United States (excluding lifeboats and other survival craft) shall not, by reason of emission therefrom, cause harmful interference to any authorized maritime mobile or maritime radiodetermination service or impair the efficiency of any auto alarm or watch on any radiofrequency used for either of these services: *Provided,* That this regulation shall not prevent the use or operation of any radio receiving apparatus or system on board ship when the installation or use thereof is required by act of Congress or any treaty to which the United States is a party unless the Commission finds that the interfering emission from such apparatus or system is capable of:

(1) Creating an electromagnetic field, at a distance over sea water of one nautical mile from the receiver, in excess of the following value(s):

Frequency of interfering emission:	*Field intensity in microvolts per meter*
Below 30 Mc/s	0.1
30 to 100 Mc/s	.3
100 to 300 Mc/s	1.0
Over 300 Mc/s	3.0

or

(2) Delivering more than the following amounts of power, to an artificial antenna having electrical characteristics designated by the Commission as equivalent to those of the average receiving antenna(s) used on shipboard:

Frequency of interfering emission:	*Power into artificial antenna in micromicrowatts*
Below 30 Mc/s	400
30 to 100 Mc/s	4,000
100 to 300 Mc/s	40,000
Above 300 Mc/s	400,000

(b) Any specifically identified type of radio receiving apparatus or system required to be installed or used on board a ship by act of Congress or any treaty to which the United States is a party shall be exempt from any subsequent finding by the Commission pursuant to paragraph (a) (1) and (2) of this section if the Commission, as a result of engineering measurements made relative to emission produced by such type of apparatus or system, finds that such emission, as developed on frequencies to which the provisions of paragraph (a) of this section apply under conditions equivalent to normal use or operation on board ship, is not in excess of the value(s) specified in paragraph (a) (1) and/or (2) of this section.

§ 83.136 Spurious emission limitations.

(a) Spurious emissions originating in transmitters authorized under this part are subject to the limitations set forth in paragraph (b) of this section, which limitations shall be applicable in accordance with paragraphs (c), (d) and (e) of this section.

(b) The power of any spurious emission shall be reduced below the power of the carrier in accordance with the following schedule:

(1) On any frequency removed from the center of the authorized frequency band of emission by between 50 per cent and 100 per cent of the authorized emission bandwidth: at least 25 decibels;

(2) On any frequency removed from the center of the authorized frequency band of emission by between 100 per cent and 250 per cent of the authorized emission bandwidth: at least 35 decibels;

(3) On any frequency removed from the center of the authorized frequency band of emission by more than 250 per cent of the authorized emission bandwidth: by at least the number of decibels equal to $40+10 \log_{10} P$, where P is the maximum "authorized transmitter power" in watts as such power is specifically defined in § 83.7(v) without applying the power tolerance prescribed in § 83.110(a).

(c) Except as outlined in paragraph (d) of this section, the requirements of paragraph (b) of this section shall be applicable as follows:

(1) To any radio transmitter for which type acceptance is requested.

(2) To radio transmitters when operating on any frequency assignment between 30 Mc/s and 500 Mc/s.

(3) To any radio transmitter when operating on any frequency below 30 Mc/s.

(d) The requirements of paragraph (b) of this section shall not apply to:

(1) Survival craft transmitters;

(2) Transmitters authorized in developmental station licenses;

(3) Radiotelegraph transmitters licensed for operation on any frequency assignment below 30 Mc/s prior to January 1, 1959, which are authorized in a station license issued to the same licensee or for a station on board the same vessel;

(4) Other radio transmitters licensed for operation on any frequency assignment below 30 Mc/s prior to January 1, 1959, which are authorized in a station license issued to the same licensee or for a station on board the same vessel until they are authorized in a new or renewed station license issued in response to an application filed after June 1, 1963.

(5) Other radio transmitters leased for operation on board a vessel and licensed for operation on any frequency assignment below 30 Mc/s prior to January 1, 1959, which are subsequently leased by the same lessor for use by a station or stations on board another vessel or other vessels until they are authorized in a new or renewed station license issued in response to an application filed after June 1, 1963.

(e) When an emission outside of the authorized emission bandwidth causes harmful interference to an authorized service the Commission may require more attenuation of such emission than specified in paragraph (b) of this section.

§ 83.137 Special requirements for radiotelephone transmitters.

(a) In order to be type accepted, each radiotelephone transmitter shall automatically prevent modulation in excess of 100 percent. This requirement, however, shall not apply to transmitters licensed for an authorized transmitter power not exceeding three watts or to survival craft station transmitters. In the event the operation of any licensed radiotelephone transmitter causes harmful interference to any authorized radio service by reason of excessive modulation, the Commission may, in its discretion, require that the use of such transmitter be discontinued until it will automatically prevent modulation in excess of 100 percent.

(b) Each radiotelephone transmitter of a ship station or a marine-utility station shall be type accepted by the Commission prior to its operation by any unlicensed person pursuant to the provisions of § 83.155(a). In addition to complying with all other applicable rules and regulations such a transmitter shall meet the following requirements:

(1) Operation of the transmitter shall require only the use of simple external switching devices excluding all manual adjustment of radio frequency determining elements;

(2) The required radio frequency stability of the transmitter must be maintained (at all times during such operation by an unlicensed person) by the transmitter itself;

(3) None of the operations necessary to be performed during the course of normal rendition of service to the station shall be capable of causing any radiation of emission on an unauthorized frequency; and

(4) The transmitter shall automatically prevent modulation in excess of 100 per cent.

§ 83.138 Special requirements for ship radar transmitters.

(a) Each radar transmitter authorized in a ship-radar station (other than in a developmental station) must be type-approved by the Commission, pursuant to the type approval procedure set forth in Part 2 of this chapter. In addition to meeting all other applicable requirements such transmitters shall comply with the following limitations and conditions:

(1) The design and construction of the radar transmitter shall be such that, when properly installed, its use will not produce harmful interference to any other radiodetermination service or any maritime mobile service;

(2) The radar transmitter shall not have means available for any external adjustment which can result in a deviation from the terms of the station authorization or any deviation from the applicable technical requirements for ship-radar stations stipulated in this part.

§ 83.139 Transmitters required to be type accepted for licensing.

(a) Each radiotelephone transmitter authorized in a ship station or marine-utility station license (other than transmitters authorized solely for developmental stations) must be type accepted by the Commission. This requirement shall be applicable as follows:

(1) To transmitters when operating on any frequency assignment above 30 Mc/s;

(2) To transmitters when operating on any frequency assignment, including any assignment below 30 Mc/s. However, until requested to be authorized in a new or renewal license issued in response to an application filed after June 1, 1963, transmitters licensed under this part prior to January 1, 1959, may (insofar as this requirement is concerned) continue to be authorized for operation on any frequency assignment below 30 Mc/s if authorized in a station license issued to the same licensee or for a station on board the same vessel, or if under lease and authorized in a station license prior to January 1, 1959, and subsequently leased by the same lessor for a station or stations on board another vessel or other vessels.

(b) Each survival craft station transmitter which has not been type approved pursuant to § 83.520 shall be type accepted for licensing.

§ 83.140 Type acceptance of equipment.

(a) Any manufacturer of a radio transmitter intended for use or used in ship stations, marine utility stations, or survival craft stations may request type acceptance for such transmitters by following the type acceptance procedure set forth in Part 2 of this chapter: *Provided, however,* That the provisions of this section do not apply to transmitters provided for compliance with the radiotelegraph requirements of title III, part II of the Communications Act of 1934.

(b) Type acceptance of a radio transmitter may be requested also by an applicant for a station authorization by following the type acceptance procedure set forth in Part 2 of this chapter. Such transmitters, if type accepted, are not normally included in the Commission's "Radio Equipment List, Part C", but are individually identified on the station authorization.

§ 83.141 Special requirements for survival craft stations.

(a) Equipment provided for use in survival craft stations shall, if capable of transmitting on:

(1) The frequency 500 kc/s, be able to use class A2 emission;

(2) The frequency 2182 kc/s, be able to use class A3 emission;

(3) The frequency 8364 kc/s, be able to use class A2 emission;

(4) The frequency 121.5 Mc/s, be limited to class A2 emission.

(b) If a receiver is provided, it shall be capable of receiving the frequency and types of emission which the transmitter is capable of using: *Provided,* That if the transmitter frequency is 8364 kc/s the receiver shall be capable of receiving A1 and A2 emission throughout the band 8320–8745 kc/s: *And further provided,* That if the transmitter frequency is 121.5 Mc/s, the receiver shall be capable of receiving A3 emission.

(c) Survival craft transmitters operating on the frequency 500 kc/s or on the frequency 8364 kc/s shall be capable of manual keying. If provisions are made for automatically transmitting the radiotelegraph alarm signal or the radiotelegraph distress signal, such provisions shall meet the requirements of § 83.557 (b)(4) (i), (ii), (v), and (vi).

§ 83.142 Apparatus for generating automatically the radiotelephone alarm signal.

(a) Any device for generating the radiotelephone alarm signal (as defined by § 83.245(b)) by automatic means shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress call and message. The device shall comply with the following requirements:

(1) The tolerance of the frequency of each tone shall be plus or minus 1.5 percent;

(2) The tolerance on the duration of each tone shall be plus or minus 50 milliseconds;

(3) The interval between successive tones shall not exceed 50 milliseconds;

(4) The ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2.

(b) Except for experimental or trial operation under developmental station authorization, any device for generating the radiotelephone alarm signal by automatic means, which is used or operated by a mobile station subject to this part for transmission of that signal, shall be of a type specifically approved by the Commission in respect to its accuracy, reliability, and other relevant characteristics.

Subpart F—Operator Requirements

§ 83.151 Authorized operator required.

(a) Except as otherwise provided in § 83.155, the actual operation of all transmitting apparatus in any radio station in the maritime mobile or maritime radiolocation service on board a ship of the United States shall be carried on only by a person holding an operator license issued by the Commission in accordance with Part 13 of this chapter.

(b) When the station is a public ship station used for telephony, the person actually operating the station shall, if authorized by the station licensee or the master (acting in this respect as the station licensee's agent), and subject to the priority of communication set forth in § 83.177, permit any person to speak over the station microphone: *Provided,* That such person actually operating the station shall continue to exercise his control so as to insure the continued proper operation of the station.

(c) When the station is a limited ship station used for telephony, the person actually operating the station may, if authorized by the station licensee or the master (acting in this respect as the station licensee's agent), and subject to the priority of communications set forth in § 83.177, permit any person to speak over the station microphone: *Provided,* That such person actually operating the station shall continue to exercise his control so as to insure the continued proper operation of the station.

(d) For the purpose of paragraphs (b) and (c) of this section, any microphone, without regard to its location on board ship, may be construed to be the station microphone when it is electrically connected to the modulating system of the radiotelephone transmitting apparatus.

§ 83.152 Operator required by law for safety.

(a The radio installation required by Part II of Title III of the Communications Act or by the Safety Convention, for purposes of safety on board a ship of the United States, shall be in charge of and shall be operated only by one or more qualified operators who shall be subject to the lawful authority of the master.

NOTE: A qualified operator for the purpose of this section on a ship of the United States is a person holding a radio operator's license of the proper class, as prescribed and issued by the Commission. See Part 13 of this chapter and/or any applicable orders promulgated by the Commission.

(b) Each cargo ship of the United States required by Part II of Title III of the Communications Act to be fitted with a radiotelegraph installation and not exempted therefrom by the Commission, which is not fitted with an auto-alarm, and each passenger ship required by that statutory provision to be fitted with a radiotelegraph installation and not exempted therefrom by the Commission, shall, for safety purposes, carry at least two qualified operators.

(c) Each cargo ship of the United States required by Part II of Title III of the Communications Act to be fitted with a radiotelegraph installation and not exempted therefrom by the Commission, which is fitted with an auto-alarm in accordance with that statutory provision, shall, for safety purposes, carry at least one qualified operator who shall have had at least six months previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States.

(d) Each cargo ship of the United States required by Part II of Title III of the Communications Act to be fitted with a radiotelephone installation and not exempted therefrom by the Commission, shall, for safety purposes, carry at least one qualified operator holding an operator's license issued by the Commission which is appropriate for the purpose under the provisions of Part 13 of this chapter.

(e) Each vessel of the United States transporting more than six passengers for hire, which is required by Part III of Title III of the Communications Act to be equipped with a radiotelephone installation and not exempted therefrom by the Commission, shall, for safety purposes, carry at least one qualified operator holding an operator's license issued by the Commission which is appropriate for the purpose under Part 13 of this chapter.

§ 83.153 Operator required by Safety Convention.

(a) Each ship of the United States which is not subject to Part II of Title III of the Communications Act but which is required by the radio provisions of the Safety Convention to be fitted with a radiotelegraph installation, which has not been exempted therefrom by the Commission, shall, for safety purposes, carry at least the number of qualified operators specified in subparagraphs (1) and (2) of this paragraph. A qualified operator for this purpose is a person holding an operator's license issued by the Commission which is appropriate for the purpose under the provisions of Part 13 of this chapter.

(1) If fitted with an auto-alarm in proper operating condition at least one qualified operator shall be carried, except that at least two qualified operators shall be carried in the case of a passenger ship carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours duration between two consecutive ports.

(2) If not fitted with an auto-alarm at least two qualified operators shall be carried.

(b) Each cargo ship of the United States which is not subject to Part II of Title III of the Communications Act but which is required by the radio provisions of the Safety Convention to be fitted with a radiotelephone installation which has not been exempted therefrom by the Commission, shall, for safety purposes, carry at least one qualified operator holding an operator's license issued by the Commission which is appropriate for the purpose under the provisions of Part 13 of this chapter.

§ 83.154 Location of authorized operator.

(a) Whenever the transmitting apparatus of a station in the maritime mobile service subject to this part is being used or operated, and the provisions of section 318 of the Communications Act (insofar as such provisions require the actual operation of such apparatus only by a person holding an operator's license of the proper class issued by the Commission) are not waived by the Commission, at least one person holding an operator license of the proper class as prescribed in Part 13 of this chapter shall be on duty at the place where such transmitting apparatus is located, and, subject to the lawful authority of the master, shall be in charge of the station: *Provided,* That in lieu of the transmitter location, such operator may be on duty at a different location on the ship when:

(1) Such apparatus is installed and protected so that it is not accessible to and may not be placed in an operating condition by other than duly authorized persons; and

(2) The transmitting and associated receiving apparatus can be operated from such other location in a manner which will fully comply with all applicable rules of the Commission (in particular § 83.104) and the terms of the station license; and without any delay in normal operation being introduced by such arrangement.

§ 83.155 Waivers of operator license.

(a) *For VHF telephony.* Subject to the conditions hereinafter stated, the provisions contained in section 318 of the Communications Act are waived, insofar as such provisions require any person to hold an operator's license in order to operate, during the course of normal rendition of service, any ship station (including a developmental ship station) or marine-utility station on board ship, in the maritime mobile service, when such station is authorized to use telephony only and further is authorized to be operated exclusively on one or more radio-channels above 30 Mc/s: *Provided:*

(1) The person who operates the transmitting equipment is the station licensee or is authorized by the station licensee to do so, and the use of the station during such operation is subject to the lawful direction and authority of the person who, at the time, occupies the position of the master of the ship on which the station is located;

(2) The station uses one or more of the following classes of emission only: A3 or F3 for telephony; and on the same radio-channels as are authorized for telephony A0, A2, F0, F2 solely for transmitting by automatic means attention-signals, signals for actuating selective-calling devices, for brief testing of the authorized apparatus, or station identi-

fication, or signals in an emergency involving safety;

(3) The station is authorized to use transmitting equipment only of a type which is acceptable to the Commission for operation in this service by unlicensed persons in accordance with this paragraph;

(4) The transmitting equipment operated by an unlicensed person in accordance with this paragraph is not required on board the ship for safety purposes by any statutory provisions or by any international agreement or treaty in force;

(5) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of the station that may affect its proper operation shall be made by or under the immediate supervision and responsibility of a person holding an operator license of the proper class for this purpose as prescribed in Part 13 of this chapter who shall be responsible for the proper functioning of the station equipment;

(6) Subsequent to any transmitter adjustments made in accordance with subparagraph (5) of this paragraph, and at all other times, the station licensee shall be responsible for determining that the transmitting equipment continues to meet the conditions established by the Commission relative to acceptance of the particular type of equipment for the purpose of operation by unlicensed persons;

(7) The station licensee or the person(s) authorized by the licensee to operate the station shall, in lieu of a licensed operator, comply with the provisions of § 83.154 as though he were a licensed operator;

(8) Nothing contained in this paragraph shall be construed to change or diminish in any respect the responsibility of the station licensee for having and maintaining control of the station or for proper functioning and operation of the station in accordance with law;

(9) No unlicensed person, authorized as provided by this paragraph to operate a station, may lawfully perform any act in relation to such station that he could not lawfully perform if he were acting under the authority of a radio operator license issued in his behalf by the Commission.

(b) *For ship radar.* (1) No radio operator license is required for the operation on board ship, during the course of the normal rendition of service, of ship radar stations: *Provided,* That the following conditions are met or provided for by the licensee of the station:

(i) The radar equipment shall employ as its frequency determining element a non-tunable, pulse-type magnetron;

(ii) The radar equipment shall be capable of being operated during the course of normal rendition of service in accordance with the radio law and the rules and regulations of the Commission by means of exclusively external controls, and

(iii) Operation during the course of normal rendition of service pursuant to this subparagraph (1), must be performed exclusively by the master of the radar-equipped ship or by one or more other persons responsible to him and authorized by him to do so.

(2) All adjustments or tests during or coincident with the installation, servicing, or maintenance of the equipment while it is radiating energy must be performed by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license, radiotelephone or radiotelegraph, containing a ship-radar endorsement, who shall be responsible for the proper functioning of the equipment in accordance with the radio law and the Commission's rules and regulations and for the avoidance and prevention of harmful interference from improper transmitter external effects: *Provided, however,* That nothing in this subparagraph shall be construed to prevent persons not holding such licenses or not holding such licenses so endorsed from making replacements of fuses or of receiving-type tubes.

(3) Nothing in this subparagraph shall be construed to change or diminish in any respect the responsibility of any ship radar station licensee for having and maintaining control over the station licensed to him, or for the proper functioning and operation of such station in accordance with the terms of the station license.

(c) *For survival craft.* No radio operator license is required for the operation of a survival craft station while it is being used solely for survival purposes.

§ 83.156 Posting of operator license.

When a licensed operator is required for the operation of a station subject to this part, the original license of each such operator while he is employed or designated as radio operator of the station shall be posted in a conspicuous place at the principal location on board ship at which the station is operated: *Provided,* That in the case of stations of a portable nature, including marine-utility stations, or in the case where the operator holds a restricted radiotelephone operator permit, the operator may in lieu of posting have on his person either his required operator license or a duly issued verification card (FCC Form 758-F) attesting to the existence of that license.

§ 83.157 Adjustment or test of equipment.

Notwithstanding any other provisions of this subpart (except § 83.155(b)(2) which specifically covers ship radar stations), all adjustments or tests of radio transmitting apparatus in any station subject to this part during or coincident with the installation, servicing, or maintenance of such apparatus which may affect the proper operation of such station, must be performed by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license, either radiotelephone or radiotelegraph as may be appropriate for the class of station involved, who shall be responsible for the proper functioning of the station equipment.

§ 83.158 Certified persons required by Great Lakes Agreement.

(a) For the purpose of complying with Article 7, paragraph 1(a) of the Great Lakes Agreement, there shall be on board a United States vessel, as an officer or member of the crew, one or more persons holding an operator's license issued by the Commission which is appropriate for that purpose under the provisions of Part 13 of this chapter.

(b) If the vessel is deprived of the services of all certified persons referred to in paragraph (a) of this section without fault or collusion of the master, the vessel may, as a matter of temporary expediency, proceed on her voyage, provided:

(1) The master shall exercise due diligence in an effort to obtain at least one qualified replacement before sailing and failing that shall exercise due diligence to obtain at least one qualified replacement as soon as practicable;

(2) The qualified replacement is made at the destination on the Great Lakes of the vessel;

(3) In addition to the foregoing, the master shall, within 12 hours after the time of arrival of the vessel at the destination, mail to the Secretary, Federal Communications Commission, Washington, D.C., 20554, an explanation in writing of the full particulars in the matter, including the date the master became aware of the unavailability of the certified person or persons, the scheduled and the actual sailing time of the vessel without a certified person on board, a specific description of his efforts to secure at least one qualified replacement before sailing; and in the case of a vessel whose destination is on the Great Lakes, a statement that a qualified replacement has been or will be secured before the ship again leaves such port.

Subpart G—General Operating Requirements

§ 83.171 International regulations applicable.

In addition to being regulated by applicable rules of this part, the use and operation of stations subject to this part shall be governed by applicable provisions of the International Radio Regulations and the applicable radio provisions of all other international agreements in force to which the United States is a party.

§ 83.173 Authority of the master.

(a) Except as may be regulated by law or international agreement or by the rules of the Commission, the service of each station on board ship shall at all times be under the supreme control of the master, who shall require that each operator of such station comply with the International Radio Regulations in force and that the ship station for which the operator is responsible is used, at all times, in accordance with those regulations.

(b) However, during any period in which the Department of Defense lawfully may exercise and is in fact lawfully exercising emergency controls over United States merchant shipping, no provisions of the Commission's rules and regulations shall prevent the master of any ship of the United States from taking any action whatsoever in regard to the radio installation, the operators, the transmission and receipt of messages,

and the radio service of the ship whenever in his discretion such action is necessary to carry out instructions of the Department of Defense.

§ 83.174 Secrecy of communication.

The master or the person responsible, as well as all persons who may have knowledge of the text or even of the existence of the radio communications transmitted or received by a station on board ship or of any information whatever obtained by means of the radiocommunication service of such station, shall be under the obligation of observing and insuring the secrecy of communications to the extent required by the Communications Act and the International Radio Regulations.

NOTE: See secs. 501, 502, and 605 of the Communications Act; also Article 17 of the International Radio Regulations, Geneva, 1959.

§ 83.175 Intercommunication in mobile service.

Each ship station in the maritime mobile service at sea shall, within the scope of its normal operations, be bound to exchange radio communications or signals with any other ship station or aircraft station in the maritime mobile service at sea or with any public coast station in the maritime mobile service: *Provided,* That such exchange of radio communications shall be without distinction as to radio systems or instruments adopted by each station.

§ 83.176 Priority of communications to be observed.

Ship stations in the maritime mobile service shall observe at all times the priority of communications set forth in § 83.177; in particular, all such stations shall give absolute priority to radio communications or signals relating to any ship or aircraft in distress; shall, when any distress signal or communication is anticipated or intercepted; cease all transmission on frequencies which may interfere with any station hearing such radio communication or signal of distress except when engaged in answering or aiding the ship or aircraft in distress, and shall assist the vessel or aircraft in distress, so far as possible, by complying with its instructions.

§ 83.177 Order of priority of communications.

(a) The order of priority of radiotelegraph communications in the maritime mobile service on any frequency used for this service shall be as follows:

(1) Distress calls (including the international distress signal for radiotelegraphy),[1] the international radiotelegraph alarm signal,[2] the international radiotelephone alarm signal,[2] distress messages, and distress traffic.

(2) Communications preceded by the international radiotelegraph urgency signal.

(3) Communications preceded by the international radiotelegraph safety signal.

(4) Communications relative to radio direction-finding bearings.

(5) Communications relative to the navigation and safe movement of aircraft.

(6) Communications relative to the navigation, movements, and needs of ships; including weather observation messages destined for an official meteorological service.

(7) Government communications for which priority right has been claimed.

(8) Service communications relating to the working of the radio-communication service or to communications previously transmitted.

(9) All other communications.

(b) The order of priority of radiotelephone communications in the maritime mobile service on any frequency used for this service shall be as follows:

(1) Distress calls (including the international distress signal for radiotelephony),[1] the international radiotelephone alarm signal,[2] distress messages, and distress traffic.

(2) Communications preceded by the international radiotelephone urgency signal, or known to the station licensee or his agent to consist of one or more urgent messages concerning the safety of a ship, aircraft, or other mobile unit or of some person on board or within sight of the ship, aircraft, or mobile unit.

(3) Communications preceded by the international radiotelephone safety signal, or known to the station licensee or his agent to consist of one or more messages concerning the safety of navigation or important meteorological warnings.

(4) Communications known by the station licensee or his agent to consist of one or more messages relative to the navigation, movements, and needs of ships; including weather observation messages destined for an official meteorological service.

(5) Government communications for which priority right has been claimed.

(6) All other communications.

§ 83.178 Unauthorized transmissions.

Stations subject to this part shall not:

(a) Engage in superfluous radiocommunication;

(b) Use selective calling on 2182 kc/s or 156.8 Mc/s;

(c) When using telephony, transmit a general call or transmit signals or communications not addressed to a particular station or stations: *Provided,* That this provision is not applicable to the transmission of distress, alarm, urgency, or safety signals, or to messages preceded by one of these signals;

(d) When using telegraphy, transmit a general call or transmit signals or communications not addressed to a particular station or stations, unless the transmission is preceded by CQ or CP in accordance with the International Radio Regulations, or by distress, alarm, urgency, or safety signals.

§ 83.179 Control by coast or government station.

When communicating with a coast station or any government station in the maritime mobile service, ship stations shall, except when transmitting distress signals or controlling distress traffic, comply with instructions given by the coast station or government station relative to the order and time of transmission, to the choice of authorized frequency, to the suspension of communication, and to the permissible type of message traffic that may be transmitted or received by the particular coast station or government station. This provision, however, does not apply in the event of distress, either actual or impending.

§ 83.180 Cooperative use of frequency assignments.

Unless provided otherwise in this part, or in the particular station authorization, each radio-channel authorized for use by a station on board ship subject to this part is available for such use on a shared basis only and shall not be construed as available for the exclusive use of any one station or any one station licensee. All station licensees shall cooperate in the use of their respective frequency assignment in order to minimize interference and obtain the most effective use of the authorized radio-channels.

§ 83.181 Prevention of interference.

(a) From the standpoint of interference the operation of a ship radio station (including receiving equipment, auto-alarm, and direction-finder) required by law to be installed on board a vessel for safety purposes, shall have priority over the operation of any other radio apparatus on board the same vessel.

(b) Before commencing transmission (other than signals of distress) a ship station shall, insofar as is practicable, make sure that it will not cause interference to communications in the maritime mobile service being carried on within its range. For this purpose, the operator attending the station shall, before commencing transmission, use the necessary receiving installation to listen on the appropriate frequency or frequencies. If interference is likely, the station shall wait until the existing communications, which it may disturb, have been concluded; with due regard, nevertheless, for the priority of communications designated in § 83.177.

(c) Whenever a radiocommunication in the maritime mobile service is already in progress between two mobile stations or between a mobile station and a coast station and it appears to be interfered with by a subsequent transmission from another mobile station, the latter must cease transmitting at the first request of either of the other two, except as priority may be otherwise determined by § 83.177. The station requesting this cessation must indicate the approximate length of the wait imposed upon the mobile station whose transmission is suspended.

(d) Except in cases of distress, communications between ship stations or between ship and aircraft stations must not interfere with the work of public coast stations. When this work is thus

[1] See § 83.234 for definition of this signal.
[2] See § 83.245 for definition of this signal.

interfered with, the ship or aircraft station which causes it must stop transmitting or change frequency upon the first request of the coast station concerned.

(e) Ship stations when operating on a frequency below 3500 kilocycles or above 30 Mc shall not carry on, or attempt to carry on, communication with any station which, under the currently prevailing conditions of transmission or reception, is not within reliable communication range of the ship station: *Provided,* That this provision shall not apply in event of distress, either actual or impending.

§ 83.182 Suspension of transmission.

Transmission shall be suspended immediately upon detection by the station or operator licensee, or upon notification by the Commission, of a deviation from the technical requirements of the station authorization, and shall remain suspended until such deviation is corrected, except for transmission concerning the immediate safety of life or property, in which case transmission shall be suspended as soon as the emergency is terminated.

§ 83.183 Hours of service of ship stations.

(a) Ship stations whose service is not continuous may not close before:

(1) Finishing all operations resulting from a distress call, or urgency or safety signal;

(2) Exchanging, so far as practicable and within the scope of their normal operation, all traffic originating in or destined for public coast stations situated within their range and mobile stations which, being within their range, have indicated their presence before the actual cessation of communication.

§ 83.184 Maintenance of station log.

(a) Each station on board ship subject to this part which is required, under the provisions of this part pertaining to the particular class of station, to keep a radio station log, shall in addition, comply with the applicable provisions of paragraphs (b) and (c) of this section; the station licensee and the licensed radio operator (when a licensed radio operator is required) in charge of the station shall be responsible for compliance with this section.

(b) The log shall be kept in an orderly manner, in useable form, and in such detail that the information required for the particular class of station concerned is readily available. Key letters or abbreviations may be used if their proper meaning or explanation is contained elsewhere in the same log.

(c) The station log or any portion thereof shall not be erased, obliterated, or wilfully destroyed within the period of retention required by § 83.115. However, during this period any necessary correction may be made of such log but only by the person originating the entry and that person shall strike out the erroneous portion, initial the correction made, and indicate the date of correction.

Subpart H—Watches and Auto Alarms for Safety Purposes

§ 83.201 Watch required during silence periods.

(a) All ship stations employing telegraphy and normally keeping watch on frequencies in the authorized bands between 405 and 535 kc/s shall, during their hours of service, take the necessary measures to insure an efficient watch by a duly licensed radiotelegraph operator on the international distress frequency 500 kc/s for three minutes twice each hour, beginning at x h. 15 and x h. 45, Greenwich mean time (GMT). For this purpose, either headphones or a loudspeaker may be used, on condition that use of the loudspeaker is no less effective than use of headphones. While maintaining this watch, the operator shall not use or operate any radio equipment (such as, for examples, broadcast receivers, or amateur transmitters or receivers) not actually required for maritime mobile service.

(b) When in Regions 1 and 3 (except in the territorial waters of Japan and the Philippines) all ship stations employing telephony and normally keeping watch on frequencies in the authorized band between 1605 and 2850 kc/s shall, during their hours of service, and as far as possible, take steps to keep watch on the international distress frequency 2182 kc/s for 3 minutes twice each hour beginning at x h. 00 and x h. 30, Greenwich mean time.

§ 83.202 Watch required on vessels subject to the Communications Act.

(a) Each ship of the United States which is equipped with a radiotelegraph station for compliance with part II of title III of the Communications Act shall, while being navigated in the open sea outside of a harbor or port, keep a continuous and efficient watch on 500 kc/s by means of radio officers: *Provided, however,* That in lieu thereof on a cargo ship equipped with a radiotelegraph auto alarm in proper operating condition an efficient watch on 500 kc/s shall be maintained by means of a radio officer for at least 8 hours per day in the aggregate, i.e., for at least one-third of each day or portion of each day that the vessel is navigated in the open sea outside of a harbor or port.

(b) Each cargo ship of the United States which is equipped with a radiotelephone station for compliance with part II of title III of the Communications Act shall, while being navigated in the open sea outside of a harbor or port, keep a continuous and efficient watch on 2182 kc/s in the room from which the vessel is normally steered while at sea, whenever such station is not being used for authorized traffic. Such watch shall be maintained by at least one officer or member of the crew of the vessel who has been designated by the master to do so. The person designated by the master may simultaneously perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the effectiveness of the watch.

(c) Each vessel of the United States transporting more than six passengers for hire, which is equipped with a radiotelephone installation for compliance with part III of title III of the Communications Act shall, while being navigated in the open sea or any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, keep a continuous and efficient watch on 2182 kc/s in the case of an installation operating in the 1605–3500 kc/s band, or on 156.8 Mc/s in the case of an installation operating in the 156–174 Mc/s band, whenever such installation is not being used for authorized traffic. Such watch shall be maintained by at least one officer or member of the crew of the vessel who has been designated by the master to do so. The person designated by the master may simultaneously perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the effectiveness of the watch.

§ 83.203 Watch required on vessels subject only to the Safety Convention.

(a) Each ship of the United States which is equipped with a radiotelegraph station for compliance with the Safety Convention, but which is not fitted with a radiotelegraph auto alarm in proper operating condition, shall while at sea keep a continuous and efficient watch on 500 kc/s by means of radio officers. If fitted with a radiotelegraph auto alarm in proper operating condition, such watch shall be kept while at sea as follows:

(1) Each cargo ship, and each passenger ship carrying or certificated to carry 250 passengers or less, or more than 250 passengers but engaged on a voyage of less than 16 hours duration between two consecutive ports, at least 8 hours watch a day in the aggregate;

(2) Each passenger ship carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours duration between two consecutive ports, at least 16 hours watch a day in the aggregate.

(b) Each cargo ship of the United States which is equipped with a radiotelephone station for compliance with the Safety Convention shall, while at sea, keep a continuous and efficient watch on 2182 kc/s in the manner prescribed by § 83.202(b).

§ 83.204 Provisions governing radiotelegraph watch.

(a) For the purpose of keeping the required radiotelegraph watch on 500 kc/s the radio officer shall use the main or reserve receiver, and either headphones or a loudspeaker.

(b) While keeping this watch, the radio officer shall not use or operate any radio equipment (such as, for examples, broadcast receivers or amateur transmitters or receivers) not actually required for maritime mobile service.

(c) During the period of this watch, the radio officer may temporarily interrupt the required watch on 500 kc/s while he is transmitting or receiving signals or messages to or from a station operating in the maritime mobile serv-

ice, but only if it is not feasible to simultaneously handle such traffic and listen on 500 kc/s by split headphones or a loudspeaker. The watch on 500 kc/s shall, however, without exception be maintained by the radio officer during the silence periods.

§ 83.205 Compulsory use of radiotelegraph auto alarm.

The radiotelegraph auto alarm required to be fitted on board a cargo ship subject to the radiotelegraph provisions of part II of title III of the Communications Act or the Safety Convention and provided with but one radio officer, shall be in operation, connected to the main antenna and adjusted for optimum efficiency, at all times while the ship is being navigated in the open sea outside of a harbor or port when a radio officer, except under the circumstances as set forth in § 83.204(c), is not listening on the frequency 500 kc/s.

§ 83.206 Watch required by the Great Lakes Radio Agreement.

Each ship of the United States which is equipped with a radiotelephone installation for compliance with the Great Lakes Radio Agreement shall, while subject to said Agreement, keep a continuous and efficient watch on 2182 kc/s whenever such installation is not being used for authorized traffic on any frequency below 30 Mc/s. Such watch shall be maintained by at least one officer or member of the crew of the vessel who has been designated by the master to do so. The person designated by the master may simultaneously perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the effectiveness of the watch.

Subpart I—General Purpose Watches

§ 83.221 Watch on 500 kc/s.

Ship stations using frequencies in the authorized bands between 405 and 535 kc/s shall, during their hours of service, remain on watch on the calling frequency 500 kc/s except when the operator is transmitting on 500 kc/s, operating the ship station equipment on any other frequency authorized for transmission or reception in the maritime mobile service (including maintenance of the watch on 143 kc/s as provided by § 83.222) if it is not possible for the operator to maintain at the same time, by any practicable means the watch for calls on 500 kc/s. The term "by any practicable means" as used herein shall be construed to include the use of a loudspeaker or a head receiver energized by an additional radio receiver (other than the receiver actually in use for non-watch purposes) which is adjusted or tuned for effective reception on the radio-channel of which 500 kc/s is the assigned frequency. The provisions of this section, however, shall not relieve the ship from complying with the requirements for a safety watch as prescribed in §§ 83.201, 83.202 and 83.203.

§ 83.222 Watch on 143 kc/s.

On condition that compliance with the following requirement shall in no way interrupt or reduce the efficiency of the safety watch prescribed in §§ 83.201, 83.202 and 83.203, each ship station equipped for working by means of class A1 emission on frequencies within the band 90 to 160 kc/s shall, during its hours of service when not engaged in communication with another station of the maritime mobile service, normally keep watch for calls every hour on the frequency 143 kc/s for five minutes beginning at x h. 35, Greenwich mean time (G. M. T.).

§ 83.223 Watch on 2182 kc/s.

(a) Each ship station on board a ship navigating the Great Lakes and licensed to transmit by telephony on one or more frequencies within the band 1600 to 3500 kc/s shall, during its hours of service for telephony, maintain an efficient watch for the reception of class A3 emission on the radio-channel of which 2182 kc/s is the assigned frequency, whenever the station is not being used for transmission on that channel or for communication on other radio-channels.

(b) Except for stations on board vessels required by law to be fitted with radiotelegraph equipment, each ship station (in addition to those ship stations specified in paragraph (a) of this section) licensed to transmit by telephony on one or more frequencies within the band 1600 to 3500 kc/s shall, during its hours of service for telephony, maintain an efficient watch for the reception of class A3 emission on the radio-channel of which 2182 kc/s is the assigned frequency, whenever such station is not being used for transmission on that channel or for communication on other radio-channels. When the ship station is in Region 1 or 3, such watch shall, insofar as is possible, be maintained at least twice each hour for three minutes commencing at x h. 00 and x h. 30, Greenwich mean time (G. M. T.).

Subpart J—Distress, Alarm, Urgency, and Safety

§ 83.231 Applicable regulations.

In addition to the governing provisions of the International Radio Regulations, Geneva, 1959 (see Article 36 thereof) applicable to the transmission and interception of distress, alarm, urgency, and safety signals and messages, mobile stations which are subject to this part shall be governed by this subpart in cases of distress, alarm, urgency, or safety transmissions.

§ 83.232 Authority for distress transmission.

No provision of the International Radio Regulations prevents the use by a mobile station in distress of any means at its disposal to attract attention, make known its position, and obtain help. A distress call and message, however, shall be transmitted only on the authority of the master or person responsible for the mobile station. No person shall knowingly transmit, or cause to be transmitted, any false or fraudulent signal of distress or communication relating thereto.

§ 83.233 Radio channels for distress.

(a) In case of distress, mobile radiotelegraph stations provided with frequencies in the band between 405 and 535 kc/s shall use the international radiotelegraph distress frequency 500 kc/s, with maximum transmitter power obtainable, when requesting assistance from the maritime services; the class of emission to be used if possible shall be A2. Ship radiotelegraph stations which cannot transmit on 500 kc/s should use any other available frequency on which attention might be attracted.

(b) In case of distress, mobile radiotelephone stations provided with frequencies in the authorized bands between 1605 and 4000 kc/s shall use the international radiotelephone distress frequency 2182 kc/s, preferably with class A3 emission, when requesting assistance from the maritime services. Ship radiotelephone stations which cannot transmit on 2182 kc/s should use any other available frequency on which attention might be attracted.

§ 83.234 Distress signals.

(a) The international radiotelegraph distress signal consists of the group "three dots, three dashes, three dots" (. . . — — — . . .), symbolized herein by $\overline{\text{SOS}}$, transmitted as a single signal in which the dashes are slightly prolonged so as to be distinguished clearly from the dots.

(b) The international radiotelephone distress signal consists of the word MAYDAY, pronounced as the French expression "m'aider".

(c) These distress signals indicate that a mobile station is threatened by grave and imminent danger and requests immediate assistance.

§ 83.235 Distress calls.

(a) The distress call sent by radiotelegraphy consists of:

(1) The distress signal $\overline{\text{SOS}}$, sent three times;

(2) The word DE;

(3) The call sign of the mobile station in distress, sent three times.

(b) The distress call sent by radiotelephony consists of:

(1) The distress signal MAYDAY spoken three times;

(2) The words THIS IS;

(3) The call sign (or name, if no call sign assigned) of the mobile station in distress, spoken three times.

(c) The distress call shall have absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission capable of interfering with the distress traffic and shall continue to listen on the frequency used for the emission of the distress call. This call shall not be addressed to a particular station and acknowledgment of receipt shall not be given before the distress message which follows it is sent.

§ 83.236 Distress messages.

(a) The radiotelegraph distress message consists of:

(1) The distress signal $\overline{\text{SOS}}$;

(2) The name of the mobile station in distress;

(3) Particulars of its position;
(4) The nature of the distress;
(5) The kind of assistance desired;
(6) Any other information which might facilitate rescue.

(b) The radiotelephone distress message consists of:
(1) The distress signal MAYDAY;
(2) The name of the mobile station in distress;
(3) Particulars of its position;
(4) The nature of the distress;
(5) The kind of assistance desired;
(6) Any other information which might facilitate rescue (for example, the length, color, and type of vessel; number of persons on board, etc.).

(c) As a general rule, a ship shall signal its position in latitude and longitude (Greenwich), using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST. In radiotelegraphy, the signal . — . — . — shall be used to separate the degrees from the minutes. When practicable, the true bearing and distance in nautical miles from a known geographical position may be given.

§ 83.237. Radiotelegraph distress call and message transmission procedure.

(a) The radiotelegraph distress procedure shall normally consist of the following six steps; however, when time is vital, the second step of this procedure, or even the first and second steps, may be omitted. These two steps of the distress procedure may also be omitted in circumstances where transmission of the alarm signal is considered unnecessary:
(1) The radiotelegraph alarm signal;
(2) The distress call and an interval of two minutes;
(3) The distress call;
(4) The distress message;
(5) Two dashes of ten to fifteen seconds each;
(6) The call sign of the mobile station in distress.

(b) The radiotelegraph distress transmissions shall be sent by means of the International Morse Code at a speed not exceeding 16 words per minute nor less than 8 words per minute.

(c) The distress message, preceded by the distress call, shall be repeated at intervals, especially during the 500 kc/s international silence periods, until an answer is received. The radiotelegraph alarm signal may also be repeated, if necessary.

(d) The transmissions under paragraph (a) (5) and (6) of this section, which are to permit direction finding stations to determine the position of the station in distress, may be repeated at frequent intervals if necessary.

(e) When the mobile station in distress receives no answer to a distress message transmitted on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

§ 83.238 Radiotelephone distress call and message transmission procedure.

(a) The radiotelephone distress procedure shall consist of:
(1) The radiotelephone alarm signal (whenever possible);
(2) The distress call;
(3) The distress message.

(b) The radiotelephone distress transmissions shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

(c) After the transmission by radiotelephony of its distress message, the mobile station may be requested to transmit suitable signals followed by its call sign or name, to permit direction-finding stations to determine its position. This request may be repeated at frequent intervals if necessary.

(d) The distress message, preceded by the distress call, shall be repeated at intervals until an answer is received. This repetition shall be preceded by the radiotelephone alarm signal whenever possible.

(e) When the mobile station in distress receives no answer to a distress message transmitted on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

§ 83.239 Acknowledgment of receipt of distress message.

(a) Stations of the maritime mobile service which receive a distress message from a mobile station which is, beyond any possible doubt, in their vicinity, shall immediately acknowledge receipt. However, in areas where reliable communication with one or more coast stations are practicable, ship stations may defer this acknowledgment for a short interval so that a coast station may acknowledge receipt.

(b) Stations of the maritime mobile service which receive a distress message from a mobile station which, beyond any possible doubt, is not in their vicinity, shall allow a short interval of time to elapse before acknowledging receipt of the message, in order to permit stations nearer to the mobile station in distress to acknowledge receipt without interference.

§ 83.240 Form of acknowledgment.

(a) The acknowledgment of receipt of a distress message is transmitted, when radiotelegraphy is used, in the following form:
(1) The call sign of the station sending the distress message, sent three times;
(2) The word DE;
(3) The call sign of the station acknowledging receipt, sent three times;
(4) The group RRR;
(5) The distress signal $\overline{\text{SOS}}$.

(b) The acknowledgment of receipt of a distress message is transmitted, when radiotelephony is used, in the following form:
(1) The call sign or other identification of the station sending the distress message, spoken three times;
(2) The words THIS IS;
(3) The call sign or other identification of the station acknowledging receipt, spoken three times;
(4) The word RECEIVED;
(5) The distress signal MAYDAY.

§ 83.241 Information furnished by acknowledging station.

(a) Every mobile station which acknowledges receipt of a distress message shall, on the order of the master or person responsible for the ship, aircraft, or other vehicle carrying such mobile station, transmit as soon as possible the following information in the order shown:
(1) Its name;
(2) Its position, in the form prescribed in § 83.236(c);
(3) The speed at which it is proceeding towards, and the approximate time it will take to reach, the mobile station in distress.

(b) Before sending this message, the station shall ensure that it will not interfere with the emissions of other stations better situated to render immediate assistance to the station in distress.

§ 83.242 Transmission of distress message by a station not itself in distress.

(a) A mobile station or a land station which learns that a mobile station is in distress shall transmit a distress message in any of the following cases:
(1) When the station in distress is not itself in a position to transmit the distress message;
(2) When the master or person responsible for the ship, aircraft, or other vehicle not in distress, or the person responsible for the land station, considers that further help is necessary;
(3) When, although not in a position to render assistance, it has heard a distress message which has not been acknowledged. When a mobile station transmits a distress message under these conditions, it shall take all necessary steps to notify the authorities who may be able to render assistance.

(b) The transmission of a distress message under the conditions prescribed in paragraph (a) of this section shall be made on either or both of the international distress frequencies (500 kc/s radiotelegraph; 2182 kc/s radiotelephone) or on any other available frequency on which attention might be attracted.

(c) The transmission of the distress message shall always be preceded by the call indicated below, which shall itself be preceded whenever possible by the radiotelegraph or radiotelephone alarm signal. This call consists of:
(1) When radiotelegraphy is used:
(i) The signal $\overline{\text{DDD}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{DDD}}$;
(ii) The word DE;
(iii) The call sign of the transmitting station, sent three times.
(2) When radiotelephony is used:
(i) The signal MAYDAY RELAY, spoken three times;
(ii) The words THIS IS;
(iii) The call sign or other identification of the transmitting station, spoken three times.

(d) When the radiotelegraph alarm signal is used, an interval of two minutes shall be allowed, whenever this is considered necessary, before the transmission of the call mentioned in subparagraph (c) (1) of this section.

§ 83.243 Control of distress traffic.

(a) Distress traffic consists of all messages relating to the immediate assistance required by the mobile station in distress. In distress traffic, the distress signal shall be sent before the call and at the beginning of the preamble of any radiotelegram.

(b) The control of distress traffic is the responsibility of the mobile station in distress or of the station which, pursuant to § 83.242(a), has sent the distress message. These stations may, however, delegate the control of the distress traffic to another station.

(c) The station in distress or the station in control of distress traffic may impose silence either on all stations of the mobile service in the area or on any station which interferes with the distress traffic. It shall address these instructions "to all stations" or to one station only, according to circumstances. In either case, it shall use:

(1) In radiotelegraphy, the abbreviation QRT, followed by the distress signal SOS. The use of the signal QRT SOS shall be reserved for the mobile station in distress and for the station controlling distress traffic;

(2) In radiotelephony, the signal SEELONCE MAYDAY. The use of this signal shall be reserved for the mobile station in distress and for the station controlling distress traffic.

(d) If it is believed to be essential, any station of the mobile service near the ship, aircraft, or other vehicle in distress, may also impose silence. It shall use for this purpose:

(1) In radiotelegraphy, the abbreviation QRT, followed by the word DISTRESS and its own call sign;

(2) In radiotelephony, the word SEELONCE, followed by the word DISTRESS and its own call sign or other identification.

§ 83.244 Notification of resumption of normal working.

(a) When distress traffic has ceased, or when silence is no longer necessary on a frequency which has been used for distress traffic, the station which has controlled this traffic shall transmit on that frequency a message addressed "to all stations" indicating that normal working may be resumed.

(1) In radiotelegraphy, this message consists of:

(i) The distress signal SOS;

(ii) The call "to all stations" (CQ), sent three times;

(iii) The word DE;

(iv) The call sign of the station sending the message;

(v) The time of handing in of the message;

(vi) The name and call sign of the mobile station which was in distress;

(vii) The service abbreviation QUM.

(2) In radiotelephony, this message consists of:

(i) The distress signal MAYDAY;

(ii) The call "to all stations", spoken three times;

(iii) The words THIS IS;

(iv) The call sign or other identification of the station sending the message;

(v) The time of handing in of the message;

(vi) The name and call sign of the mobile station which was in distress;

(vii) The words SEELONCE FEENEE.

(b) Until they receive the foregoing message indicating that normal working may be resumed, all stations which are aware of the distress traffic, and which are not taking part in it, are forbidden to transmit on the frequencies on which the distress traffic is taking place.

§ 83.245 Radiotelegraph and radiotelephone alarm signals.

(a) The international radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. The purpose of this special signal is the actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency.

(b) The international radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2200 cycles per second and the other a frequency of 1300 cycles per second, the duration of each tone being 250 milliseconds. When generated by automatic means, the radiotelephone alarm signal shall be transmitted continuously for a period of at least 30 seconds, but not exceeding one minute; when generated by other means, the signal shall be transmitted as continuously as practicable over a period of approximately one minute The purpose of this special signal is to attract the attention of the person on watch or to actuate automatic devices giving the alarm.

§ 83.246 Use of alarm signals.

(a) The radiotelegraph or radiotelephone alarm signal, as appropriate, shall only be used to announce:

(1) That a distress call or message is about to follow;

(2) The transmission of an urgent cyclone warning. In this case the alarm signal may only be used by coast stations authorized by the Commission to do so; or

(3) The loss of a person or persons overboard. In this case the alarm signal may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal only, but the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal.

(b) In cases described in subparagraphs (2) and (3) of paragraph (a) of this section, the transmission of the warning or message by radiotelegraphy shall not begin until two minutes after the end of the radiotelegraph alarm signal.

§ 83.247 Urgency signals.

(a) The urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or the safety of a person. The urgency signal shall be sent only on the authority of the master or person responsible for the mobile station.

(b) In radiotelegraphy, the urgency signal consists of three repetitions of the group XXX, sent with the individual letters of each group, and the successive groups clearly separated from each other. It shall be transmitted before the call.

(c) In radiotelephony, the urgency signal consists of the word PAN, spoken three times and transmitted before the call.

(d) The urgency signal shall have priority over all other communications, except distress. All mobile and land stations which hear it shall take care not to interfere with the transmission of the message which follows the urgency signal.

§ 83.248 Urgency message.

(a) The urgency signal and call, and the message following it, shall be sent on one of the international distress frequencies (500 kc/s radiotelegraph; 2182 kc/s radiotelephone). However, stations which cannot transmit on a distress frequency may use any other available frequency on which attention might be attracted.

(b) Mobile stations which hear the urgency signal shall continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, they may resume their normal service. However, land and mobile stations which are in communication on frequencies other than those used for the transmission of the urgency signal and of the call which follows it may continue their normal work without interruption provided the urgency message is not addressed "to all stations" (CQ).

(c) When the urgency signal has been sent before transmitting a message "to all stations" (CQ) and which calls for action by the stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. This message of cancellation shall likewise be addressed "to all stations" (CQ).

§ 83.249 Safety signals.

(a) The safety signal indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings.

(b) In radiotelegraphy, the safety signal consists of three repetitions of the group TTT, sent with the individual letters of each group, and the successive groups clearly separated from each other. It shall be sent before the call.

(c) In radiotelephony, the safety signal consists of the word SECURITY, spoken three times and transmitted before the call.

(d) The safety signal and call shall be sent on one of the international distress frequencies (500 kc/s radiotelegraph; 2182 kc/s radiotelephone). However, stations which cannot transmit on a distress frequency may use any other available frequency on which attention might be attracted.

§ 83.250 Safety message.

(a) The safety signal and call shall be followed by the safety message. Where practicable, the safety message should be sent on a working frequency, and a suit-

able announcement to this effect shall be made at the end of the call.

(b) Except for the cases mentioned in paragraph (c) of this section, the safety signal when sent on the frequency 500 kc/s shall be transmitted towards the end of the first available period of silence; the safety message shall be transmitted immediately after the period of silence.

(c) Messages containing meteorological warnings, or containing information concerning the presence of cyclones, dangerous ice, dangerous wrecks, or any other imminent danger to marine navigation, shall be preceded by the safety signal and transmitted with the least possible delay to other mobile stations in the vicinity, and to the appropriate authorities at the first point of the coast with which contact can be established.

(d) All stations hearing the safety signal shall listen to the safety message until they are satisfied that the message is of no concern to them. They shall not make any transmission likely to interfere with the message.

Subpart K—Foreign Ship Stations in United States Waters

§ 83.261 Inspection of station.

The radio station on board any foreign ship within the territorial jurisdiction of the United States, which is subject to the provisions of any act, treaty, or convention binding on the United States, shall be available at any reasonable time for inspection by representatives of the Commission at such intervals as, within the discretion of the Commission, will insure compliance with the applicable rules, regulations, laws, and treaties.

§ 83.262 Applicability of Part II of Title III of Communications Act.

Those provisions of part II of title III of the Communications Act which require an efficient radio station in operating condition in charge of and operated by one or more radio officers or operators, and with efficient radio direction finding apparatus, are applicable to a ship of any foreign country when such ship leaves or attempts to leave any harbor or port of the United States for a voyage in the open sea, except as otherwise provided by section 352(a) of the said Act.

§ 83.263 Limitations on transmission.

(a) Sections 301 and 318 of the Communications Act, relative to station licenses and operator licenses, respectively, are not applicable to any person sending radiocommunications or signals on a foreign ship while the same is within the jurisdiction of the United States; however, such communications or signals shall be transmitted only in accordance with applicable rules of the Commission intended to prevent interference including, among others, the following subparagraphs:

(1) The frequency or frequencies and the class or classes of emission used shall be available for the operation being conducted pursuant to the allocation of frequencies to radio services and the use of classes of emission established by the International Radio Regulations and pursuant to the terms of all other applicable international treaties and agreements to which the United States is a party;

(2) The operation of the radio apparatus shall not cause interference with the normal communications of other radio services, and only the minimum power necessary for effective communication shall be used;

(3) The station shall comply with the applicable provisions of the International Radio Regulations and other applicable international treaties and agreements to which the United States is a party;

(4) The operation of transmitting apparatus employing B emission is prohibited in any harbor or port of the United States, except that such emission may be used until January 1, 1966 for distress calls and distress traffic only.

(b) Any transmission by a station on board a foreign man-of-war shall, in addition to the provisions of paragraph (a) of this section, be governed also by the following provisions:

(1) Transmission by radio from any foreign man-of-war while the same is within the territorial waters of the United States is prohibited unless authorized by appropriate United States authorities and carried on in conformity with the provisions of paragraph (a) of this section. Normally, a request from a foreign man-of-war to use its radio transmitting apparatus while in United States ports and territorial waters shall be made to one of the United States naval district commandants or, after arrival in port, to the senior United States Navy Officer present. When a Navy Officer is not present, request shall be made to the port authorities, or to the United States Navy at Washington, D. C.

NOTE: The headquarters of District Commandants concerned are located at Boston, New York, Philadelphia, Norfolk; Charleston, South Carolina; San Diego, San Francisco, Seattle; Pearl Harbor, Hawaii; and Balboa, Canal Zone. In addition to having senior naval officers stationed at these places, the Navy has officers performing various duties at practically all other important United States ports.

Subpart L—Message Charges

§ 83.271 Distress messages.

No charge shall be made by any ship or station in the mobile service of the United States for the transmission of distress messages and replies thereto in connection with situations involving the safety of life and property at sea.

§ 83.272 Danger messages.

No charge shall be made by any ship station or other station in the maritime mobile service of the United States for the transmission, receipt, or relay of the information concerning dangers to navigation designated in § 83.303(b), originating on a ship of the United States or of a foreign country.

§ 83.273 Tariff filing required.

No charge shall be made for the service of any station on board ship subject to this part unless effective tariffs applicable to such service are on file with the Commission, pursuant to the requirements of section 203 of the Communications Act and Part 61 of this chapter.

§ 83.274 Responsibility for payment.

(a) Each ship station shall be responsible for the payment of all charges accruing to any other station(s) or facilities for the handling or forwarding of messages or communications transmitted by that station.

(b) The transmission by any ship station of information concerning dangers to navigation, made in compliance with the provisions of § 83.303(b), to any station which imposes a charge for the reception, relay, or forwarding of the required information, shall be free of cost to the ship concerned and any communication charges incurred by the ship for transmission, relay, or forwarding of the information may be certified to the Commission for reimbursement out of moneys appropriated to the Commission for that purpose.

§ 83.275 Ship position reports.

Any common carrier subject to the Communications Act may furnish reports of positions of ships at sea to newspapers of general circulation, either at a nominal charge or without charge, provided the name of such common carrier is displayed along with such ship position reports.

§ 83.276 Free safety service.

Notwithstanding any other provision of law, any ship station may render free service in connection with situations involving the safety of life and property, including hydrographic reports, weather reports, reports regarding aids to navigation and medical assistance to injured or sick persons on ships and aircraft at sea: *Provided*, That the Commission, from time to time under particular circumstances, may impose specific limitations on such free service to the extent that it finds desirable in the public interest.

§ 83.277 Free service for national defense.

Any common carrier subject to the Communications Act may render to any agency of the United States Government free service in connection with the preparation for the national defense. Every such carrier rendering any such free service shall make and file in duplicate, with the Commission, on or before the 31st day of July and on or before the 31st day of January in each year, reports covering the periods of 6 months ending on the 30th day of June and the 31st day of December, respectively, next prior to said dates. These reports shall show the names of the agencies to which free service was rendered pursuant to this paragraph, the general character of the communications handled for each agency, and the charges in dollars which would have accrued to the carrier for such service rendered to each agency if charges for all such communications

had been collected at the published tariff rates.

Subpart M—Nature of Service Provided by Ship Stations and Shipboard Marine-Utility Stations

§ 83.301 Supplemental eligibility requirements.

(a) Subject to the basic eligibility requirements set forth in § 83.23, authorizations for limited ship stations, marine-utility stations, or public ship stations may be granted to any person, or state or local government subdivision; or any agency of the Federal Government which is subject to the provisions of section 301 of the Communications Act: *Provided,* That when the availability of the frequency assignment requested, or any part thereof, is specifically dependent upon the activity and/or the routes of voyage of the vessel, the application shall clearly show eligibility of the vessel for such station authorization under the provisions of this part which govern the assignment of frequencies: *And provided further,* That:

(1) An applicant for an authorization to operate a public ship station must request a frequency assignment on which the transmission of public correspondence is not excluded by any of the provisions of this part (although additionally he may request any other frequency assignment).

(2) An applicant for an authorization to operate a limited ship station or a marine-utility station must request a frequency assignment on which the transmission of public correspondence is excluded.

§ 83.302 Points of communication.

Subject to the conditions and limitations imposed by the terms of the particular station license or by applicable provisions of this part with respect to the use of particular radio-channels, limited ship stations, marine-utility stations on board ships, and public ship stations are authorized to communicate with any station in the maritime mobile service including such other classes of stations as may be appropriately authorized in accordance with the provisions of this part for such communication: *Provided, however,* That for purposes of public correspondence between ship and shore, public ship stations are authorized to communicate only with public coast stations and United States Government coast stations open to public correspondence.

§ 83.303 Service requirements for all ship stations.

(a) Unless prohibited by the terms of the station license or by other sections of this part relative to the limited use of a specifically designated frequency, each ship station shall, within the scope of its normal operations and without discrimination, acknowledge all calls directed to it and receive from stations operating in the maritime mobile service, all messages and communications which are addressed to the ship or to any person or persons on board and which are for termination on such ship.

(b) The master of every ship, equipped with licensed radio transmitting apparatus capable of providing communication with other ships or with a coast station, on meeting with a direct danger to the navigation of other ships such as dangerous ice, a dangerous derelict, a tropical storm, or any other direct danger to navigation, or encountering subfreezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, shall cause to be transmitted, insofar as is possible, all pertinent information relating thereto to ships in the vicinity and to the appropriate authorities on land, provided that such procedure, in the discretion of the master, will not be a repetition of action already taken for this purpose by another station. All radio messages transmitted pursuant to this paragraph shall be preceded by the safety signal.

(c) At the request of any station operating in the maritime mobile service, a ship station may, within the scope of its normal operation accept messages or communications as requested for retransmission to any other station in the maritime mobile service. Whenever such messages or communications have been received and acknowledged by a ship station for this purpose, it shall be incumbent upon that station to retransmit the message as directed, with the least delay possible.

§ 83.304 Service requirements for public ship stations.

In addition to such messages as are necessary for compliance with § 83.303, and except as may be otherwise limited by the terms of this part governing the use of particular frequencies or by the terms of the station license, a public ship station within the scope of its normal service, without discrimination and upon reasonable demand, shall provide, subject to the order of priority prescribed in § 83.177, a service of public correspondence for any person who, while on board in any status or capacity, requests the service covering any subject matter that legally may be transmitted by radio: *Provided, however,* That, unless specifically authorized by the Commission in individual cases in advance, this service shall not be authorized to be provided when the ship carrying the station is out of service as a ship.

§ 83.305 Service of limited ship stations and marine-utility stations.

In addition to such messages as are necessary for compliance with § 83.303 and except as may be otherwise limited by the terms of this part governing the use of particular frequencies or by the terms of the station license, a limited ship station or a marine-utility station is authorized to transmit within the scope of its normal operations messages necessary for the safe, expeditious or economical operation of ships or (when necessary) for the safety of aircraft.

Subpart N—Use of Radiotelegraphy

§ 83.321 Authorized frequencies.

(a) The following frequencies are authorized for use by ship stations employing telegraphy for communication with ship or coast stations (public or limited):

(1) Stations assigned the frequency band 405–535 kc/s:

kc/s	*kc/s*
[1] 410	468
425	480
[1] 444	500 calling and distress
448 (region 2 only)	[1] 512 (regions 1 and 3 only)
454	

[1] Subject to the special conditions and limitations set forth in paragraph (b) of this section.

(2) Stations assigned the frequency band 90–160 kc/s:

kc/s	*kc/s*
143 calling	155
152	156
153	157
154	158

(b) (1) The frequency 444 kc/s is assignable exclusively for communication with United States Government stations; its use for any other communication (except distress) is not authorized: *Provided,* That harmful interference shall not be caused to the service of any coast station.

(2) In addition to the transmission of specific signals for purposes of radiolocation, the radio channel of which 410 kc/s is the assigned frequency may be used for communication by radiotelegraphy with direction finding stations in connection with established international operating procedure, relative to radiolocation by means of direction finding.

(3) In Regions 1 and 3 the frequency 512 kc/s may be used by ship stations:

(i) As a supplementary calling frequency when 500 kc/s is being used for distress purposes;

(ii) As a working frequency, except in those areas where it is in use as a supplementary calling frequency when 500 kc/s is being used for distress purposes.

§ 83.322 Frequencies for use in distress.

(a) The international distress frequency is 500 kc/s; it is used as an assigned frequency for this purpose by ship, survival craft, or aircraft stations using frequencies in the band 405–535 kc/s, when requesting assistance from the maritime services. It is used, preferably with A2 emission, for the distress call and distress traffic.

(b) The frequency 8364 kc/s is for use by survival craft stations equipped to transmit within the band 4000–27,500 kc/s and desiring to establish with stations of the maritime and aeronautical mobile services communications relating to search and rescue operations.

(c) The frequency 121.5 Mc/s (class A2 emission only) is available for radio beacon purposes to the survival craft stations of vessels documented by the United States Treasury Department, Bureau of Customs.

§ 83.323 Frequencies for call and reply.

(a) (1) The frequency 500 kc/s is the general international calling frequency which shall be used by any ship station engaged in radiotelegraphy in the authorized band 405–535 kc/s, and by aircraft desiring to enter into communication with a station of the maritime

mobile service using frequencies in this band;

(2) The frequency for replying to a call sent on the general calling frequency is 500 kc/s, except where the calling station requests that the reply be made on an authorized working frequency. In Region 2, and in other areas of heavy traffic, ship stations should request coast stations to answer on their normal working frequency;

(3) In order to facilitate the reception of distress calls, all transmissions on the frequency 500 kc/s shall be reduced to a minimum.

(b) The frequency 143 kc/s is the international calling frequency in the maritime mobile service in the band 90–160 kc/s (class A1 emission only). The frequency for replying to a call sent on the frequency 143 kc/s is, for ship stations, 143 kc/s, the same as that of the call. (Coast stations reply on their normal working frequency in this band.) When a ship station which uses frequencies within the band 90–160 kc/s desires to establish communication with another station of the maritime mobile service, it shall call that station on the frequency 143 kc/s, unless the International List of Coast Stations provides otherwise. This frequency shall be used exclusively for individual calls and replies to such calls and for the transmission of signals preparatory to traffic.

(c) In Region 2, the frequency 2091 kc/s is the international calling frequency for ship stations using telegraphy within the band 2065–2107 kc/s. It shall be used for call, reply and signals preparatory to traffic by all ship stations using telegraphy to establish communication with other ship stations operating in the band 2065–2107 kc/s or with coast stations using telegraphy and operating in the band 2000–2850 kc/s: *Provided,* That transmission by ship stations for this purpose on any calling frequency within the band 2088.5–2093.5 kc/s is permissible as a practical operating procedure to minimize interference, in lieu of transmission on the frequency 2091 kc/s. The use of the frequency 2091 kc/s or any other calling frequency within the band 2088.5–2093.5 kc/s by ship stations for purposes other than those stipulated in this paragraph (except for transmitting distress traffic) is not authorized. A ship station, after establishing communications on a calling frequency within this band, shall change to an authorized working frequency for the transmission of traffic.

(d) Calling frequencies in the band 2 to 27.5 Mc/s for ship and aircraft stations are listed in Table 1b of § 83.701. Ship stations are authorized to use the calling frequencies corresponding to the symbols designated on the station license.

§ 83.324 Frequencies for working.

(a) Each assigned frequency listed in § 83.321(a), and which is not identified therein with a specific use or function, is authorized as an assigned frequency for "working".

(b) Ship and aircraft stations using telegraphy and working on frequencies within the band 415 to 490 kc/s shall use whenever practicable, an authorized working frequency of which 425, 448, 454, 468 or 480 kc/s is the assigned frequency. The frequency 448 kc/s may be used in Region 2 only.

(c) The calling channel of which 500 kc/s is the assigned frequency may be used for the transmission of distress, urgency, and safety messages; except for the applicable provisions of §§ 83.402 and 83.403 relative to radiolocation, any other use of this channel for working is prohibited.

(d) Insofar as practicable, ship stations shall use frequency assignments within the band 3 Mc/s to 27.5 Mc/s only when other frequency assignments will not provide effective communications.

(e) Working frequencies in the band 2 to 27.5 Mc/s for high traffic ships and aircraft are listed in Table 1a and for low traffic ships in Table 1c of § 83.701. Ship stations are authorized to use the working frequencies corresponding to the symbols designated on the station license. The frequencies for working in each band designated by the letter "A" or "B" (see § 83.701(h)) suffixed to the frequency column symbol are the primary frequencies to be used for working. The alternate frequency in each band may be used only when harmful interference to the ship's transmissions on the primary frequency is experienced or a coast station directs the ship station to use the alternate frequency. Frequencies in the band 2065 to 2107 kc/s are not available for assignment to aircraft.

(f) In addition to the frequency assignment designated for telegraphy in the license of a ship station, such station, when working by telegraphy with a coast station, may, on condition that its emission-bandwidth and frequency tolerance shall be within the respective limits thereof permitted for the coast station, transmit:

(1) On a telegraph working channel of a coast station within the band 110 to 150 kc/s (except within the band 140 kc/s to 146 kc/s) when directed to do so by the coast station for which the channel is authorized: *Provided,* Interference is not caused to the service of any land, fixed, broadcast, or radiolocation station: *And provided,* That the emission shall be class A1 only.

(2) On a telegraph working channel of a coast station within the band 415 to 490 kc/s when directed to do so by the coast station for which the channel is authorized.

(g) (1) In addition to use of the frequency assignment designated for telegraphy in the license of a ship station, such station when communicating by telegraphy with a mobile or land station of the United States Government may transmit on a government frequency assignment when authorized or directed to do so by the government station responsible or by the government department or agency for which use of such frequency assignment is authorized; on condition that the emission-bandwidth and frequency tolerance of the ship station shall be within the respective limits thereof required to be maintained by the government station. Under these circumstances, the ship station assigned frequency, the class of emission, and the permissible class of traffic shall be designated and controlled by the responsible government station, department, or agency: *Provided,* That on frequencies below 160 kc/s and within the bands 2000 to 2850 kc/s and 17000 to 25000 kc/s the emission shall be class A1 only.

(2) Frequencies assigned to government radio stations are assignable to non-Government ship radio stations for communication with other non-Government stations by telegraphy when such communication is necessary in connection with activities performed in coordination with or in behalf of the Federal Government and where the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(h) The frequencies 2072.5 and 2077.5 kc/s are authorized for wide-band telegraphy, facsimile, and special transmission systems when designated in the ship station license.

§ 83.325 Use of Morse Code required.

The signal code employed for telegraphy by stations in the maritime mobile service shall be the Morse Code signals specified in the Telegraph Regulations annexed to the International Telecommunication Convention, Geneva, 1959. However, for radiotelegraph communication of a special character, the use of other signals may be specifically authorized by the Commission in response to an appropriate application therefor.

§ 83.326 Identification of stations.

(a) All radiotelegraph emissions of a ship station or a survival craft station shall be clearly identified by transmission therefrom of the official call letters assigned to that station for telegraphy by the Commission. These call letters shall be transmitted by telegraphy in accordance with § 83.325 and the procedure set forth in the International Radio Regulations and by means of the class of emission normally used by the station for telegraphy: *Provided,* That they shall be transmitted at intervals not exceeding 15 minutes whenever transmission is sustained for a period exceeding 15 minutes.

(b) The requirements of this section do not apply to survival craft stations when transmitting distress signals automatically or when operating on 121.5 Mc/s for radiobeacon purposes.

§ 83.327 Procedure in testing.

(a) Ship stations and survival craft stations may conduct necessary tests on any assigned frequency. Every precaution must be taken to ensure that transmitter emissions of the station will not cause harmful interference. Radiation must be reduced to the lowest practicable value and if feasible shall be entirely suppressed. When radiation is necessary or unavoidable, the radiotelegraph testing procedure described in this paragraph shall be followed:

(1) The licensed radiotelegraph operator responsible for operation of the transmitting apparatus shall ascertain by careful listening that the test emissions will not be likely to interfere with transmissions in progress; if they are likely to interfere with the service of a

coast station or aeronautical station in the vicinity of the ship station, the consent of the former station(s) must be obtained before the test emissions occur.

(2) The operator shall transmit the signal "IE" (two dots, space, one dot) on the test frequency as a warning that test emissions are about to be made on that frequency. When the frequency or frequencies of the test emissions is/are within the frequency-band 405–535 kc/s, a listening watch shall be maintained on 500 kc/s by a licensed radiotelegraph operator at the station throughout the test period.

(3) If, as a result of transmitting the test signal "IE", any station indicates, by transmitting the signal "AS" (wait), that it anticipates harmful interference, testing shall be suspended. When transmission of "IE" is resumed and no response is observed, and careful listening indicates that harmful interference should not be caused, the operator shall proceed as set forth in subparagraph (4) of this paragraph.

(4) Test signals composed of a series of "VVV" having a duration of not more than ten seconds, followed by the call sign of the testing station shall be transmitted. The call sign shall be sent clearly and at relatively slow speed. This test transmission shall not be repeated until a period of at least one minute has elapsed; on the frequency 500 kc/s in a region of heavy traffic, a period of at least five minutes shall elapse before the test transmission is repeated.

(b) When testing is conducted on the frequency 500 kc/s, no tests shall be conducted during the 500 kc/s silence periods. Care must be exercised not to so prolong and space the dash portion of the "VVV" series as to form the alarm signal.

§ 83.328 Radiotelegraph operating procedure.

(a) Except for the transmission of distress or urgency signals, all transmissions from stations on board ship must cease within the band 485–515 kc/s during each 500 kilocycles silence period, i.e., for three minutes twice an hour beginning at x h. 15 and x h. 45, Greenwich mean time.

(b) In order to facilitate radiotelegraph communication in the maritime mobile service, all ship stations transmitting by means of telegraphy shall, whenever practicable, use the service abbreviations ("Q" signals) listed in Appendix 13 to the International Radio Regulations, Geneva, 1959.

(c) In addition to compliance with all applicable sections of this part, the operation of ship stations using telegraphy for call, reply, and the transmission of message traffic shall, in particular, comply with all applicable provisions of Articles 29, 30, 31, 37, 38, and 39 of the International Radio Regulations, Geneva, 1959.

§ 83.329 Station documents.

(a) The compulsorily fitted ship radiotelegraph station shall be provided with the following documents:

(1) A valid station license;

(2) The necessary operator license(s);

(3) The station log required by this part for stations of this category;

(4) The Alphabetical List of Call Signs of Stations used in the Maritime Mobile Service;

(5) The List of Coast Stations;

(6) The List of Ship Stations;

(7) The List of Radiodetermination and Special Service Stations;

(8) The International Radio Regulations, Geneva, 1959;

(9) Telegraph tariffs of the countries for which the station most frequently accepts radiotelegrams;

(10) Part 83 of this chapter.

(b) All ship stations on board ships not compulsorily fitted with a radiotelegraph installation, but using telegraphy, shall be provided with the documents prescribed by subparagraphs (1), (2), (3), (4), (5), (6), (8), (9), and (10) of paragraph (a) of this section.

(c) These documents shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 83.330 Station logs.

(a) (1) Each ship station authorized to use telegraphy on frequencies within the band 90 to 535 kc/s shall maintain an accurate radiotelegraph log. The first page of each portion of the log covering each voyage shall consist of a "title page" which, upon completion of all entries for the particular voyage, shall contain the following information:

(i) Name of ship and call letters of ship station;

(ii) Period of time covered by such portion of the log;

(iii) Number of pages constituting such portion of the log;

(iv) A statement as to whether or not such portion of the log contains distress entries; if so, the pages containing such entries shall be designated;

(v) Operator's signature, mailing address, and radio operator license data (number, class, and date of issuance).

(2) In addition, the log shall be maintained as follows:

(i) Each sheet of the log shall be numbered in sequence, for each voyage, and shall include the name of the vessel, official call letters of the ship station and the name of the operator on watch.

(ii) The entry "on watch" shall be made by the operator beginning a watch, followed by his signature. The entry "off watch" shall be made by the operator being relieved or terminating a watch, followed by his signature. All log entries shall be currently completed at the end of each watch by the operator responsible for the entries. The use of initials or signs is not authorized in lieu of the operator's signature.

(3) During the period a watch is maintained by an operator, all calls transmitted to or from the ship station and all replies transmitted or received shall be entered, stating the time and frequencies, and the call letters of the station communicated with or heard. (If desired, the names of the stations or ships also may be entered.) In addition, a notation of any messages exchanged shall be entered stating the time, the frequency in kilocycles, and the call letters of the station(s) heard, or communicated with. (If desired, the names of the stations or ships also may be entered.) In so far as possible, a positive entry with respect to reception on 500 kc/s shall be made at least once in each 15 minutes. The entries required by subparagraph (5) of this paragraph shall be acceptable as positive entries: *Provided*, Operating conditions are such as to prevent additional entries being made.

(4) The date and time of each occurrence or incident required to be entered in the log shall be shown opposite the entry and the time shall be expressed in Greenwich mean time (GMT),[1] except that in the Great Lakes region the time shall be expressed in eastern standard time (e.s.t.) (counted from 0000 to 2400 o'clock, beginning at midnight). The first entry in each hour shall consist of four figures; additional entries in the same hour may be expressed in two figures by omitting the hour designation. The abbreviation "GMT" (e. s. t. in the Great Lakes region) shall be marked at the head of the column in which the time is entered.

(5) During the period a watch is maintained by an operator, an entry shall be made twice per hour stating whether or not the international silence period was observed. In addition, entries shall be made indicating any signals or communications heard on 500 kilocycles during this period. If no signals are heard on 500 kc/s, an entry to that effect shall be made. The use of rubber stamps for making entries to show observation of the silence period is not authorized.

(6) All distress calls, automatic-alarm signals, urgent and safety signals made or intercepted, the complete text, if possible, of distress messages and distress communications, and any incidents or occurrences which may appear to be of importance to safety of life or property at sea, shall be entered, together with the time of such observation or occurrence, and the position of the ship or other mobile unit in need of assistance, if it can be determined.

(7) Whenever harmful interference is experienced, an entry shall be made to that effect, stating the source of the interference, if known.

(8) The approximate geographical location of the ship, preferably the noon position, shall be entered each day of each voyage, either in terms of latitude and longitude, or as the distance in nautical miles and the direction from a known fixed point. For this purpose, the master of the ship shall furnish this information to the radio operator. The position report so furnished shall correspond to any entry of the same position made in other official records of the ship.

(9) An entry shall be made of the date and time of departure and arrival of the vessel at each port, including in each entry the name of the port.

(10) A daily entry shall be made regarding comparison of the radio station

[1] For example, 8:01 p.m. eastern standard time should be entered as 0101 GMT; 8:30 a.m. eastern standard time should be entered as 1330 GMT; 7:45 p.m. eastern standard time should be entered as 0045 GMT.

clock with standard time, including an indication of any errors observed and corrections made. For this purpose, authentic radio time signals received from land or fixed stations shall be acceptable as standard time.

(11) All test transmissions shall be entered, together with the time of such transmissions and the approximate geographical location of the vessel, without regard to whether two-way communication with any other station is established.

(12) Any failure of equipment to operate as required, any failure of power supply, any inability to obtain sufficient power to charge storage batteries or to properly operate the radio installation and any incidents tending to unduly delay communications shall be entered.

(b) In addition to the radio log requirements stipulated in paragraph (a) of this section, the radio log of each ship station authorized to use telegraphy on frequencies within the band 90 to 535 kc/s, shall, when the ship is required by law and regulations to keep a radiotelegraph watch on 500 kc/s for safety purposes by means of a qualified operator, comply also with the following provisions:

(1) Entries shall be made of the results of tests of the emergency installation including transmitter antenna current, hydrometer readings of lead-acid storage batteries, voltage readings of other types of batteries, and quantity of fuel available for engine generators.

(2) An entry shall be made each time the emergency power supply is used (when the vessel is in the open sea) to carry on communication (other than a watch for safety purposes), stating the aproximate period of time of such use.

(3) Results of inspections and tests of lifeboat radio equipment, when installed in compliance with requirements of law, prior to departure of the vessel from a harbor or port and the results of weekly inspections of such lifeboat equipment shall be entered.

(4) On a cargo vessel equipped with an auto-alarm, the entry "auto-alarm on", "sensitivity set at (the actual setting of the sensitivity control at the time the auto-alarm is placed in operation should be designated)", and the entry "auto-alarm off", respectively, shall be made whenever the operator places the auto-alarm in and out of operation. Results of the required auto-alarm tests shall be entered daily, including the sensitivity-control setting and the minimum number of 4-second dashes from the testing device which were necessary to properly operate the alarm.

(5) On a cargo vessel equipped with an auto-alarm, an entry shall be made in the radio station log whenever the visual indicator installed on the bridge (to indicate when the alarm becomes inoperative due to prolonged atmospherics or other interference), remains actuated for a continuous period of 5 minutes. A statement shall be included giving particulars as to the time the operator was called to make the necessary repairs or adjustments; any reason for the failure; the names of any parts removed, added, or substituted; repairs effected; and the time the alarm was restored to proper operating conditions.

(6) On a cargo vessel equipped with an auto-alarm, an entry shall be made in the radio station log whenever the auto-alarm becomes inoperative due to causes not indicated by the audible warning or the visual indicator, or whenever the audible warning is actuated. The entry shall include a statement showing the time the operator was called to make any necessary repairs or adjustments; the reason for the audible alarm being actuated or failing to be actuated, any parts removed, added, or substituted; repairs effected; and the time the auto-alarm was restored to proper operating condition.

(7) A daily entry shall be made while the ship is at sea showing whether the storage batteries forming part of the main installation or the emergency installation were brought up to the normal full charged condition that day.

(8) Entries shall be made stating when each storage battery used as the power supply for the main and emergency installations is placed on charge or off charge.

(9) Entries shall be made stating details of maintenance of lifeboat radio equipment, including a record of charging of any storage batteries supplying power to such equipment. The record of charging shall show when such storage battery is placed on charge and when it is taken off charge.

(c) Each ship station authorized to use telegraphy, on frequencies above 550 kc/s exclusively (except ship stations on the Great Lakes and on board vessels navigated solely on inland waters of the United States), shall maintain an accurate radiotelegraph log as prescribed in paragraph (a) of this section: *Provided*, That paragraph (a) (3) and (5) of this section shall, in this case, not be applicable.

(d) Each ship station on the Great Lakes and on board a vessel navigated solely on inland waters of the United States which is authorized to use telegraphy, on frequencies above 550 kc/s exclusively, shall maintain an accurate radiotelegraph log as follows:

(1) Each sheet of the log shall be numbered in sequence and shall include the name of the vessel, official call letters of the ship station and the signature of the licensed operator in attendance at the time communication is effected.

(2) An entry shall be made for each complete exchange of communications with any station, stating the approximate geographical location of the vessel, the call letters or the name of the station communicated with, the time of the communication, the nature of the messages or signals exchanged, and designation of the transmitting frequencies.

(3) All test transmissions shall be entered, including designation of the transmitting frequency, together with the time of commencement and completion of such transmissions and the approximate geographical location of the vessel, without regard to whether two-way communication with any other station is established.

(4) All distress calls, urgent and safety signals made or intercepted; the complete text, if possible, of distress messages and distress communication; and any incidents or occurrences which may appear to be of importance to safety of life or property shall be entered, together with the time of such observation of concurrence, designation of the frequency on which such transmissions were received, and the position of the ship or other mobile unit in need of assistance, if it can be determined.

(5) Any failure of equipment to operate as required, any failure of power supply, any inability to obtain power to charge storage batteries or to properly operate the radio installation and any incidents tending to unduly delay communication shall be entered.

(6) The date and time of making an entry shall be shown opposite the entry and the time shall be expressed as follows:

(i) For vessels navigated on the Great Lakes:

Eastern standard time (e. s. t.) (counted from 0000 to 2400 o'clock beginning at midnight).[2] The first entry in each hour shall consist of four figures; additional entries in the same hour may be expressed in two figures by omitting the hour designation. The abbreviation "e. s. t." shall be marked at the head of the column in which the time is entered.

(ii) For vessels navigated on inland waters of the United States, other than the Great Lakes:

Local standard time (e. s. t., c. s. t., etc.) (counted from 0000 to 2400 o'clock, beginning at midnight).[2] The first entry in each hour shall consist of four figures; additional entries in the same hour may be expressed in two figures by omitting the hour designation. The abbreviation "e. s. t." or "c. s. t.", etc., shall be marked at the head of the column in which the time is entered. However, this provision shall not prohibit the use of time entries expressed in GMT (and so indicated) in lieu of local standard time.

(e) The ship radiotelegraph log currently in use shall be kept by the licensed operator(s) of the station and while in use it shall be located in the radiotelegraph operating room of the ship. At the conclusion of each voyage terminating at a port of the United States, the original station log or a duplicate thereof dating from the last departure of the ship from a United States port shall be retained under proper custody on board the ship for a sufficient period of time, but not necessarily in excess of 24 hours, to be available for inspection by a duly authorized representative of the Commission. Thereafter the original log, and the duplicate log, if provided, may be filed at an established shore office of the ship station licensee, and shall be retained as stipulated by § 83.115.

§ 83.331 Station records.

In all ship stations authorized to transmit on frequencies within the band 405–535 kc/s, a written record shall be maintained of the adjustments of the transmitting and receiving equipment for operation on the assigned frequencies 410

[2] For example, 7:01 p. m. eastern standard time would be entered as 1901 e. s. t.; 7:30 a. m. eastern standard time would be entered as 0730 e. s. t.; 6:45 p. m. eastern standard time would be entered as 1845 e. s. t.

kc/s and 500 kc/s and at least two authorized working frequencies within this band. This record shall be posted at all times in a conspicuous place on or near the particular equipment involved.

Subpart O—Use of Radiotelephony

§ 83.351 Assignable frequencies.

(a) The specific frequencies below 23 Mc/s authorized for radiotelephony in the bands designated on the station license are as follows:

kc/s	kc/s	kc/s	kc/s
2003	2382	4104.4	8249.2
2009	2390	4117.2	8261.9
2031.5	2406	4123.6	12361.5
2118	2430	4129.9	12375.5
2126	2458	[2] 4372.4	12382.5
2134	2572	4377.4	12396.5
2142	2638	[1] 6240	16477.5
2158	2738	[1] 6455	16491.5
2166	2782	8204.4	16512.5
2182	2784	[2] 8205.5	16526.5
2198	2830	[2] 8210.8	22031.5
2206	[2] 4067	8217.2	22045.5
2214	4072.4	8223.6	22066.5
2366	4091.6		

[1] Mississippi River System only.
[2] Mississippi River System only. Not available after June 30, 1962.

(b) The following frequencies are authorized for radiotelephony when specifically designated in the station license:

35.06 Mc/s, 35.10 Mc/s, 35.14 Mc/s, 35.18 Mc/s

(1) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 35–45 Mc/s must recognize that the band is shared with various services in other countries; that harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

NOTE: Effective April 1, 1958, no new radio systems will be authorized in the maritime mobile service on the frequencies listed in this paragraph. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

(c) [Reserved]

(d) Assignment of the specific carrier frequencies designated in paragraph (a) of this section and use of frequency assignments of which those frequencies are the authorized carrier frequencies shall be subject to the express limitations and conditions hereinafter set forth in this paragraph:

(1) Except for test purposes, the frequencies 2738 kc/s and 2830 kc/s may not be used or assigned unless the licensee or applicant therefor submits to the Commission a certification in accordance with the requirements of subparagraph (2) of this paragraph. Transmissions on these frequencies for such test purposes are limited to those necessary for making field intensity measurements to determine whether a particular transmitter complies, either before or after modification, with the requirements set forth in subparagraph (2) of this paragraph. In making such test transmissions, the operating procedures set forth in § 83.365 shall be followed explicitly.

(2) The certification required by subparagraph (1) of this paragraph shall be that made by the manufacturer of the equipment or shall be signed by a person holding at least a second class radiotelephone operator license and shall show the number and class of such license. It shall state that by reason of tests or measurements of the transmitter therein described and performed by the certifier or under his supervision, it has been determined:

(i) That the level of any emission appearing on the second harmonic frequency of the particular carrier frequency desired to be used or assigned is attenuated below the level of the unmodulated carrier on that frequency by not less than the amount shown in the following table:

Maximum authorized transmitter power as specifically defined in § 83.7(v)	*Attenuation (decibels)*
Up to and including 150 watts	40
Over 150 watts up to and including 600 watts	50
Over 600 watts	60

and

(ii) That the transmitter meets the foregoing requirements without modification or in the event that modification of the transmitter was found to be necessary, a specific description of such modification, including a description of any wave trap or device which was utilized.

(3) The requirements of subparagraphs (1) and (2) of this paragraph shall not apply to any transmitter which is type accepted by the Commission for licensing under this part on the frequency or frequencies concerned.

(4) Except in event of distress, use of the frequency 2206 kc/s in the Great Lakes area by ship stations of the United States is prohibited.

(5) The frequency 2182 kc/s is authorized for use on a shared basis primarily by ship stations and secondarily by coast stations.

(6) The frequency 2214 kc/s is authorized for use exclusively at locations at which interference is not caused to the service of any United States Government station.

(7) The frequencies 2638 kc/s and 2738 kc/s are authorized for use on a shared basis with ship stations of other countries, for the purposes hereinafter prescribed in this subpart. Use of these frequencies for ship-to-shore communication in certain geographic areas in accordance with this subpart is authorized upon the express condition that harmful interference shall not be caused to intership communication on these frequencies, nor to the service of any station which, in the discretion of the Commission, has priority on the frequency or frequencies to which interference results: *Provided,* That in respect to stations of the maritime mobile service, this condition shall not be construed as prohibiting the operation of ship stations for authorized ship-to-shore communication on this frequency pursuant to the provisions of §§ 83.176, 83.177(b), 83.179, and 83.180.

(8) Use of the frequencies 4067, 4372.4, 4072.4 and 4377.4 kc/s in the Mississippi River system is authorized upon the express condition that interference shall not be caused to the service of any station which may have priority on the frequency or frequencies used for the service to which interference is caused.

(9) Use of the frequencies 6240 kc/s and 6455 kc/s is authorized in the Mississippi River system upon the express condition that interference shall not be caused to the service of any station which may have priority on the frequency or frequencies used for the service to which interference is caused. In order to avoid such interference, transmission on these frequencies during the period from 8:00 p. m. until 5:00 a. m., c. s. t., is prohibited.

(10) [Reserved]

(11) The frequencies 8205.5 and 8210.8 kc/s are authorized for use on the Mississippi River and connecting inland waters (except the Great Lakes) upon the express condition that transmission on these frequencies during the period from 8:00 p.m. until 5:00 a.m., c.s.t., is prohibited.

(12) Each carrier frequency which is not to be used prior to a specified beginning date, may be used under appropriate station authorization for test transmission during a period commencing not more than two months in advance of such specified beginning date; solely to determine whether an existing ship station is capable of proper technical operation on that particular radiochannel preparatory to the conduct of a normal service thereon: *Provided,* That harmful interference is not caused by such test transmissions to the service of any other station.

§ 83.352 Frequencies for use in distress.

(a) The frequency 2182 kc/s is the international distress frequency for radiotelephony. It shall be used for this purpose by ship, aircraft, and survival craft stations using frequencies in the authorized bands between 1605 and 4000 kc/s when requesting assistance from the maritime services.

(b) The frequency 121.5 Mc/s (class A2 emission only) is available for radio beacon purposes to the survival craft stations of vessels documented by the United States Treasury Department, Bureau of Customs.

§ 83.353 Frequencies for calling.

(a) The international general radiotelephone calling frequency for the maritime mobile service is 2182 kc/s. It may be used as a carrier frequency for this purpose by ship stations and aircraft stations operating in the maritime mobile service:

(1) In addition this frequency may be used for transmission of:

(i) The international urgency signal, and very urgent messages (preceded by this signal) concerning the safety of a

ship, aircraft, or other vehicle, or the safety of some person on board or within sight of such ship, aircraft, or vehicle.

(ii) The international safety signal, and messages (preceded by this signal) concerning the safety of navigation or giving important meterological warnings; however, safety messages shall be transmitted, when practicable, on a working frequency after a preliminary announcement on 2182 kc/s.

(iii) Brief radio operating signals.

(iv) Brief test signals in accordance with the provisions of § 83.365, as may be necessary to determine whether the radio transmitting equipment of the station is in good working condition on this frequency.

(2) When using this frequency for purposes other than distress calls and distress traffic, and urgency and safety signals and messages, the carrier power of the radio transmitter shall not exceed 100 watts.

(b) The frequency 156.8 Mc/s is the international safety and calling frequency for the maritime mobile radiotelephone service in the band 156–174 Mc/s.

§ 83.354 Frequencies below 5000 kc/s for public correspondence.

(a) Carrier frequencies which are authorized for use by public ship stations employing telephony by means of amplitude modulation for the transmission of public correspondence exclusively are designated herewith: ship stations shall use the radio-channels of which these frequencies are the authorized carrier frequencies exclusively for working with public coast stations located at, or in the vicinity of, the specific harbors, ports or places designated hereinafter opposite the respective ship transmitting frequency, and shall receive transmission from the particular coast stations on the associated receiving frequencies also designated herewith:

(1) Frequencies available for use when the mobile station and the coast station transmit alternately on different radio channels:

For communication with coast stations located in the vicinity of—	Mobile station transmitting carrier frequency [1]		Associated coast station carrier frequency	
	Frequency (kc/s)	Specific limitations imposed upon availability for use [2]	Frequency (kc/s)	Specific conditions relating to use of these frequencies by coast stations for transmission as shown in §81.306(b) of this chapter [3]
Boston, Mass	2406	None	2506	None.
	2366	do	2450	Do.
New York, N.Y.	2126	None	2522	None.
	2166	do	2558	Do.
	2198	do	2590	Do.
	2382	Available on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of New Orleans, La., and is transmitting on this frequency to a coast station located in the vicinity of that port.	2482	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of New Orleans, La., to which this carrier frequency is assigned for transmission.
	4091.6	None	4396.6	None.
	4104.4	do	4409.4	Do.
	4129.9	Available for use annually during period Dec. 15 to Mar. 15.	4434.9	Available for use annually during period Dec. 15 to Mar. 15.
Wilmington, Del.	2166	None	2558	None.
Baltimore, Md.	2166	None	2558	None
Norfolk-Quantico, Va.	2142	None	2538	None.
	2366	Day only, available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2450	Day only, available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Charleston, S.C.–Jacksonville, Fla.	2390	None	2566	None.
Lake Allatoona-Lake Sidney Lanier, Ga.	2366	Available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2450	Available on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Miami, Fla.	2031.5	None	2490	Available on condition that harmful interference shall not be caused to the police radio service in southern California.
	2118	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually; and also on condition that harmful interference shall not be caused to the service of any ship station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.	2514	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any coast station located in the vicinity of Miami, Fla., to which the carrier frequency 2490 kc/s is assigned for transmission; and also on condition that harmful interference shall not be caused to the service of any coast station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.
	2158	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of Tampa, Fla., and is transmitting on this frequency to a coast station located in the vicinity of that port.	2550	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Tampa, Fla., to which this carrier frequency is assigned for transmission.
	4123.6	None	4428.6	None.
Tampa, Fla.	2009	None	2466	None.
	2158	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any ship station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.	2550	Unlimited hours of use from Dec. 15 to Apr. 1, annually, and day only from Apr. 1 to Dec. 15, annually, on condition that harmful interference shall not be caused to the service of any coast station in the Great Lakes area which in the discretion of the Commission has priority on the frequency or frequencies used for the service to which interference is caused.
Mobile, Ala.	2430	None	2572	None.
New Orleans, La.	2206	None	2598	None.
	2166	Day only	2558	Day only; on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Mobile, Ala., to which the carrier frequency 2572 kc/s is assigned for transmission.
	2382	None	2482	None.

See footnotes at end of table.

For communication with coast stations located in the vicinity of—	Mobile station transmitting carrier frequency [1]		Associated coast station carrier frequency	
	Frequency (kc/s)	Specific limitations imposed upon availability for use [2]	Frequency (kc/s)	Specific conditions relating to use of these frequencies by coast stations for transmission as shown in § 81.306(b) of this chapter [3]
Delcambre, La	2458	Day only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2506	Day only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.
Galveston, Tex	2134	None	2530	None.
	2366	Day only; on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of Boston, Mass., and is transmitting on this frequency to a coast station located in the vicinity of that port.[3]	2450	Day only; on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Boston, Mass., San Francisco, or Eureka, Calif., to which this carrier frequency is assigned for transmission.[3]
San Juan, P.R	2134	None	2530	None.
Great Lakes	2118	None	2514	Subject to the applicable provisions of § 81.304(d) of this chapter.
	2158	do	2550	Do.
	4117.2	do	4422.2	None.
	4129.9	do	4434.9	Do.
Los Angeles–San Diego, Calif.	2009	None	2566	None
	2382	Available on condition that harmful interference is not caused to the service of any ship station which is within 300 nautical miles of New Orleans, La., and is transmitting on this frequency to a coast station located in the vicinity of that port.	2466	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Tampa, Fla., to which this carrier frequency is assigned for transmission.
	2206	7 a.m. to 7 p.m., P.s.t., only.	2598	7 a.m. to 7 p.m., P.s.t., only.
	2126	do	2522	Do.
San Francisco–Eureka, Calif.	2003	Available on condition that harmful interference shall not be caused to the service of any ship station which is within 300 nautical miles of Los Angeles or San Diego, Calif., and is transmitting on 2009 kc/s to a coast station located in the vicinity of those ports.	2450	Available on condition that harmful interference is not caused to police radio service in Kansas or Wisconsin.
	2406	None	2506	None.
	2142	7 a.m. to 7 p.m., P.s.t., only	2538	7 a.m. to 7 p.m., P.s.t., only.
	4072.4	None	4377.4	None.
Astoria–Portland, Oreg	2206	None	2598	None
Coos Bay, Oreg	2031.5	7 a.m. to 7 p.m., P.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2566	7 a.m. to 7 p.m., P.s.t., only.
Seattle, Wash	2126	None	2522	None.
	2430	Authorized for use south of 51° north latitude and east of 142° west longitude exclusively during the following daily periods on condition that harmful interference is not caused to the service of any station in the Alaska area authorized in accordance with Part 85 of this chapter to which this carrier frequency is assigned for transmission: annually from Apr. 1 to Sept. 30, inclusive, from 5 a.m. to 9 p.m., P.s.t., only; and annually from Oct. 1 to Mar. 31, inclusive, from 6 a.m. to 11 p.m., P.s.t., only.	2482	Authorized for use during the following daily periods on condition that harmful interference is not caused to the service of any coast station located in the vicinity of New Orleans, La., nor to the service of any station in the Alaska area authorized in accordance with Part 85 of this chapter to which this carrier frequency is assigned for transmission: annually from Apr. 1 to Sept. 30, inclusive, from 5 a.m. to 9 p.m., P.s.t., only; and annually from Oct. 1 to Mar. 31, inclusive, from 6 a.m. to 11 p.m., P.s.t. only.
Kahuku, Hawaii	2134	None	2530	None.
	4117.2	do	4422.2	Do.
Hilo, Hawaii	2198	None	2582	None
Palmyra Island, Hawaii	2134	Available on condition that harmful interference shall not be caused to the service of any ship station which is within 300 nautical miles of Kahuku, Hawaii and is transmitting on this frequency to a coast station located in the vicinity of that port.	2530	Available on condition that harmful interference is not caused to the service of any coast station located in the vicinity of Kahuku, Hawaii to which the carrier frequency 2530 kc/s is assigned for transmission.
St. Thomas Island, V.I.	2009	8 a.m. to 9 p.m., A.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.	2506	8 a.m. to 9 p.m., A.s.t., only; on condition that no harmful interference will be caused to any service or any station which in the discretion of the Commission may have priority on the frequency or frequencies used for the service to which interference is caused.

See footnotes at end of table.

[1] These frequencies are those which may be designated in applications for ship station authorizations.

[2] With respect to each specific date set forth, the associated limitation or condition imposed shall terminate or begin as applicable, at 3:00 a.m. eastern standard time.

[3] This carrier frequency is to be made available by the Commission, for use (on a 24-hour basis except where specific hours of use are designated) by the maritime mobile service for ship to shore communication in respect to the particular coast station areas designated, on a specific beginning date to be designated in future rule-making as soon as practicable after its use (or the use of its associated transmitting or receiving frequency) by other radio services is terminated or is reduced to the extent necessary to avoid harmful interference to or from the maritime mobile service.

(2) Frequencies available for use when the mobile station and the coast station transmit alternately on the same radio channel:

For communication with coast stations located in the vicinity of—	Carrier frequency (kc/s) [1]	Specific limitations imposed upon availability for use
Chicago, Ill.; Pittsburgh, Pa.; Louisville, Ky.; St. Louis, Mo.; Memphis, Tenn.; and other locations as required to serve vessels on the Mississippi River and connecting inland waters (other than the Great Lakes).	2782 4072.4 4377.4	None. Subject to applicable provisions of § 83.351(d). Do. Do.
Lake Dallas, Tex.; Lake Texhoma, Tex.	2738	None.
Lake Mead, Nev., and other locations as required to serve vessels on inland waters of the southwestern continental United States.	2782	The use of this frequency in areas other than Lake Mead, Nev., is subject to the condition that harmful interference is not caused to the service of any other station.
The Dalles, Oreg.; Umatilla, Oreg.; and other locations as required to serve vessels on inland waters of the northwestern continental United States, excluding Alaska.	2784	The use of this frequency at locations other than in the vicinity of The Dalles, Oreg., and Umatilla, Oreg., is subject to the condition that harmful interference is not caused to the service of any other station.

[1] These frequencies are those which may be designated in applications for ship station authorizations.

(b) The frequency 2638 kc/s is authorized to public ship stations as a working frequency to communicate with public coast stations authorized to operate on 2638 kc/s for the transmission of safety and operational communications.

(1) Except for safety communications, communications with such public coast stations shall be limited to day only: *Provided,* That operational communications may be continued beyond such time to the extent necessary for compliance with the provisions of § 83.183.

(2) Stations on board aircraft may not use the frequency 2638 kc/s for communication with coast stations except in the event of distress.

(c) The use of the working frequencies authorized in paragraphs (a) and (b) of this section is subject to the applicable conditions and limitations set forth in § 83.351(d). Further, and insofar as is practicable, ship stations shall use frequency assignments within the band 4000 kc/s to 5000 kc/s only when frequency assignments below 4000 kc/s or above 30 Mc/s will not provide effective communication.

§ 83.355 Frequencies from 5000 kc/s to 30 Mc/s for public correspondence.

(a) Carrier frequencies within the band 5000 kc/s to 30 Mc/s which are authorized for use by public ship stations employing telephony by means of amplitude modulation for the transmission of public correspondence exclusively are designated in this section; ship stations shall use the radio channels of which these frequencies are the authorized carrier frequencies exclusively for working with public coast stations:

(1) Frequencies authorized for use by ship stations on board oceangoing vessels primarily for long-distance communication, when the ship station and the coast station transmit alternately on different radio channels; except as expressly provided otherwise in this subpart, these frequencies shall not be used by ship stations on the Great Lakes or inland waters of the continental United States:

Ship station transmitting carrier frequency [1] (kc/s)	For communication with coast stations located in the vicinity of—	Ship station receiving carrier frequency (kc/s)
8204.4	San Francisco, Calif.	8754.4
8217.2	Hawaii	8767.2
8223.6	New York, N.Y.	8773.6
8261.9	do	8811.9
12361.5	do	13161.5
12375.5	Hawaii	13175.5
12382.5	San Francisco, Calif.	13182.5
12396.5	New York, N.Y.	13196.5
16477.5	Hawaii	17307.5
16491.5	New York, N.Y.	17321.5
16512.5	San Francisco, Calif.	17342.5
16526.5	New York, N.Y.	17356.5
22031.5	do	22681.5
22045.5	San Francisco, Calif.	22695.5
22066.5	New York, N.Y.	22716.5

[1] These frequencies are those which may be designated in applications for ship station authorizations.

(2) Frequencies authorized for use by ship stations on board vessels while navigated on the Great Lakes; exclusively for communication with coast stations in the Great Lakes area, when the ship station and the coast station transmit alternately on different radio channels. Ship stations shall receive transmission from the particular coast stations on the associated receiving frequencies also designated herewith:

Ship station transmitting carrier frequency	*Ship station receiving carrier frequency*
8249.2 kc/s	8799.2 kc/s

(3) Frequencies authorized for use by ship stations on board vessels while navigated on the Mississippi River and connecting inland waters (other than the Great Lakes); exclusively for communication with coast stations located in the vicinity of any harbor, port, or place on the Mississippi River and connecting inland waters (other than the Great Lakes), when the ship station and the coast stations transmit alternately on the same radio channel:

6240 kc/s 6455 kc/s 8210.8 kc/s

(b) The use of the working frequencies authorized in paragraph (a) of this section is subject to the applicable conditions and limitations set forth in § 83.351(d). Further, insofar as is practicable, ship stations shall use frequency assignments within the band 5000 kc/s to 30 Mc/s only when frequency assignments below 5000 kc/s or above 30 Mc/s will not provide effective communication.

§ 83.356 Frequencies above 30 Mc/s for public correspondence.

(a) [Reserved]

(b) (1) Carrier frequencies within the band 30 Mc/s to 40 Mc/s which, subject to and in accordance with the conditions and limitations hereinafter set forth in this paragraph are authorized for use by public ship stations employing telephony by means of either frequency modulation or amplitude modulation for transmission and reception of public correspondence exclusively on the same radio-channel, only when communicating with public coast stations licensed to transmit on frequencies within this band prior to July 23, 1951, and located within the vicinity of the respective harbor(s), port(s), or place(s) designated herein opposite the particular carrier frequency.

Carrier frequency:	*For communication only with coast stations within the vicinity of—*
35.14 Mc/s	Philadelphia, Pa.
35.18 Mc/s	Great Lakes region.

(2) Each of these carrier frequencies is available for use on a shared basis with limited coast stations, limited ship stations, marine-utility stations and aircraft stations operating in the maritime mobile service at any location on the same radio-channel; they are not available exclusively for public correspondence. Licensees having authority to transmit on these frequencies shall cooperate in the use thereof in order to minimize interference.

(3) Applicants for public ship station licenses or renewal or modification of such licenses whose applications request authority to transmit on 35.14 Mc/s or 35.18 Mc/s for the purpose of communicating with public coast stations as specifically set forth in this section, may be required, in the discretion of the Commission, to show a need for the use of such frequencies for public correspondence in lieu of the specific frequencies above 156 Mc/s authorized in this subpart for public correspondence exclusively.

(4) Ship stations (except stations operating under appropriate licenses granted prior to July 23, 1951) shall not use the carrier frequencies 35.14 Mc/s or 35.18 Mc/s for public correspondence unless such stations are specifically authorized to do so by the terms of the respective ship station license. Notwithstanding the provisions of Subpart M of this part, ship stations shall not be classified as public ship stations because of their authority to transmit on 35.14 Mc/s and/or 35.18 Mc/s, unless they are specifically authorized by the terms of their station licenses to use these carrier frequencies for public correspondence as prescribed in this section.

NOTE: Effective April 1, 1958, no new radio systems will be authorized in the maritime mobile service on the frequencies listed in subparagraphs (1) through (4) of this para-

graph. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

§ 83.357 Additional frequencies for ship to shore communication.

In addition to the frequencies designated in this part or in the license of a ship station, such station, when working by telephony with a foreign coast station shall, unless otherwise directed by the Commission, transmit to such coast station when directed to do so by that station on a specific frequency designated by the coast station for the service being carried on.

§ 83.358 Frequencies below 3000 kc/s for safety purposes.

(a) Carrier frequencies below 3000 kc/s authorized for working between ship stations employing telephony for transmission and reception on the same radio-channel by means of amplitude modulation, primarily for safety communication, are designated in this section. The transmission of other than safety communication on these radio-channels is restricted to operational communication, except that commercial transport vessels and vessels of municipal or State governments may use these frequencies for ship business purposes as well as operational communication. The transmission of such operational and business communication is authorized upon condition that interference is not caused to safety communication. The use of these carrier frequencies is prohibited when the use of a licensed frequency above 30 Mc/s in lieu thereof would provide effective communication. Their use shall be in accordance with respective geographic areas as follows:

Frequency (kc/s):	*Geographic area in which use is authorized*
2003	Great Lakes only.
2738	All areas except the Great Lakes and the Gulf of Mexico.
2830	The Gulf of Mexico.
2638	All areas.

(b) The carrier frequency 2003 kc/s is authorized for use by ship stations for communication with government coast stations concerning passage of vessels through the respective areas as follows:

(1) On the St. Lawrence Seaway on condition that harmful interference will not be caused to any ship-to-ship communications authorized in paragraph (a) of this section.

(2) On the St. Mary's River on condition that harmful interference will not be caused to ship-to-ship safety communication authorized in paragraph (a) of this section.

(c) The geographic limitations relating to the frequencies 2738 kc/s and 2830 kc/s:

(1) Shall not apply in event of distress or emergency;

(2) Shall not prohibit ship-to-ship communication over any distance less than 200 statute miles when only one of the ship stations is within a geographic area in which use of the respective frequency is permissible;

(3) Shall not prohibit communications between a ship and a limited coast station on either or both frequencies where the limited coast station has been authorized under the provisions of § 81.365(b) of this chapter.

(d) The frequency 2003 kc/s is authorized for use by ship stations on the Great Lakes for communication with United States Coast Guard coast stations concerning port security when the vessel is not equipped to transmit on 2670 kc/s or a suitable frequency in the band 156 to 174 Mc/s. Such use is authorized on condition that harmful interference will not be caused to any ship-to-ship communications authorized in paragraph (a) of this section.

§ 83.359 Frequencies above 156 Mc/s available for assignment.

(a) The frequencies listed in the following table are available as indicated therein. (These frequencies are not authorized for communication with stations on board aircraft.)

Channel designator	Frequency (Mc/s)		Points of communication	Authorized communications
	Ship	Coast		
6	156.3		Intership only	Safety.
7A	156.35	156.35	Intership and Ship to Coast	Business and operational.
8	156.4		Intership only [4]	Do.
9	156.45	156.45	Intership and Ship to Coast	Do.
10	156.5	156.5	do	Do.
11	156.55	156.55	do	Do.
12	156.6	156.6	do	Port operations.
13	156.65	156.65	do	(1).
14	156.7	156.7	do	Port operations.
16	156.8	156.8	do	Safety and calling. [2]
18A	156.9	156.9	do	Business and operational.
19A	156.95	156.95	do	Do.
20	[3] 157.0	[3] 161.60	Ship to Coast	Port operations.
24	[3] 157.2	[3] 161.8	Ship to Public Coast	Public correspondence.
25	[3] 157.25	[3] 161.85	do	Do.
26	157.3	161.9	do	Do.
27	157.35	161.95	do	Do.
28	157.4	162.0	do	Do.

[1] Business and operational in the Great Lakes area only. In other areas, communication is authorized primarily with other ship stations for the exchange of navigational information (including radar information) concerning the passage of ships, or as an at-the-scene aid in any maritime emergency; secondarily with land stations used in connection with the passage of ships through locks, bridge areas, and Government controlled waterways and with land stations as necessary to exchange marine navigational information with shore radar stations.

[2] This frequency is authorized for call, reply, and safety purposes. It may also be used for messages preceded by the urgency and safety signals and, if necessary, for distress messages.

[3] These frequencies are not available in Puerto Rico or the Virgin Islands.

[4] Ship stations in the Great Lakes area authorized to use 156.4 Mc/s prior to Oct. 1, 1962, for communication with limited coast stations may continue to use the frequency until Jan. 1, 1963.

§ 83.361 Frequencies within the band 30 to 50 Mc/s for general communication.

(a) Carrier frequencies which are authorized for any communication necessary for the safe, expeditious or economical operation of ships (other than public correspondence) for use by ship stations and marine-utility stations on board ship employing either frequency modulation or amplitude modulation for telephony, for transmission and reception on the same radio-channel are designated in this section:

Carrier frequency:	*Normal geographic area of use*
35.06 Mc/s	Gulf-Caribbean area north of 15° north latitude (includes Puerto Rico and Virgin Islands, does not include Florida east coast area).
35.10 Mc/s	Pacific area within Region 2 and north of 15° north latitude.
35.14 Mc/s	Atlantic area within Region 2 and north of 15° north latitude (includes Florida east coast area).
35.18 Mc/s	Mid-continent area (includes Great Lakes).

Each of these assignable frequencies is available on a shared basis only and shall not be construed as available for the exclusive use of any one station licensee. All licensees having authority to transmit on such assigned frequencies shall cooperate in the use thereof in order to minimize interference and obtain the most effective use of the authorized facilities.

(b) Each application which requests assignment of a carrier frequency designated in paragraph (a) of this section shall designate normally the carrier frequency specified in that paragraph for use in the geographic area in which the station is to be operated. Normally, only that carrier frequency is assignable for use in that area. When any other of these carrier frequencies is requested for assignment in a specified area, the application therefor shall include a satisfactory showing that the carrier frequency designated in paragraph (a) of this section for use in the particular area will not meet the need of the proposed or existing service. When, in the opinion of the applicant, the location of the involved station is not, or will not be, clearly within one of the geographic areas designated in paragraph (a) of this section, the applicant shall obtain the necessary information in this respect by corresponding directly with the Commission at Washington, D. C.

(c) Each of these carrier frequencies is assignable for communication (other than public correspondence) by means of telephony with limited coast stations, ship stations, and marine-utility stations on ship or shore, which for this purpose transmit on the same radio-channel. In addition, when required to serve a maritime purpose, each of these carrier frequencies is assignable in accordance with the geographic areas specified in paragraph (a) of this section for use by mobile stations on board aircraft at sea for communication by telephony with ship stations, limited coast stations, and marine-utility stations on board ship, when each of the involved stations transmits and receives on the same radio-

channel; subject to this provision, ship stations and marine-utility stations are authorized to communicate additionally on such radio-channel(s) with mobile stations on board aircraft appropriately licensed for this purpose. Such stations on board aircraft shall be governed in the use of any of these frequency assignments by the same rules and regulations that apply to ship stations using the same frequency assignment.

NOTE: Effective April 1, 1958, no new radio systems will be authorized in the maritime mobile service on the frequencies listed in this section. An application requesting initial authority (or equivalent) to operate on one or more of these frequencies in behalf of a particular applicant will be construed as an application for a new radio system. All authorizations for the use of one or more of these frequencies will expire not later than March 31, 1963.

§ 83.362 Frequencies below 3000 kc/s for safety, business, and operational purposes.

(a) The frequencies 2738 kc/s, 2830 kc/s and 2214 kc/s may be used for safety, operational, or business communication with limited coast stations authorized to engage in such communication: *Provided,* That with respect to the frequency 2214 kc/s, specific authorization for such use must be obtained, in which event intership use of the frequency between such ship stations is also authorized.

(b) Use of 2738 kc/s, 2830 kc/s and 2214 kc/s as specified in paragraph (a) of this section will be subject to the same conditions under which they are authorized to be used by limited coast stations under the provisions of § 81.365 (a) of this chapter.

(c) The frequencies 2738 kc/s and 2830 kc/s may be used for safety and related navigational communication with limited coast stations authorized to engage in such communication: *Provided,* That use of these frequencies will be subject to the same conditions under which they are authorized to be used by limited coast stations under the provisions of § 81.365(b) of this chapter.

(d)(1) In addition to availability of the carrier frequencies 2738 kc/s and 2830 kc/s, primarily for intership communication as prescribed in § 83.358, either of these carrier frequencies may, in response to proper application therefor, be specifically authorized in private aircraft station licenses for communication (in areas where their use is authorized for ship stations using telephony as prescribed in § 83.358) by means of telephony (amplitude modulation) with a ship station or stations: *Provided,*

(i) The applicant makes a showing satisfactory to the Commission that such communication is necessary to serve an important business or operational need of each particular ship while such ship is engaged in commercial fishing activities in the open sea or on any bay, sound, strait, or comparable waters adjacent to the open sea; and

(ii) Harmful interference is not caused to ship-to-ship communications; and

(iii) The maximum plate input power used for such communication shall not exceed 50 watts; and

(iv) The aircraft-to-ship and ship-to-aircraft communication which takes place on the radio-channel of which either 2738 kc/s or 2830 kc/s is the authorized carrier frequency shall be limited exclusively to that which is necessary to serve an important business or operational need of the vessel on which the ship station is located while such vessel is engaged in commercial fishing activities in the open sea or on any bay, sound, strait, or comparable waters adjacent to the open sea; and

(v) Except as otherwise provided in this paragraph, all of the provisions of this part in respect to authorization and use of the carrier frequencies 2738 kc/s and 2830 kc/s for ship to ship communication shall apply to all aircraft stations when operating under the provisions of this paragraph.

(2) As an alternative to one of the specific carrier frequencies designated in subparagraph (1) of this paragraph, the carrier frequency 2638 kc/s may be authorized in accordance with all other provisions of this paragraph only in behalf of those private aircraft stations which were licensed prior to July 23, 1951, to transmit on this carrier frequency for communication by telephony with ship stations for the purpose expressed in this paragraph.

NOTE: Commission Order (FCC 62-724) adopted July 13, 1962, appearing at 27 F.R. 6833, July 19, 1962, waived regulations contained in § 83.362 to permit ship stations to communicate with the limited coast station of Michigan State Highway Department on 2003 kc/s.

§ 83.363 Use of U.S. Government frequencies for telephony.

(a) In addition to use of the frequency assignment designated for telephony in the license of a ship station, such station when communicating by telephony with a mobile or land station of the United States Government, may transmit on a government frequency assignment when authorized or directed to do so by the government station responsible or by the government department or agency for which use of such frequency assignment is authorized; on condition that the emission-bandwidth and frequency tolerance of the ship station shall be within the respective limits thereof required to be maintained by the government station. Under these circumstances, the ship station carrier frequency, the class of emission, and the permissible class of traffic shall be designated and controlled by the responsible government station, department, or agency.

(b) Frequencies assigned to government radio stations are assignable to non-Government ship radio stations for communication with other non-Government stations by telephony when such communication is necessary in connection with activities performed in coordination with or in behalf of the Federal Government and where the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

§ 83.364 Identification of station.

(a) Ship and survival craft stations using radiotelephony shall identify all transmissions by announcement in the English language, or by telegraphy using A2 emission, of the station's call sign: *Provided,* That on 156.65 Mc/s transmissions may be identified by the name of the ship in lieu of the station call sign. This identification shall be made:

(1) At the beginning and upon completion of each communication with any other station;

(2) At the beginning and upon conclusion of each transmission made for any other purpose; and

(3) At intervals not exceeding 15 minutes whenever transmission is sustained for a period exceeding 15 minutes.

(b) When an official call sign is not assigned by the Commission to a ship station using telephony, the complete name of the ship on which the station is located and the name of the licensee shall be transmitted by voice in the English language for the purpose of station identification.

(c) The provisions of paragraphs (a) and (b) of this section shall apply also to ship stations of portable nature when using telephony and operated on board ship pursuant to §§ 83.40 and 83.71.

§ 83.365 Procedure in testing.

(a) Ship stations must use every precaution to insure that, when conducting operational transmitter tests, the emissions of the station will not cause harmful interference. Radiation must be reduced to the lowest practicable value and if feasible shall be entirely suppressed. When radiation is necessary or unavoidable, the testing procedure described below shall be followed:

(1) The licensed radio operator or other person responsible for operation of the transmitting apparatus shall ascertain by careful listening that the test emissions will not be likely to interfere with transmissions in progress; if they are likely to interfere with the working of a coast or aeronautical station in the vicinity of the ship station, the consent of the former station(s) must be obtained before the test emissions occur;

(2) The official call sign of the testing station, followed by the word "test", shall be announced on the radio-channel being used for the test, as a warning that test emissions are about to be made on that frequency;

(3) If, as a result of the announcement prescribed in subparagraph (2) of this paragraph, any station transmits by voice the word "wait", testing shall be suspended. When, after an appropriate interval of time, such announcement is repeated and no response is observed, and careful listening indicates that harmful interference should not be caused, the operator shall proceed as set forth in subparagraph (4) of this paragraph;

(4) The operator shall announce the word "testing" followed in the case of a voice transmission test by the count "1, 2, 3, 4, • • • etc." or by test phrases or sentences not in conflict with normal operating signals; or followed, in the case of other emission, by appropriate test signals not in conflict with normal operating signals. The test signals in either case shall have a duration not exceeding ten seconds. At the conclu-

sion of the test, there shall be voice announcement of the official call sign of the testing station, the name of the ship on which the station is located, and the general location of the ship at the time the test is being made. This test transmission shall not be repeated until a period of at least one minute has elapsed; on the frequency 2182 kc/s or 156.8 Mc/s in a region of heavy traffic, a period of at least five minutes shall elapse before the test transmission is repeated.

(b) When testing is conducted on any frequency assignment within the band 2170 kc/s to 2194 kc/s, within the band 156.75 Mc/s to 156.85 Mc/s, within the band 480 kc/s to 510 kc/s (lifeboat transmitters only), or within the band 8362 kc/s to 8366 kc/s (lifeboat transmitters only), no test transmissions shall occur which are likely to actuate any automatic alarm receiver within range. Lifeboat stations using telephony shall not be tested on the assigned frequency 500 kc/s during the 500 kc/s silence periods.

§ 83.366 General radiotelephone operating procedure.

(a) *Calling coast stations.* (1) Use by ship stations of the frequency 2182 kc/s for calling coast stations, and for replying to calls from coast stations, is authorized; however, whenever practicable such calls and replies shall be made on the appropriate ship-shore working frequency.

(2) Use by ship stations and marine utility stations on board ship of the frequency 156.8 Mc/s for calling coast stations and marine utility stations on shore, and for replying to calls from such stations, is authorized; however, whenever practicable such calls and replies shall be made on the appropriate ship-shore working frequency.

(b) *Calling ship stations.* (1) Except when other operating procedure is used to expedite safety communication, ship stations, before transmitting on the intership working frequencies 2003, 2638, 2738, or 2830 kc/s, shall first establish communication with other ship stations by call and reply on 2182 kc/s: *Provided,* That calls may be initiated on an intership working frequency when it is known that the called vessel maintains a simultaneous watch on such working frequency and on 2182 kc/s.

(2) Except when other operating procedure is used to expedite safety communication, the frequency 156.8 Mc/s shall be used for call and reply by ship stations and marine utility stations on board ship before establishing communication on either of the intership working frequencies 156.3 or 156.4 Mc/s.

(c) *Change to working frequency.* After establishing communication with another station by call and reply on 2182 kc/s or 156.8 Mc/s, stations on board ship shall change to an authorized working frequency for the transmission of messages which, under the provisions of this subpart, cannot be transmitted on the respective calling frequencies.

(d) *Authorized use of 2003, 2638, 2738, and 2830 kc/s.* The intership working frequencies 2003, 2638, 2738, and 2830 kc/s shall be used for transmissions by ship stations in accordance with the provisions of §§ 83.176, 83.177, and 83.358.

(e) *Simplex operation only.* All transmission on 2003, 2638, 2738, and 2830 kc/s by two or more stations, engaged in any one exchange of signals or communications, shall take place on only one of these frequencies, i.e., the stations involved shall transmit and receive on the same frequency: *Provided,* That this requirement is waived in the event of emergency when by reason of interference or limitation of equipment single-frequency operation cannot be used.

(f) *Limitation on duration of calling.* Calling a particular station shall not continue for more than 30 seconds in each instance. If the called station is not heard to reply, that station shall not again be called until after an interval of 2 minutes. When a station called does not reply to a call sent three times at intervals of 2 minutes, the calling shall cease and shall not be renewed until after an interval of 15 minutes; however, if there is no reason to believe that harmful interference will be caused to other communications in progress, the call sent three times at intervals of 2 minutes may be repeated after a pause of not less than 3 minutes. In event of an emergency involving safety, the provisions of this paragraph shall not apply.

(g) *Limitation on duration of working.* Any one exchange of communications between any two ship stations on 2003, 2638, 2738, or 2830 kc/s, or between a ship station and a limited coast station on 2738 or 2830 kc/s, shall not exceed 3 minutes in duration after the two stations have established contact by calling and answering. Subsequent to such exchange of communications, the same two stations shall not again use 2003, 2638, 2738, or 2830 kc/s for communication with each other until 10 minutes have elapsed: *Provided,* That this provision shall in no way limit or delay the transmission of communications concerning the safety of life or property.

(h) *Transmission limitation on 2182 kc/s and 156.8 Mc/s.* Any one exchange of signals by ship stations on 2182 kc/s or 156.8 Mc/s (including calls, replies thereto, and operating signals) shall not exceed 2 minutes: *Provided,* That this time limitation is not applicable to the transmission of distress, alarm, urgency, or safety signals, or to messages preceded by one of these signals.

(i) *Limitation on business and operational communication.* On frequencies above 30 Mc/s, the exchange of all business and operational communication shall be limited to the minimum practicable transmission time. In the conduct of ship-shore communication, other than distress, stations on board ship shall comply with instructions given by the limited coast station or marine utility station on shore with which they are communicating, in all matters relative to operating practices and procedures and to the suspension of transmission in order to minimize interference.

(j) *2182 kc/s silence period in Regions 1 and 3.* Transmission by ship or survival craft stations when in Regions 1 and 3 (except in the territorial waters of Japan and the Philippines) is prohibited on any frequency (including 2182 kc/s) within the band 2170–2194 kc/s during each 2182 kc/s silence period, i.e., for 3 minutes twice each hour beginning at x h. 00 and x h. 30, Greenwich mean time: *Provided,* That this provision is not applicable to the transmission of distress, alarm, urgency, or safety signals, or to messages preceded by one of these signals.

§ 83.367 Station documents.

(a) Ship radiotelephone stations subject to the radio provisions of the Safety Convention shall be provided with the following documents:

(1) A valid station license;

(2) The necessary operator license(s);

(3) The station log required by this part for stations of this category;

(4) The List of Coast Stations, or, alternatively, a list of coast stations with which communications are likely to be conducted, showing watchkeeping hours, frequencies, and charges;

(5) The International Radio Regulations, Geneva, 1959;

(6) Part 83 of this chapter.

(b) Ship radiotelephone stations not subject to the Safety Convention shall be provided with the documents listed in subparagraphs (1), (2), (3), and (6) of paragraph (a) of this section.

§ 83.368 Radiotelephone station log.

(a) A station log shall be maintained during the hours of service of ship stations using radiotelephony, in which the entries required by this section shall be made. Pages of the log shall be numbered in sequence and each page shall include the name of the vessel and the radio call sign of the station. All entries which show transmitter operation shall be made and signed by the licensed operator (or other person in accordance with § 83.155). Watch entries, and signatures of each person keeping the required watch, shall be so related that they constitute a certification by each such person as to when he began and ended each period of his watch during the voyage. The date and time of each occurrence or incident required to be entered in the log shall be shown opposite the entry, and the time shall be counted from 0000 to 2400, beginning at midnight. Stations on board vessels engaged on international voyages, other than on the Great Lakes or inland waters, shall use Greenwich mean time (GMT); stations on board vessels navigated on the Great Lakes may use either GMT or Eastern standard time (e.s.t.); other stations may use GMT or local standard time. The appropriate symbol, GMT, e.s.t., c.s.t., p.s.t., etc., shall be entered at the head of the column in which time is entered.

(b) The log of ship radiotelephone stations subject to Title III, Part II of the Communications Act of 1934 or to the radio provisions of the Safety Convention shall include the following entries:

(1) All radiotelephone distress, alarm, urgency, and safety signals and communications transmitted or intercepted, the text in as complete form as possible of distress messages and distress communications, and any information connected

with the radio service which may appear to be of importance to maritime safety, together with the time of such observation or occurrence, the frequencies used, and the position of the ship or other mobile unit in need of assistance if this can be determined;

(2) The times when the required watch is begun, interrupted, and ended. When the required watch is interrupted for any reason, except for the purpose of communications with other stations, the reason for such interruption shall be stated;

(3) The call signs of all stations called or communicated with, a notation of messages exchanged, and the frequency(s) used for such call or communication;

(4) A daily entry of the ship's position;

(5) All test transmissions, including the frequency(s) used;

(6) The times when storage batteries provided as a part of the required radiotelephone installation are placed on charge and taken off charge;

(7) Results of required equipment tests, including specific gravity of lead-acid storage batteries and voltage readings of other types of batteries provided as part of the compulsory installation;

(8) Results of inspections and tests of compulsorily fitted lifeboat radio equipment;

(9) A daily statement concerning the operating condition of the required radiotelephone equipment, as determined by either normal communication or test communication;

(10) Pertinent details of all installation, service, or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed, and dated by the responsible licensed operator who supervised or performed the work, and unless such operator is regularly employed on a full-time basis at the station and his operator license is properly posted, such entry shall include his mail address and the class, serial number, and expiration date of his operator license.

(c) The log of ship stations subject to the Great Lakes Agreement shall include those entries specified by subparagraphs (1), (2), (3), (5), (6), (7), (9), and (10) of paragraph (b) of this section, and in addition shall include the name and radio license number of each operator actually on board and designated by the master to operate the radiotelephone installation.

(d) The log of ship stations subject to Title III, Part III of the Communications Act shall include the following entries:

(1) All radiotelephone distress and alarm signals and communications transmitted or intercepted, all urgency and safety signals and communications transmitted, the text in as complete form as possible of distress messages and distress communications, and any information connected with the radio service which may appear to be of importance to maritime safety, together with the time of such observation or occurrence, the frequencies used, and the position of the ship or other mobile unit in need of assistance if this can be determined;

(2) The entries specified by subparagraphs (2), (9), and (10) of paragraph (b) of this section.

(e) The log of ship radiotelephone stations not required by law to be provided shall include the following entries:

(1) The entries specified by subparagraph (1) of paragraph (d) of this section;

(2) The entries specified by subparagraphs (2) and (10) of paragraph (b) of this section.

(f) The log of marine utility stations on board ships shall include the entry specified by subparagraph (10) of paragraph (b) of this section.

§ 83.369 Operation under interim ship station license.

(a) The use and operation of a ship radiotelephone station under the authority conferred by an interim ship station license shall be subject to and in accordance with all applicable rules of the Commission: *Provided,* That the class of station, the use of frequencies, the class of emission, and the transmitting equipment shall be limited at all times under such license to the authorization hereinafter designated:

(1) Class of ship station:

(i) Public, if equipped to operate on one or more of the frequencies designated by this section for transmission to public coast stations;

(ii) Limited, if not equipped to operate as prescribed in subdivision (i) of this subparagraph.

(2) Authorized carrier frequencies:

(i) 2182 kc/s for calling and distress; 156.8 Mc/s for calling and safety communication;

(ii) For ship-to-ship communication:

2638 kc/s, 156.3 Mc/s and 156.4 Mc/s: for use in all areas;

2738 kc/s: For use in all areas except the Great Lakes and the Gulf of Mexico; provided that, unless the transmitter is type accepted under this part for licensing on this frequency or a certification in accordance with § 83.351 (d) has been submitted, use of the frequency is limited to test purposes as set forth in § 83.351 (d);

2830 kc/s: For use in the Gulf of Mexico; provided, that, unless the transmitter is type accepted under this part for licensing on this frequency or a certification in accordance with § 83.351 (d) has been submitted, use of the frequency is limited to test purposes as set forth in § 83.351 (d);

2003 kc/s: For use in the Great Lakes area, exclusively.

(iii) For communication between ships and public coast stations:

Frequencies below 30 Mc/s as set forth in §§ 83.354 and 83.355;

Frequencies above 156 Mc/s as set forth in §§ 83.359(a), 85.257, 85.258, and 85.265 of this chapter.

(iv) In addition in the Alaska area:

1622 kc/s: For communication between ship stations aboard vessels of less than 500 gross tons and for communication between public ship stations on board vessels of any size and public coast stations;

2134 kc/s: For communication between ship stations and coast stations of the Alaska Communication System open to public correspondence;

2382 kc/s: For communication between ship stations aboard vessels of 500 gross tons or more and for communication between public ship stations on board vessels of any size and public coast stations.

(3) Authorized classes of emission. A3 on frequencies herein designated below 30 Mc/s; F3 on frequencies herein designated above 156 Mc/s; and for brief operating signals A2 and F2 respectively.

(4) Equipment: The equipment shall be the same as the particular equipment which is described in the related formal application simultaneously filed for regular ship station license or modification of license, and which is capable of being operated with class A3 or F3 emission (according to the frequency band to be used under the provisions of this section) in accordance with all applicable rules and regulations on one or more radio-channels of which the authorized carrier frequencies are designated by this section.

Subpart P—Use of Radiodetermination

§ 83.401 Assignable frequencies for direction finding.

(a) The frequency 410 kc/s is the assigned frequency for direction finding.

(b) As an exception, on condition that signals of distress, urgency and safety, and calls and answers, are not interfered with, the calling channel of which 500 kc/s is the assigned frequency may be used additionally and with discretion, by ship stations for direction-finding; exclusively in Regions 1 and 3 outside areas of heavy radio traffic.

(c) In the event of distress, the following frequencies may be used for radio direction finding for purposes of search and rescue by any licensed ship or survival craft station:

410 kc/s 500 kc/s 2182 kc/s 8364 kc/s

§ 83.403 Radiodetermination by cable-repair ship.

Provided radio transmitting equipment attached to a cable-marker buoy has been adequately described in an application for ship radio station license for a cable-repair ship with which the buoy is associated, and provided further that such equipment is authorized in the related ship station license, that equipment may be operated (outside the territorial waters of a foreign country) on such radio channels within the band 285–325 kc/s (285–315 kc/s only in Region 1) as may be expressly authorized in each case by the Commission under authority of the ship station license, with A1 or A2 emission and a maximum plate input power of 30 watts: *Provided,* That interference shall not be caused by such operation to any maritime radionavigation service. The call signals that must be used for a transmitter operating under the provisions of this section shall be the regularly assigned call of the ship station with which the buoy is associated, to be followed by the letters "BT", and the identifying number of the buoy. The buoy transmitter shall be continuously monitored by a licensed radiotelegraph operator on board the associated cable-repair ship. Should a frequency deviation in excess of the authorized frequency tolerance, or interference to the service of any other station, be reported

or observed, the radiation of the transmitter shall be suspended until the excessive deviation is eliminated or until the transmitter can be operated without causing interference.

§ 83.404 Assignable frequencies above 2400 Mc/s.

(a) The following frequency bands, when designated in the station license, are authorized for use by ship radionavigation stations (including ship radar stations):

2900 to 3100 Mc/s
5460 to 5650 Mc/s
9300 to 9500 Mc/s

The use of the band 5460 to 5650 Mc/s is limited to shipborne radar. Transmitters in ship radionavigation stations (including developmental stations) which are authorized for operation in the 3000 to 3246 Mc/s band as of April 16, 1958, and which operate on frequencies between 3100 and 3246 Mc/s may continue to be authorized for operation on the same vessel provided that any renewal of the authorization shall be subject to the condition that no protection shall be given from any interference caused by emission from United States Government stations operating in the 3100 to 3246 Mc/s band.

(b) The following frequency bands, when designated in the station license, are authorized for use by ship radiolocation stations:

(1) 2450 to 2500 Mc/s, on condition that harmful interference shall not be caused to the fixed and mobile services, and on the condition that no protection shall be given from interference caused by emission from industrial, scientific, or medical equipment;

(2)

2900 to 3100 Mc/s
5460 to 5650 Mc/s
9300 to 9500 Mc/s

The use of frequencies within these bands for radiolocation shall not cause harmful interference to the radionavigation service and to the Government radiolocation service. Each ship radiolocation station authorized to operate in the band 3000 to 3246 Mc/s as of April 16, 1958, and which operates on frequencies between 3100 and 3246 Mc/s may continue to operate in the band 3100 to 3246 Mc/s for the duration of the term of its authorization in effect as of that date. Renewals of such authorizations, however, shall be contingent upon the condition that each such station shall not cause harmful interference to United States Government services.

§ 83.405 Special provisions applicable to ship-radar stations.

(a) A ship radar station may be operated under an interim ship station license. The use and operation of a radar station on board ship under the authority conferred by an interim ship station license shall be subject to and in accordance with all applicable rules of the Commission.

(b) Each ship-radar station installation the manufacture of which was completed on or after 1947 shall be furnished with a durable name plate with the manufacturer's name, transmitter model number; and month and year of completion of manufacture permanently inscribed thereon. Such name plate shall be affixed to the indicator housing at the principal radar operating position or to some other component of the radar installation which is readily accessible for inspection.

(c) Each ship-radar station license issued shall be subject to the condition that the station licensee, in relation to the proper operation of the station in accordance with the radio law, and rules and regulations of the Commission, will be represented on board the radar-equipped vessel by the person who at any given time occupies the position of master.

(d) The following provisions shall apply to ship-radar stations:

(1) The station licensee of each ship-radar station shall provide and require to be kept at the station a permanent installation and maintenance record. Entries in this record shall be made by or under the personal direction of the responsible installation, service, or maintenance operator concerned in each particular instance, but the station licensee shall have joint responsibility with the responsible operator concerned for the faithful and accurate making of such entries as are required by this paragraph.

(2) Each entry in this record shall be personally signed by the responsible operator concerned.

(3) The following entries shall be made in this record:

(i) The date and place of initial installation.

(ii) Any necessary steps taken to remedy any interference found to exist at the time of such installation.

(iii) The nature of any complaint (including interference to radio communication) arising subsequent to initial installation, and the date thereof.

(iv) The reason for the trouble leading to the complaint, including the name of any component or component part which failed or was misadjusted.

(v) Remedial measures taken, and date thereof.

(vi) The name, license number, and date of the ship-radar operator endorsement on the first or second class radio operator license of the responsible operator performing or immediately supervising the installation, servicing, or maintenance.

(e) Until the Commission shall otherwise provide, the ship-radar station licensee, by such arrangement as may be necessary with the ship master, operating agency, or ship owner, shall, upon specific request made by the Commission, be responsible for the submission of such reports as are requested by the Commission to show the value and practical performance of the ship-radar station. For assistance in preparing these reports, daily records, when the radar installation is tested or used, should, when practicable, be kept showing at least the following:

(1) Approximate number of hours of use while the ship is in operation;

(2) Number of service failures, and duration, nature, and cause of each failure if known;

(3) Performance under local weather conditions which are unfavorable for marine navigation; and

(4) Unusual incidents, including, among others, cases in which radar may have aided or hindered safe operation of the ship.

(f) In addition to the installation and maintenance record required by paragraphs (d) and (e) of this section, the following documents shall be available for reference on board each radar-equipped vessel whose ship-radar station is licensed by the Commission:

(1) Part 83 of this chapter.

(2) At least one set of instructions from the respective manufacturer relative to the use and operation of the particular type of ship-radar installation.

(g) No provisions of this part shall require any ship-radar station to transmit any signal(s) intended solely for the purpose of identifying that station.

Subpart Q—Developmental Stations

§ 83.431 Supplemental eligibility.

An authorization for developmental operation of a station on board ship in any of the services under this part will be issued only to those persons who are eligible to operate such stations on a regular basis.

§ 83.432 Showing and statement required.

(a) Except as provided in paragraph (c) of this section, each application for authorization for a developmental station on board ship shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the use of radio for a maritime purpose, or is in a field of maritime operation not already investigated;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program proposed;

(6) The public interest, convenience, or necessity will be served by the proposed operation.

(b) Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

(c) The provisions of paragraph (a) of this section do not apply when an application is made for a developmental station solely for the reason that the

frequency requested is restricted to such developmental use.

§ 83.433 Assignable frequencies.

(a) Stations engaged in developmental operation may be authorized to use a frequency or frequencies available for the service and class of station which they propose to operate. The number of frequencies assignable to a particular station shall depend upon the specific requirements of the developmental program and the number of frequencies available for such use in the particular area where the station is to be operated.

(b) The following frequency bands, when designated in the station license, are authorized for use by developmental ship stations subject to the applicable provisions of this part:

6425 to 6575 Mc/s
11700 to 12200 Mc/s
26000 to 30000 Mc/s
16000 to 18000 Mc/s [1]
2450 to 2500 Mc/s [1]

[1] On the condition that no protection shall be given from interference caused by emissions from industrial, scientific, or medical equipment. The class of emission, the frequency tolerance, the emission bandwidth, and the maximum transmitter power for use on frequencies within these bands above 2400 Mc/s shall be designated in each station authorization.

(c) The frequency bands 5350–5460 Mc/s and 9000–9200 Mc/s, when designated in the station license, are authorized for use by developmental ship radiolocation stations: *Provided,* That use of frequencies within these bands shall not cause harmful interference to the aeronautical radionavigation service or the Government radiolocation service.

§ 83.434 Use of developmental stations.

(a) Developmental stations on board ship shall be constructed and used in such manner as to conform with all applicable technical and operating requirements contained in this part, unless deviation therefrom is specifically provided in the station authorization, in paragraph (d) of this section, or in other sections of this subpart.

NOTE: Such requirements are those applicable to the corresponding established class of station including provisions relating to operator requirements, station records, station documents, and assignments of call signs.

(b) Communication with any station of a country other than the United States is prohibited unless specifically authorized by the terms of the station authorization, by paragraph (d) of this section, or by other sections of this subpart.

(c) The operation of a developmental station is subject to the condition that harmful interference is not caused to the operation of stations regularly licensed in an established service under any part of the Commission's rules, nor to the service of any United States Government station or any foreign station which, in the discretion of the Commission, may have priority on the frequency or frequencies used for the service to which interference is caused.

§ 83.435 Developmental program.

(a) The developmental program as described by the applicant in the application for authorization shall be substantially followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by the general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions in each case as deemed necessary in the public interest, convenience or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 83.436 Report of operation required.

(a) A report on the results of the developmental program shall be filed with and made a part of each application for renewal authorization, or in cases where no renewal of authorization is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labelled; they will be used solely for the Commission's information and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on the following:

(1) The final objective of the developmental operation;

(2) Pertinent results of operation to date;

(3) Analysis of the results obtained;

(4) Copies of any published reports;

(5) Need for continuation of the program if such need exists;

(6) Number of hours of operation on each authorized frequency during the term of the license to the date of the report.

§ 83.437 Identification of station.

(a) The radiotelegraph and radiotelephone emissions of a developmental station on board ship shall be clearly identified in the manner provided in §§ 83.326 and 83.364, respectively.

(b) The facsimile emissions of a developmental station on board ship shall be identified either by telegraphy or by telephony as provided in §§ 83.326 and 83.364, respectively.

(c) All other classes of emission of a developmental station on board ship shall be identified as prescribed in the respective station authorization.

Subpart R—Radiotelegraph Stations Provided for Compliance With Part II of Title III of the Communications Act or the Radio Provisions of the Safety Convention

§ 83.441 Inspection of station.

(a) Every ship of the United States subject to part II of title III of the Communications Act and/or the radio provisions of the Safety Convention shall have the equipment and apparatus prescribed therein inspected at least once every twelve months. The issuance of an appropriate certificate (see section 361 of the Communications Act) in behalf of any vessel of the United States concerning the radio particulars provided for in the Safety Convention is subject to a finding by the Commission that such vessel complies with the applicable radio provisions of that Convention. The issuance date of Safety Radiotelegraphy Certificates and Safety Radiotelephony Certificates issued by the Commission shall be the date the station is found to be in compliance or not later than one business day following such in-compliance date.

(b) Every ship of the United States holding a Safety Convention certificate is subject when in a port of a foreign country which is a party to the Safety Convention to control by officers duly authorized by the government of that country, insofar as that control is directed towards verifying that there is on board a valid Safety Convention certificate and, if necessary, that the condition of the ship or of its equipment corresponds substantially with the particulars of that certificate.

(c) The privileges of the Safety Convention may not be claimed in favor of any ship unless it holds appropriate valid Convention certificates. In the event of control giving rise to intervention of any kind in a foreign port, the officer carrying out the control is required to notify the United States Consul in writing forthwith of all the circumstances in which intervention was deemed to be necessary.

(d) Certificates issued under and in accordance with the Safety Convention shall be posted in a prominent and accessible place in the ship.

§ 83.442 Radiotelegraph station.

The radiotelegraph station required to be provided on a ship by reason of the provisions of part II of title III of the Communications Act, or on a United States ship by reason of the Safety Convention, shall comply in an efficient manner with the provisions of this subpart in addition to all other applicable requirements of this part. The radiotelegraph station comprises a main installation and a reserve installation, electrically separate and electrically independent of each other, and such other equipment as may be necessary for the proper use and operation of these installations: *Provided,* That, in the case of an existing installation on a cargo ship and a new installation on a cargo ship of 500 gross tons and upwards but less than 1,600 gross tons, if the main installation complies with all requirements of a reserve installation, the reserve installation may be omitted, except that a separate reserve receiver must, in all cases, be provided.

§ 83.443 Main and reserve installations.

(a) The main installation includes a main transmitter, a main receiver, a main power supply, and a main antenna system.

(b) The reserve installation includes a reserve transmitter, a reserve receiver, a reserve power supply, emergency electric lights, and a reserve antenna system: *Provided,* That, a cargo ship the keel of which was laid prior to June 1, 1954 may either be equipped with a reserve antenna or provided with a spare

antenna consisting of a single-wire transmitting antenna (including suitable insulators) completely assembled for immediate installation.

§ 83.444 Requirements of main installation.

All main radiotelegraph installations shall comply with the following conditions, in addition to all other requirements:

(a) The main antenna shall be as efficient as is practicable and shall be installed and protected so as to insure proper operation of the station. If the main antenna is suspended between masts or other supports liable to whipping, an approved device (safety link) which, under heavy stress, will operate to greatly reduce such stress without breakage of the antenna, the halyards, or any other antenna-supporting elements, shall be installed.

(b) The main transmitter shall be capable of meeting the requirements of § 83.552.

(c) The main receiver shall be capable of efficiently receiving A1 and A2 emission on all frequencies within the bands 100–200 kc/s and 405–535 kc/s, and B emission within the band 485–515 kc/s. It shall be fitted with headphones capable of effective operation. Where a loudspeaker is additionally provided for use in accordance with the provisions of § 83.204, such device shall also be capable of effective operation. The main receiver shall have sufficient sensitivity to effectively operate headphones or a loudspeaker when the receiver input is as low as 50 microvolts.

(d) There shall be readily available for use under normal load conditions, at all times when required including times of inspection of the ship radio station by a Commission representative, a main power supply for the main installation sufficient to simultaneously (1) energize the main transmitter at its required antenna power, and the main receiver, (2) charge at any required rate all storage batteries forming part of the radiotelegraph station, and (3) charge at any required rate all other storage batteries which are connected to the main power supply for this purpose. Under this load condition the potential of the main power supply at the radio room terminals shall not deviate from its rated potential by more than 10 percent on vessels completed on or after July 1, 1941, nor by more than 15 percent on vessels completed before that date. While at sea, storage batteries forming part of the main installation shall be brought up to the normal fully charged condition daily.

(e) For the purpose of determining the potential(s) of the main power supply at its radio room terminals, a suitable voltmeter or voltmeters of standard accuracy and reliability shall be permanently installed in the radiotelegraph operating room.

(f) The main installation shall be provided with a device permitting changeover from transmission to reception and vice versa without manual switching.

(g) The main installation shall be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is installed.

§ 83.446 Requirements of reserve installation.

(a) All reserve radiotelegraph installations shall comply with the following conditions, in addition to all other requirements:

(1) The reserve installation shall be capable of being placed in operation within a maximum time of 1 minute after the need arises for its use.

(2) The reserve antenna shall be as efficient as is practicable and shall be adequately installed and protected so as to insure proper operation in time of an emergency.

(3) The reserve transmitter shall be capable of meeting the requirements of § 83.533.

(4) The reserve receiver shall be capable of efficiently receiving A1 and A2 emission on all frequencies within the band 405–535 kc/s, and B emission within the band 485–515 kc/s. It shall be fitted with headphones capable of effective operation. Where a loudspeaker is additionally provided for use in accordance with the provisions of § 8.204, such device also shall be capable of effective operation. The reserve receiver shall have sufficient sensitivity to effectively operate headphones or a loudspeaker when the receiver input is as low as 100 microvolts.

(5) The reserve installation shall be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is installed.

(6) Emergency electric lights shall be provided of not less than 10 watts per unit, capable of being energized solely by the reserve power supply and connected thereto through individual fuses. The emergency electric lights shall be arranged so as to provide satisfactory illumination of the operating controls of the main and reserve radiotelegraph installations and of the radio station clock. The emergency lighting electrical circuits shall be arranged so as to avoid the application of excessive voltage to the emergency lights during the charging of any batteries forming part of the reserve installation. The provisions of this subparagraph shall not preclude the use of any other power supply for energizing these lights solely as an additional provision. If a separate emergency radiotelegraph operating room is provided, the requirements of this subparagraph shall apply to it.

(7) The emergency electric lights shall be controlled by two-way switches placed near the main entrance to the radiotelegraph operating room and at the radiotelegraph operating position, in all cases where the distance between these points is greater than 8 feet: *Provided,* That this requirement shall be applicable to stations when the main or reserve radiotelegraph transmitter is replaced or initially installed in such station on and after the effective date of the Safety Convention, 1960.

(8) There shall be readily available for use under normal load conditions, at all times when required including times of inspection of the ship radio station by a Commission representative, a reserve power supply for the reserve installation which shall be independent of the propelling power of the ship and of any other electrical system and shall be sufficient to simultaneously energize the reserve transmitter at its required antenna power and the reserve receiver for at least 6 hours continuously under normal working conditions, and of energizing the automatic radiotelegraph alarm signal keyer continuously for a period of 1 hour.

(9) The reserve power supply shall be used to energize the reserve installation and the automatic radiotelegraph alarm signal keyer, and may be used to energize the audible warning apparatus included as a component of an approved radiotelegraph auto alarm.

(10) The reserve power supply shall be located as near to the reserve transmitter and reserve receiver as is practicable: *Provided,* That the location of such power supply complies with all applicable rules and regulations of the United States Coast Guard. The switchboard of the reserve power supply shall, wherever possible, be situated in the radiotelegraph operating room; if it is not, it shall be capable of being illuminated.

(11) All reserve power supply circuits shall be appropriately protected from overloads or short circuits which could damage any component thereof.

(12) Means shall be provided for adequately charging any storage batteries forming part of the reserve installation, and such batteries shall be brought to their normal fully charged condition daily while at sea. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

(13) The cooling system of each internal combustion engine used as a part of the reserve power supply shall be adequately protected or treated to prevent freezing or overheating consistent with the season and route to be traveled by the particular vessel involved.

(b) (1) The shipowner, operating company, or station licensee, if directed by the Commission or its authorized representative shall prove by demonstration prescribed in subparagraphs (2), (3), (4), and (5) of this paragraph or by such other means as may be deemed necessary, that the reserve installation satisfies the 6-hour operating requirement of law.

(2) When the reserve power supply, on board a vessel required by law to be equipped with a radiotelegraph station, consists of or includes a storage battery, proof of the ability of such battery to operate continuously and effectively over the 6-hour period of time is authorized to be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal and effective operation to an electrical load as prescribed by subparagraph (4) of this paragraph.

(3) When the reserve power supply on board a vessel required by law to be equipped with a radiotelegraph station, consists of or includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively over the 6-hour period of time may be established

by using as a basis the fuel consumption during a continuous period of 1 hour when supplying power, at the voltage required for normal and effective operation, to an electrical load as prescribed by subparagraph (4) of this paragraph.

(4) For the purpose of determining the electrical load to be supplied by the reserve power supply, the following formula shall be used:

(i) One-half of the reserve transmitter current consumption with the key closed (mark); plus

(ii) One-half of the reserve transmitter current consumption with the key open (space); plus

(iii) One-sixth of the current consumption of the automatic radiotelegraph alarm signal keyer when this device is properly energized; plus

(iv) Current consumption of the reserve receiver; plus

(v) Current consumption of emergency lights.

(5) At the conclusion of the tests specified in subparagraphs (2) and (3) of this paragraph, no part of the reserve power supply shall have an excessive temperature rise, nor shall the specific gravity or voltage of the storage battery be below the 90 percent discharge point as determined from information (such as voltage curves or specific gravity tables) supplied by the manufacturer for the type of battery involved.

§ 83.447 Routing of power supply wiring.

The conductors connecting the main power supply to the main installation, and the conductors connecting the reserve power supply to the reserve installation, shall be so routed as to ensure adequate protection from mechanical injury, shall be protected from overload, and shall be kept clear of electrical grounds.

§ 83.448 Use of reserve installation.

The reserve transmitter, and the reserve power supply for the reserve transmitter, are primarily authorized to be used only for safety and test communication: *Provided*, That this equipment may be used for other communication for a period not to exceed 1 hour per day in the aggregate. The reserve receiver, and the reserve power supply for the reserve receiver if a storage battery, may be used at any time to maintain a watch for safety purposes if such use will not reduce the ability of such reserve power supply to energize the associated component or components of the reserve installation for at least 6 consecutive hours.

§ 83.449 Tests of reserve installation and automatic radiotelegraph alarm signal keyer.

(a) The condition of the reserve installation and of the automatic radiotelegraph alarm signal keyer shall be determined (with the exception noted in paragraph (b) of this section) prior to the vessel's departure from each port and on each day the vessel is outside of a harbor or port: *Provided*, That in the case where the vessel is in two or more ports within 1 day, the required tests need be made only once during such day: *Provided further*, That in the case where the vessel is in a port for less than 1 day, the required tests for that day may be made either prior to the vessel's arrival in that port or prior to the vessel's departure from that port. When the ship is in a foreign port, transmitter tests are subject to such limitations as may be imposed by the Administration having jurisdiction. The following tests shall be made and the results entered in the radiotelegraph station log:

(1) Check the reserve power supply as follows:

(i) Test battery charging circuits for correct polarity and charging rate;

(ii) In the case of lead-acid batteries, determine the specific gravity of the electrolyte of a pilot cell and such other cells as may be necessary to determine the state of charge;

(iii) In the case of other types of batteries, take voltage readings under normal battery load of a pilot cell and such other cells as may be necessary to determine the state of charge;

(iv) When an engine-driven generator is used, check the quantity of fuel in the engine fuel tank;

(2) Test the emergency lighting circuits and emergency electric lights by actual operation;

(3) Determine the proper functioning of the reserve receiver, while energized by the reserve power supply, by actual operation and comparison of received signals with similar signals received by means of the main receiver;

(4) Test the reserve transmitter, while energized by the reserve power supply, by actual operation when connected to the main antenna and to the reserve antenna, if one is installed, noting antenna currents;

(5) Test the automatic radiotelegraph alarm signal keyer for correct timing adjustment of the keying mechanism, taking precaution to ensure that any radiotelegraph transmitter to which this device is connected is not energized, in order to preclude actual transmission of alarm signals.

(b) In the case of vessels loading or discharging inflammable or unstable and dangerous cargo, or while berthed at oil terminals or in other comparable areas, it is recognized that predeparture transmitter tests may not safely be made. Accordingly, in all such cases the provisions of paragraph (a)(4) of this section, in connection with predeparture tests, are waived: *Provided*, That suitable explanation is entered in the radio station log.

§ 83.451 Automatic radiotelegraph alarm signal keyer.

The radiotelegraph station required to be provided on a ship of the United States by reason of the provisions of part II of title III of the Communications Act shall include one or more devices, of a type approved by the Commission in accordance with § 83.555, capable of automatically operating the normal keying circuits of a required radiotelegraph transmitter as specified by § 83.452 so as to transmit the international radiotelegraph alarm signal.

§ 83.452 Installation of automatic radiotelegraph alarm signal keyer.

(a) The automatic radiotelegraph alarm signal keyer required by § 83.451 shall be installed in a readily accessible place in the radiotelegraph operating room. Means shall be provided in the radiotelegraph operating room to permit instant use of this device to key, nonsimultaneously, the main transmitter and the reserve transmitter, and to permit the device to be taken out of operation at any time in order to permit immediate manual transmitter operation. When, pursuant to § 83.442, one transmitter is employed as both a main and reserve transmitter, the automatic radiotelegraph alarm signal keyer shall only be required to be capable of keying this transmitter. Only one control shall be provided for each automatic radiotelegraph alarm signal keyer; this control shall be located in the radiotelegraph operating room.

(b) The required automatic radiotelegraph alarm signal keyer shall be capable of operating efficiently for a continuous period of at least 1 hour when energized solely by the reserve power supply.

§ 83.453 Radiotelegraph auto alarm.

(a) A radiotelegraph auto alarm which is installed and used on board a cargo ship of the United States pursuant to the provisions of § 83.205 comprises a complete receiving, selecting, and warning device of a type approved by the Commission in accordance with section 3(x) of the Communications Act, capable of being actuated automatically by intercepted radio frequency waves forming the international radiotelegraph alarm signal.

(b) The following radiotelegraph auto alarms are acceptable for use pursuant to § 83.205:

(1) A radiotelegraph auto alarm that was type approved by the Commission prior to January 1, 1954 and installed prior to the effective date of the Safety Convention, 1960, is acceptable for a period of 4 years from the latter date. All radiotelegraph auto alarm type approvals dated prior to January 1, 1954 are cancelled as of the date which is 4 years after the effective date of the Safety Convention, 1960.

(2) A radiotelegraph auto alarm that was type approved by the Commission subsequent to January 1, 1954, pursuant to § 83.554.

§ 83.454 Installation of radiotelegraph auto alarm.

(a) A vessel shall be considered as fitted with a radiotelegraph auto alarm pursuant to § 83.453 when the installation on board such vessel complies with the conditions prescribed in the following paragraphs of this section.

(b) The radiotelegraph auto alarm shall be located in the radiotelegraph operating room and shall be installed and protected so as to insure proper operation. Means shall be provided in the radiotelegraph operating room for placing the entire radiotelegraph auto alarm system in or out of operation. A changeover switch shall be provided to: (1) Disconnect the main antenna from all other equipment and connect it to the radiotelegraph auto alarm receiver and place the system in effective operating condition; and, conversely, (2) de-energize the system and reconnect the main antenna to other equip-

ment. A suitable voltmeter shall be provided for the purpose of determining that the supply voltages are within the limits required for proper operation of the system.

(c) Approved apparatus shall be provided for giving an audible warning in the radiotelegraph operating room, in the radio officer's cabin, and on the navigating bridge. This apparatus shall operate continuously after the radiotelegraph auto alarm has been actuated by a radiotelegraph alarm signal or by failure of the system, until manually stopped. Only one switch for stopping the audible warning apparatus from functioning is authorized, and this shall be located in the radiotelegraph operating room and shall be capable of manual operation only.

(d) Failure of the radiotelegraph auto alarm (if of a type approved prior to July 23, 1951) to function normally because of prolonged atmospherics (static) or other prolonged interference, or both, shall operate a visual indicator on the bridge. The type and method of installation of such visual indicator shall comply with the requirements of the United States Coast Guard.

(e) When a radiotelegraph auto alarm is dependent for effective operation upon a power supply having a voltage within definite upper and lower limits, it shall be fitted with an auxiliary device which: (1) will energize the audible warning apparatus if and when this power supply fails or its voltage exceeds the limits specified by the Commission for the particular type of radiotelegraph auto alarm involved; or (2) will automatically connect the radiotelegraph auto alarm to an auxiliary power supply, the voltage of which is within the specified limits.

§ 83.456 Radiotelegraph auto alarm instructions.

There shall be furnished at least two sets of written instructions for the guidance of the radio officer and ship's officers relative to the radiotelegraph auto alarm, which shall include:

(a) A general technical description of the radiotelegraph auto alarm, including a circuit diagram of its receiver, a wiring diagram of its complete installation on shipboard, and a general explanation of its principles of operation;

(b) A list of faults which may be indicated by the sounding of the audible warning apparatus;

(c) An explanation of how to correct faults, remove and replace defective parts, and perform limited repairs at sea;

(d) An explanation of how to test the radiotelegraph auto alarm and adjust the sensitivity control to the "optimum" setting, and of the effect of various sensitivity control settings upon its operation, which shall be summarized upon a card and permanently attached to the front of the radiotelegraph auto alarm in a conspicuous position;

(e) A description of procedure to be followed with respect to adjustments to be made by the radio officer when the audible warning apparatus sounds, and also in making log entries.

§ 83.457 Tests of radiotelegraph auto alarm.

(a) The radio officer shall, at least once every 24 hours while the ship is in the open sea outside of a harbor or port:

(1) Test the efficiency of the radiotelegraph auto alarm by using the testing device to determine whether the apparatus will respond to not less than 4 nor more than 12 consecutive dashes having an approximate duration of 4 seconds and approximate spacing between dashes of 1 second, the timing to be made by reference to the seconds hand of the radiotelegraph station clock;

(2) Determine the proper functioning of the radiotelegraph auto alarm receiver while connected to its normal antenna, by actual operation and comparison of received signals with similar signals received on 500 kc/s by means of the main receiver.

(b) If the radiotelegraph auto alarm is not in proper operating condition, the radio officer shall report that fact to the master or officer on watch on the bridge.

(c) A statement that the tests specified in this section have been made, and entry of the results of such tests, shall be inserted daily in the radiotelegraph station log.

§ 83.458 Direction finder.

Each ship of 1,600 gross tons or over which is subject to the requirement set forth in subparagraph (a) (2) of section 351 of the Communications Act, or which is subject to Regulation 12 of Chapter V of the Safety Convention, shall be equipped with efficient radio direction finding apparatus properly adjusted in operating condition and approved by the Commission.

§ 83.459 Requirements for direction finder.

(a) To be approved by the Commission, the radio direction finding apparatus shall:

(1) Be capable of efficiently receiving signals, A1, A2, and B emission, with the minimum of receiver noise, on each frequency within the band 285–515 kc/s assigned by the International Radio Regulations for the purposes of distress and direction finding and for maritime radio beacons, and be accurately calibrated for the purpose of taking bearings on such signals from which the true bearing and direction may be determined; and

(2) Possess a sensitivity, in the absence of interference, sufficient to permit the taking of accurate bearings on a signal having a field strength as low as 50 microvolts per meter.

(b) The calibration of the direction finder shall be verified by check bearings or by a further calibration whenever any changes are made in the physical or electrical characteristics or the position of any antennas, and whenever any changes are made in the position of any deck structures, which might appreciably adversely affect the accuracy of the direction finder. In addition, the calibration particulars shall be verified by check bearings at yearly intervals, or as near to yearly intervals as possible. A record of the calibrations, and of the check bearings made of their accuracy, shall be kept on board the ship for a period of not less than 1 year from the date of the related action.

§ 83.461 Installation of direction finder.

(a) The direction finder shall be so located that as little interference as possible from mechanical or other noise will be caused to the efficient determination of bearings.

(b) The direction finder antenna system shall be erected in such a manner that the efficient determination of bearings will be hindered as little as possible by the close proximity of other antennas, cranes, wire halyards, or large metal objects.

§ 83.462 Contingent acceptance with respect to direction finder calibration.

(a) Under conditions where it is impracticable for the Commission to determine the accuracy of calibration or where it is impracticable to make the required calibration prior to departure of a vessel from a harbor or port for a voyage in the open sea, the direction finder may be tentatively approved on condition that:

(1) Prior to departure of the vessel from the particular harbor or port, the master certifies in writing to the Commission's inspecting engineer that, before the vessel is navigated on that voyage in the open sea beyond a radio beacon located in close proximity to that port, the direction finder will be properly calibrated by a competent technician; and

(2) During a subsequent inspection of the direction finder, the master shall make available to the Commission's inspecting engineer the appropriate written records resulting from calibration of the direction finder pursuant to said certification. If the information contained in these written records is satisfactory to the Commission's inspecting engineer, approval of the direction finder will be continued.

(b) In the absence of acceptable evidence of calibration at the time of the subsequent inspection mentioned in subparagraph (2) of paragraph (a) of this section, the Commission may withdraw approval of the direction finder until such evidence is available.

§ 83.463 Check bearings by authorized ship personnel.

The requirement for verification of calibration particulars by check bearings at yearly intervals, as set forth in paragraph (b) of § 83.459, may be complied with when performed by authorized ship personnel if conducted and recorded as follows:

(a) The required verification by check bearings shall be made during the 90-day period of active service of the ship immediately preceding the date of the annual detailed inspection of the radiotelegraph station;

(b) The verification shall consist of a comparison of simultaneous visual and radio direction finder bearings. At least one comparison bearing shall be taken

in each quadrant, within plus or minus 10 degrees from the following bearings relative to the ship's heading: 45 degrees; 135 degrees; 225 degrees; 315 degrees;

(c) The verification shall be recorded in such a manner as to show the visual bearing relative to the ship's heading and the difference between the visual and radio direction finder bearing, and the date each check bearing is taken. If the master is satisfied as to the adequacy of the verification for the purpose of determining the accuracy of the direction finder's calibration, and the direction finder is capable of taking bearings on radio signals from which the true bearing and direction may be determined, he shall so certify in writing, and make the records and such certification available to the Commission's inspecting engineer during the subsequent annual detailed inspection. If the master is not satisfied as to the adequacy of the check bearings or if such check bearings indicate a need for recalibration, a recalibration shall be obtained prior to the date of the annual detailed inspection of the radiotelegraph station.

§ 83.464 Auxiliary receiving antenna.

An effective auxiliary receiving antenna or other approved arrangement shall be provided whenever necessary to avoid unauthorized interruption or reduced efficiency of the required watch by reason of unavailability of the normal receiving antenna for use during the period of time when a radio direction finder on board the vessel is being operated.

§ 83.466 Interior communication systems.

(a) An efficient interior communication system shall be provided between the bridge of the ship and the radiotelegraph operating room in all cases where the radiotelegraph operating room does not adjoin or open onto the navigating bridge structure. An efficient interior communication system shall also be provided between the bridge and the location of the radio direction finding apparatus whenever the latter is not located on the bridge or within any compartment adjoining or opening onto the navigating bridge structure. When the operating position of the reserve radio installation is not located in the radiotelegraph operating room normally used for operating the main radio installation, an efficient interior communication system shall be separately provided between the bridge and each of these radio operating positions.

(b) If a vessel is provided with more than one location from which it is normally controlled and steered, the interior communication system between the radiotelegraph operating room and bridge shall include in the system a point of communication to each such location. The existence at a location of all of the following factors will be considered to be evidence that a point of communication should there be established: (1) Provision of a steering wheel; (2) provision of a compass; (3) provision of an engine order telegraph; (4) provision of apparatus to control the whistle; and (5) enclosure of the location to form a wheelhouse.

(c) The requirement of paragraph (b) of this section shall not apply to locations established solely for emergency use in event of failure of the normal steering facilities or locations used solely while docking or maneuvering a ship while in port or occasionally for brief periods while navigating the ship in close quarters on inland waters.

§ 83.467 Requirements for interior communication systems.

The interior communication systems required by § 8.466 shall be capable of providing efficient two-way calling and voice communication, shall be independent of any other communication system in the ship, and shall be of a type of system approved by the United States Coast Guard. Further, the location and termination of individual systems shall be subject to approval by the Commission.

§ 83.468 Radiotelegraph station clock.

A reliable clock equipped with a sweep seconds hand and having a dial not less than 5 inches in diameter, the face of which is marked to indicate the silence periods prescribed for the radiotelegraph service by the International Radio Regulations, shall be provided. It shall be securely mounted in the radiotelegraph operating room in such a position that the entire dial can be easily and accurately observed by the radio officer from the normal radiotelegraph operating position, from the operating position at which he would ordinarily transmit the international radiotelegraph alarm signal by hand, and from the position used for testing the radiotelegraph auto alarm (if installed) for response to signals from the testing device. If a separate emergency radiotelegraph operating room is provided, the requirements of this section shall apply to it also.

§ 83.469 Survival craft nonportable radiotelegraph installation.

(a) A survival craft nonportable radiotelegraph installation required by law to be provided in a motor lifeboat shall include the following components as a minimum:

(1) An antenna for transmitting and receiving together with such antenna accessories as are necessary;

(2) An artificial antenna for testing purposes;

(3) A transmitter with keying arrangements for use of radiotelegraphy, an associated radio receiver with headphones, and a suitable device for converting from the power supply battery voltage to the voltages used by the transmitter and receiver;

(4) A power supply;

(5) The necessary material or device for a ground connection to the water when the lifeboat is afloat.

(b) Components of a survival craft nonportable radiotelegraph installation specified in subparagraphs (2) and (3) of paragraph (a) of this section shall be type approved by the Commission as capable of meeting the provisions of §§ 83.556 and 83.558.

(c) The radiotelegraph equipment shall be installed in a cabin large enough to accommodate both the equipment and the person using it, and arrangements shall be such that the efficient operation of the radiotelegraph installation shall not be interfered with by the survival craft engine while it is running, whether or not a battery is on charge.

(d) The antenna shall be a single wire inverted-L type with a horizontal section of the maximum practicable length and a height above the mean waterline of not less than 20 feet, and shall be so designed that it can be quickly erected and utilized by a person in the lifeboat while afloat.

(e) The ground system shall comply with the following requirements:

(1) The radio installation when installed in a metal hull lifeboat shall be effectively grounded to the hull of the lifeboat. The ground connection shall be physically located in a position where it is inaccessible to the normal movement of occupants or accessories in the lifeboat;

(2) The radio installation when installed in a lifeboat having a nonmetallic hull shall be effectively grounded to a bare plate and/or strips of corrosion resistant metal having a total area of at least 6 square feet and located on the hull of the lifeboat below the waterline.

(f) When the lifeboat is afloat the installation shall be capable of developing an antenna current such that the product of the maximum height of the antenna above the mean surface of the water, expressed in feet, and the r.m.s. antenna current on the frequency 500 kc/s, expressed in amperes, is not less than 32.

§ 83.471 Power supply for survival craft nonportable radiotelegraph installation.

(a) The power supply for the survival craft nonportable radiotelegraph installation shall consist of a storage battery capable at all times of operating the entire survival craft radiotelegraph installation for a period of at least 6 hours continuously under normal working conditions.

(b) The storage battery may be used to operate equipment other than the radiotelegraph installation (except that it shall not be used to supply power to any engine starting motor or ignition system) provided such additional use will not adversely affect the required capabilities of the battery. All individual circuits connected to the battery shall be independently and properly fused.

(c) The storage battery shall be kept adequately charged at all times while at sea. The charging of the battery shall not require its removal from the survival craft in which it is installed. The necessary charging equipment shall be arranged so as not to interfere with the launching of the survival craft, and for this purpose shall be easily and quickly removable. The charging circuit for the storage battery shall be routed through the radiotelegraph operating room, and shall include a device located in the radiotelegraph operating room which will give continuous indication of the polarity and the rate of charge.

(d) Installations shall provide for charging of the storage battery by means of a generator on the survival craft engine.

(e) Subject to approval of the United States Coast Guard, the storage battery shall be mounted in a suitable container that will provide protection from salt water spray and also allow proper ventilation.

§ 83.472 Survival craft portable radiotelegraph equipment.

(a) Survival craft portable radiotelegraph equipment required by law to be provided shall be type approved by the Commission as capable of meeting the provisions of §§ 83.556 and 83.557.

(b) The equipment shall be kept in the radiotelegraph operating room, the chart room, or other suitable location ready to be moved to one or other of the survival craft in the event of an emergency. However, in tankers of 3,000 gross tons and over in which lifeboats are fitted amidships and aft this equipment shall be kept in a suitable place in the vicinity of those lifeboats which are furthest away from the ship's main transmitter.

§ 83.473 Tests of survival craft radio equipment.

(a) Inspections and tests of survival craft radio equipment shall be conducted by a qualified representative of the survival craft station licensee at weekly intervals while the ship is at sea, and within 24 hours prior to the ship's departure from each port but not necessarily more than once each week. When the ship is in a foreign port, transmitter tests are subject to such limitations as may be imposed by the Administration having jurisdiction. The inspection and tests shall include operation of the transmitter connected to an artificial antenna, and determination of the specific gravity in the case of a lead-acid battery, or voltage under normal load in the case of other types of batteries, of any battery provided as a part of the survival craft radio equipment.

(b) When the ship is in a harbor or port of the United States an authorized representative of the Commission may require:

(1) Inspection and test of the survival craft radio equipment in the survival craft afloat, including an operational test of the transmitter and receiver connected to the required antenna to determine that the equipment is in effective operating condition;

(2) Proof by demonstration in accordance with the principles of § 83.446 (b) that a storage battery used as a part of the survival craft nonportable radio installation is capable of energizing the installation for the required 6-hour period of time.

(c) The results of the inspections and tests shall be made known to the master, and shall be entered in the ship's radio station log, or in the ship's log if the ship is not provided with a radio station.

§ 83.474 Ship station spare parts, tools and testing equipment.

(a) Each ship station shall be provided with the following spare parts:

(1) One complete set of spare parts for the radiotelegraph auto alarm installed, as specifically designated in special spare-parts lists available for inspection at any of the Commission's field engineering offices;

(2) One complete set of spare parts for type approved main and reserve transmitters installed, as specifically designated in special spare-parts lists available for inspection at any of the Commission's field engineering offices: *Provided,* That pending Commission approval of the type of transmitter installed and promulgation of a special spare-parts list for such transmitter, one complete set of spare parts as designated in § 83.477 shall be provided;

(3) A minimum of 300 feet of antenna wire of good electrical conductivity and at least 2 strain insulators for the erection of a single-wire transmitting antenna;

(4) When a reserve antenna is not installed under the elective provisions of § 83.443(b), a spare transmitting antenna completely assembled for immediate erection shall be carried. If the installed main transmitting antenna is suspended between supports, this spare antenna shall be a single-wire transmitting antenna (including suitable insulators) of the same linear dimensions as the main transmitting antenna. If the main transmitting antenna is of the self-supported vertical type, this spare antenna when erected shall be as efficient as practicable.

(5) One sleeve bearing of each type used by all rotating machines which are a component part of the required radio installation;

(6) One spare electric light bulb for each required emergency light;

(7) One gallon or more of distilled, or otherwise suitable, water for use in the required storage batteries;

(8) One pair headphones complete with a connecting cord and, if used, a cord-terminal plug;

(9) One complete set of electron tubes for the main receiver;

(10) One complete set of electron tubes for the reserve receiver;

(11) One complete set of electron tubes for the radio receiver incorporated in the required radio direction finding apparatus.

(b) Each ship station shall be provided with the following tools and testing equipment:

(1) An instrument or instruments capable of measuring 2 and 6 volts a.c. and d.c. and the ship's main power voltage supplied to the radioroom. Such instrument or instruments shall have at least 3 voltage ranges with full-scale readings of 2.5 to 5, 10 to 15, and 150 to 300 volts, shall be capable of measuring d.c. voltages with an accuracy of at least 3 percent of full-scale reading and a.c. voltages with an accuracy of at least 5 percent of full-scale reading at a sensitivity of at least 1,000 ohms per volt, and shall be capable of resistance measurements in suitable ranges to a maximum of at least 5 megohms;

(2) One 100-watt or larger electric soldering iron capable of operating from a source of power available in the room or rooms housing the required radio apparatus; and at least one-half pound of rosin-core solder or equivalent;

(3) One complete electric flashlight, two-cell or larger, or 1 portable electric inspection lamp (protected from mechanical injury) with at least 10 feet of flexible cord, and means for rapid connection to the reserve power supply. One spare bulb of the type used shall be provided;

(4) One hydrometer for use with lead-acid batteries when this type of battery is installed;

(5) One pair 5- to 8-inch side-cutting pliers;

(6) One set of assorted end wrenches or socket wrenches, or in lieu thereof one adjustable end wrench;

(7) One 4- to 6-inch screwdriver;

(8) One 1- to 2-inch screwdriver with a blade of approximately ⅛ inch.

§ 83.476 Instruction books and circuit diagrams.

In addition to the radiotelegraph auto alarm instructions specified by § 8.456, instruction book(s) and circuit diagrams, including modifications, shall be provided for the types of required transmitters, receivers, and radio direction finding equipment installed.

§ 83.477 Transmitter spare parts pending type approval.

(a) In lieu of the requirements of § 83.474(a)(2), the following spare parts shall be furnished for a main or a reserve radiotelegraph transmitter pending Commission type approval of such transmitter and the issuance of an associated spare-parts list:

(1) One radiofrequency oscillator tube;

(2) One tube for each radiofrequency amplifier stage;

(3) One audiofrequency oscillator tube, if used to provide A2 emission;

(4) Two tubes for a reserve transmitter which is of the self-rectified simple oscillator type;

(5) One power supply rectifier tube for each such tube used;

(6) One resistor of each type used as a grid leak;

(7) One resistor of each type used in the voltage divider of a grid-blocking keying circuit;

(8) One resistor of each type used in series with the keying relay winding;

(9) One complete set of brushes for each rotating machine which utilizes brushes;

(10) Renewable fuse cartridges of each type used in connection with units of the radio installation in the amount of at least one-half the number of each size and type in actual use. For each renewable fuse cartridge in actual use, there shall be available 6 spare fuse links of appropriate capacity. For each nonrenewable fuse in use, there shall be available 6 spare fuses of the same type and of appropriate capacity.

(b) The value of each spare resistor specified in paragraph (a) of this section shall be clearly indicated on that resistor.

§ 83.478 Survival craft station spare parts.

(a) Each survival craft station shall be provided with:

(1) One electron tube of each type required for operation of the radio installation. If more than 2 electron tubes of one type are used, at least 2 spare electron tubes of that type shall be provided;

(2) One neon or any other type of tube or lamp used as resonance indicator;

(3) Renewable fuse cartridges of each type used in connection with the units of the survival craft radio installation, or which are used in circuits connected to the survival craft radio installation power supply, in the amount of at least one-half the number of each size and type in actual use. For each renewable fuse cartridge in actual use, there shall be available 6 spare fuse links of appropriate capacity. For each nonrenewable fuse in use, there shall be available 6 spare fuses of the same type and appropriate capacity. If fuse wire is used, sufficient wire shall be provided to permit 6 complete fuse replacements.

(b) Each survival craft station fitted with nonportable radiotelegraph equipment shall be additionally provided with:

(1) At least 35 feet of insulated antenna wire;

(2) Two transmitting antenna insulators;

(3) One pair side-cutting pliers;

(4) One screwdriver;

(5) One panel electric light bulb, if used.

§ 83.479 Location of spare parts, tools, testing equipment, and instruction books.

(a) Spare parts for the direction finder receiver shall be kept in the same room in which this receiver is located;

(b) Spare parts and tools for the survival craft nonportable radiotelegraph installation shall be kept in the survival craft cabin housing this installation;

(c) Spare parts for the survival craft portable radiotelegraph equipment shall be so kept as to be immediately available for maintenance of this equipment;

(d) Spare bulb(s) for the emergency lights shall be mounted in close proximity to the corresponding emergency light socket(s);

(e) Spare antenna wire, antenna insulators, and distilled water shall be so kept as to be immediately available to the radio officer;

(f) All other spare parts, tools, testing equipment, and instruction books shall be securely kept in a single space in the radiotelegraph operating room or, if desired, in any associated room adjacent to and opening directly into the radiotelegraph operating room, and shall be readily accessible to the radio officer;

(g) The space allocated in accordance with paragraph (f) of this section shall be used only for this purpose, and such space shall be appropriately and conspicuously marked;

(h) All required spare parts, tools, testing equipment, and instruction books shall be available for inspection at any reasonable time by authorized representatives of the Commission.

Subpart S—Radiotelephone Stations Provided for Compliance With Part II of Title III of the Communications Act or the Radio Provisions of the Safety Convention

§ 83.481 Inspection of station.

The requirements for station inspection, and provisions pertaining to certificates issued under the Safety Convention, are set forth in § 83.441.

§ 83.482 Radiotelephone station.

(a) The provisions of this subpart are applicable to the radiotelephone station required to be provided on a ship by reason of the provisions of part II of title III of the Communications Act, or on a United States ship by reason of the Safety Convention. The radiotelephone station so provided comprises a radiotelephone installation and such other equipment as may be necessary for the proper use and operation of such installation.

(b) The radiotelephone station shall be installed so as to insure safe and effective operation of the equipment, and shall be arranged to facilitate repair. Adequate protection shall be provided against the effects of vibration, moisture, and temperature.

(c) The radiotelephone station and all necessary controls shall be located at the level of the main wheelhouse or at least one deck above the vessel's main deck.

(d) The principal operating position of the radiotelephone station shall be in the room from which the vessel is normally steered while at sea. If the station can be operated from any location other than the principal operating position, except as provided in paragraph (e) of this section, a direct and positive means shall be provided at the principal operating position to take full control of the station.

(e) The use of a readily available, reliable, effective, and completely independent communication system between the principal operating position and all other operating locations is acceptable as a method for taking control at the principal operating position: *Provided, however,* That in the case of stations first placed in service on or after June 1, 1956 the use of such a method for taking control at the principal operating position is acceptable only for operating locations in the chartroom or master's quarters.

§ 83.483 Radiotelephone installation.

The radiotelephone installation includes:

(a) A radiotelephone transmitter;

(b) A preset receiver as specified by § 83.488(a);

(c) A manually tuned receiver as specified by § 83.488(b);

(d) A main source of energy;

(e) A reserve source of energy, when required by § 83.491(a);

(f) An antenna system.

§ 83.484 Radiotelephone transmitter.

(a) The transmitter shall be capable of effective transmission of A3 emission on 2182 kc/s, 2638 kc/s, and at least two other frequencies within the band 1605–2850 kc/s allocated for ship-to-shore or ship-to-ship communication, and of A2 emission on 2182 kc/s for transmission of the international radiotelephone alarm signal.

(b) The transmitter shall be adjusted so that the transmission of speech or the international radiotelephone alarm signal normally produces a peak modulation within the limits 75 percent and 100 percent.

(c) The transmitter shall be capable of transmitting clearly perceptible signals from ship to ship during daytime, under normal conditions and circumstances, over a minimum normal range of 150 nautical miles.

(d) The transmitter shall be considered as capable of complying with the range requirement specified in paragraph (c) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 83.494; and

(2) The transmitter has been demonstrated, or is of a type which has been demonstrated, to the satisfaction of the Commission as capable, with normal operating voltages applied, of delivering not less than 25 watts of carrier power on each of the frequencies 2182 kc/s and 2638 kc/s into an artificial antenna consisting of a series network of 10 ohms effective resistance and 200 picofarads capacitance: *Provided, however,* That an individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required whenever in the judgment of the Commission this is deemed necessary.

(e) The transmitter shall be equipped with a device which will provide continuous visual indication whenever the transmitter is supplying power to the antenna.

(f) The transmitter shall be adequately protected by suitable devices from excessive currents and voltages which could cause damage to the components thereof.

(g) A durable nameplate shall be mounted on the transmitter or made an integral part thereof showing clearly the name of the transmitter manufacturer and the type or model of the transmitter.

§ 83.486 Automatic radiotelephone alarm signal generator.

The transmitter provided as a component of the radiotelephone station shall be equipped with a device, of a type approved by the Commission pursuant to § 83.142, capable of automatically generating the international radiotelephone alarm signal: *Provided,* That this requirement shall be applicable to all such transmitters initially installed on and after the effective date of the Safety Convention, 1960, and to all such transmitters as of the date which is 3 years after the effective date of the Safety Convention, 1960.

§ 83.487 Installation of automatic radiotelephone alarm signal generator.

The controls of the automatic radiotelephone alarm signal generator required by § 83.486 shall be located at the principal radiotelephone operating position only. The controls shall permit in-

stant use of this device to modulate the required transmitter, and to permit the device to be taken out of operation at any time so that the transmitter may be immediately voice modulated for transmission of a distress call and message.

§ 83.488 Radiotelephone receivers.

(a) The receiver used for maintaining the watch required by §§ 83.202(b) and 83.203(b) shall be capable of effective reception of A3 emission, shall be connected to the antenna system specified by § 83.494, and shall be preset to, and capable of accurate and convenient selection of, the frequencies 2182 kc/s, 2638 kc/s, and the receiving frequencies associated with the transmitting frequencies provided pursuant to § 83.484 (a).

(b) In addition to the receiver required by paragraph (a) of this section, a manually tuned receiver capable of effective reception of A3 emission on all frequencies within the band 1605–3500 kc/s shall be provided.

(c) One or more loudspeakers capable of being effectively used to maintain the required 2182 kc/s listening watch shall be provided, and so located as to permit reception of 2182 kc/s signals at the principal operating position and at any other place where listening is performed.

(d) Each of the receivers required by paragraphs (a) and (b) of this section shall:

(1) Have sufficient sensitivity, as defined in paragraph (e) of this section, over the required frequency band on any required reception frequency to effectively operate a loudspeaker when the receiver input is as low as 50 microvolts;

(2) Be capable of efficient operation when energized by the main source of energy, and when energized by the reserve source of energy if a reserve source of energy is required by § 83.491(a);

(3) Be adequately protected by means of suitable devices from excessive currents and voltages which could cause damage to any component thereof;

(4) Be provided with a durable nameplate, mounted on the receiver or made an integral part thereof, showing clearly the name of the receiver manufacturer and the type or model of the receiver.

(e) The sensitivity of a receiver is the strength in microvolts of a signal, modulated 30 percent at 400 cycles per second, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels. Evidence of a manufacturer's rating or a demonstration of the sensitivity of a required receiver computed on this basis shall be furnished upon request of a Commission representative.

§ 83.489 Main source of energy.

(a) There shall be readily available for use under normal load conditions, at all times when required including times of inspection of the ship radio station by a Commission representative, a main source of energy sufficient to simultaneously energize the radiotelephone transmitter at its required antenna power, and the required receivers. Under this load condition the potential of the main source of energy at the power input terminals of the radiotelephone installation shall not deviate from its rated potential by more than 10 percent on vessels completed on or after July 1, 1941, nor by more than 15 percent on vessels completed before that date.

(b) Means shall be provided for adequately charging any storage batteries used as a main source of energy, or any part thereof. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

§ 83.491 Reserve source of energy.

(a) In the case of new installations, a reserve source of energy shall be provided, and shall be located on the same deck as the main wheelhouse or at least one deck above the vessel's main deck, unless the main source of energy is so situated.

(b) The reserve source of energy, when required, shall be independent of the propelling power of the ship and of any other electrical system, and shall be sufficient to simultaneously energize the radiotelephone transmitter at its required antenna power, the required receivers, and the automatic radiotelephone alarm signal generator if installed. Such reserve source of energy shall be readily available for use under normal load conditions at all times when required, including times of inspection of the ship radio station by a Commission representative.

(c) The reserve source of energy shall be used only to energize the required radiotelephone transmitter, the required receivers, the emergency electric light required by § 83.496, and the automatic radiotelephone alarm signal generator required by § 83.486.

(d) The reserve source of energy shall be located as near to the required transmitter and the required receivers as is practicable: *Provided,* That the location of such reserve source of energy complies with all applicable rules and regulations of the United States Coast Guard. (See § 83.113.)

(e) All circuits connected to the reserve source of energy shall be appropriately protected by means of suitable devices from overloads or short circuits which could damage any component thereof.

(f) Means shall be provided for adequately charging any storage batteries used as a reserve source of energy, or any part thereof, for the required radiotelephone installation. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

(g) The cooling system of each internal combustion engine used as a part of the reserve source of energy shall be adequately protected or treated to prevent freezing or overheating consistent with the season and route to be traveled by the particular vessel involved.

(h) Use of the reserve source of energy, when required by paragraph (a) of this section, shall be available within 1 minute after any need arises for its use.

§ 83.492 Required capacity.

If the main source of energy or the reserve source of energy provided for the purpose of complying with §§ 83.489 and 83.491 consists of or includes batteries, such batteries shall have sufficient reserve capacity available at all times while the vessel is leaving or attempting to leave a harbor or port for a voyage in the open sea, and while being navigated in the open sea outside of a harbor or port, to permit proper operation of the required radiotelephone transmitter and the required receivers for at least 6 hours continuously under normal working conditions.

§ 83.493 Proof of capacity.

(a) The shipowner, operating company, or station licensee, when directed by the Commission or its authorized representative, shall prove by demonstration as prescribed in paragraphs (b), (c), (d), and (e) of this section, or by such other means as may be deemed necessary, that the requirements of § 83.492 are met.

(b) Proof of the ability of a storage battery used as a main or reserve source of energy, or any part thereof, to operate continuously and effectively over the 6-hour period of time is authorized to be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal and effective operation to an electrical load as prescribed by paragraph (d) of this section.

(c) When the reserve source of energy consists of or includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively over the 6-hour period of time may be established by using as a basis the fuel consumption during a continuous period of 1 hour when supplying power, at the voltage required for normal and effective operation, to an electrical load as prescribed by paragraph (d) of this section.

(d) For the purpose of determining the electrical load to be supplied, the following formula shall be used:

(1) One-half the current consumption of the required transmitter at its rated output power; plus

(2) One-quarter the current consumption of the automatic radiotelephone alarm signal generator required by § 83.486; plus

(3) Current consumption of the preset receiver required by § 83.488(a); plus

(4) Current consumption of emergency light(s).

(e) At the conclusion of the test specified in paragraphs (b) and (c) of this section, no part of the main or reserve sources of energy shall have an excessive temperature rise, nor shall the specific gravity or voltage of any storage battery be below the 90 percent discharge point as determined from information (such as voltage curves or specific gravity tables) supplied by the manufacturer of the type of battery involved.

§ 83.494 Antenna system.

(a) An antenna system shall be installed which is as nondirectional and as efficient as is practicable for the transmission and reception of radio ground waves over seawater. The installation

and construction of the required antenna shall be such as to insure, insofar as is practicable, proper operation in time of emergency.

(b) If the required antenna is suspended between masts or other supports liable to whipping, an approved device (safety link) which, under heavy stress, will operate to greatly reduce such stress without breakage of the antenna, the halyards, or any other antenna-supporting elements, shall be installed.

(c) When an electrical ground connection is used as a necessary element of the antenna system, such connection shall be made in an efficient manner to the hull of a vessel having a metal hull or, in the case of a vessel not having a metal hull, to a bare plate and/or strips of corrosion resistant metal of good electrical conductivity having a total area of at least 12 square feet in the aggregate, permanently attached to the hull below the waterline and insofar as possible located directly under the antenna structure and radio installation.

§ 83.496 Emergency electric lights.

(a) Reliable emergency electric light(s) of not less than 10 watts per unit shall be installed and permanently arranged so as to provide satisfactory illumination confined as far as practicable to the operating controls of the radiotelephone installation at the principal operating position, the card of instructions, and the radiotelephone station clock if the latter is not self-illuminated.

(b) The emergency electric light(s) shall be energized from the reserve source of energy, if a reserve source of energy is required. In cases where a reserve source of energy is not provided, the emergency lights shall be energized independently of the system which supplies the normal lighting of the required radiotelephone installation.

§ 83.497 Radiotelephone station clock.

A reliable clock having a clearly graduated dial of at least 5 inches in diameter shall be securely mounted in such a position that the entire dial can be easily and accurately observed from the principal operating position.

§ 83.498 Spare antenna.

A spare transmitting antenna completely assembled for immediate erection shall be provided. If the installed transmitting antenna is suspended between supports, this spare antenna shall be a single-wire transmitting antenna (including suitable insulators) of the same linear dimensions as the installed transmitting antenna. If the installed transmitting antenna is of the self-supported vertical type, this spare antenna when erected shall be as efficient as practicable.

§ 83.499 Tools and testing equipment.

(a) The following tools shall be provided in the radiotelephone station:

(1) One pair 5- to 8-inch side-cutting pliers;

(2) One set of assorted end wrenches or socket wrenches, or in lieu thereof one adjustable end wrench;

(3) One 4- to 6-inch screwdriver;

(4) One 1- to 2-inch screwdriver with a blade of approximately ⅛ inch.

(b) For the purpose of determining the state of charge of storage batteries used as a component of the required installation, there shall be provided in the radiotelephone station either:

(1) One hydrometer for use when lead-acid batteries are provided; or

(2) One voltmeter, having an accuracy of at least 3 percent when measuring 2 or 6 volts, for use when batteries of other types are provided.

§ 83.501 Card of instructions.

A card of instructions giving a clear summary of the radiotelephone distress procedure shall be securely mounted and displayed in full view of the principal operating position.

§ 83.502 Test of radiotelephone station.

Unless the normal use of the required radiotelephone station demonstrates that the equipment is in proper operating condition, a test communication for this purpose on 2182 kc/s shall be made by a qualified operator each day the vessel is navigated. When this test is performed by a person other than the master and the equipment is found not to be in proper operating condition, the master shall be promptly notified thereof.

Subpart T—Radiotelephone Installations Provided for Compliance With Part III of Title III of the Communications Act

§ 83.511 Applicability.

The provisions of part III of title III of the Communications Act apply to United States vessels which transport more than six passengers for hire while such vessels are being navigated on any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, or in the open sea. The provisions of part III do not apply to vessels which are equipped with a radio installation for compliance with part II of title III of said Act, or for compliance with the Safety Convention, or to vessels navigating on the Great Lakes.

§ 83.512 Inspection of radiotelephone installation.

Every vessel subject to part III of title III of the Communications Act shall have a detailed inspection by the Commission of the equipment and apparatus prescribed therein not less than once every 24 months. If after such inspection the Commission determines that all relevant provisions of part III of title III of the Communications Act, the rules of the Commission made pursuant thereto, and the station license, are complied with in an efficient manner, a Communications Act Safety Radiotelephony certificate will be issued. The issuance date of such certificate shall be the date the installation is found by the Commission to be in compliance, or not later than 1 business day following such in-compliance date. The certificate shall be issued for a period of not more than 24 months.

§ 83.513 Posting of certificate.

A valid Communications Act Safety Radiotelephony Certificate shall be posted in a prominent and accessible place on board each vessel subject to the provisions of part III of title III of the Communications Act.

§ 83.514 Radiotelephone installation.

(a) The radiotelephone installation shall include a transmitter and receiver capable of effective transmission and reception of A3 emission within the band 1605–2850 kc/s; or alternatively, if the vessel is within communication range of a public coast station operating in the band 156–174 Mc/s which maintains an efficient watch for the reception of F3 emission on 156.8 Mc/s at all times while the vessel is navigated in waters specified in § 8.511, and the vessel while so navigated is never more than 20 nautical miles from a 156.8 Mc/s receiving location of such station, the radiotelephone installation may, in lieu of medium frequency equipment, include a transmitter and receiver capable of effective transmission and reception of F3 emission within the band 156–174 Mc/s.

(b) The radiotelephone installation shall be installed so as to insure safe and effective operation of the equipment, and shall be arranged to facilitate repair. Adequate protection shall be provided against the effects of vibration, moisture, and temperature.

(c) The radiotelephone installation shall be adequately protected by suitable devices from excessive currents and voltages which could cause damage to the components thereof.

(d) The radiotelephone installation and all necessary controls shall be located at the level of the main wheelhouse or at least one deck above the vessel's main deck: *Provided*, That this requirement is applicable only to vessels of more than 100 gross tons.

§ 83.516 Principal operating position.

(a) In the case of vessels of over 100 gross tons, the principal operating position of the radiotelephone installation shall be in the room from which the vessel is normally steered while at sea. If the radiotelephone installation can be operated from any location other than the principal operating position, except as provided in paragraph (b) of this section, a direct and positive means shall be provided at the principal operating position to take full control of the installation.

(b) The use of a readily available, reliable, effective, and completely independent communication system between the principal operating position and all other operating locations is acceptable as a method for taking control at the principal operating position: *Provided, however*, That in the case of installations first placed in service on or after March 1, 1957 the use of such a method for taking control at the principal operating position is acceptable only for operating locations in the chartroom or master's quarters.

§ 83.517 Medium frequency transmitter.

(a) The transmitter shall have a carrier power output of at least 25 watts, and shall be capable of effective transmission of A3 emission on 2182 kc/s,

2638 kc/s, and at least one ship-to-shore working frequency within the band 1605–2850 kc/s enabling communication with a public coast station serving the region in which the vessel is navigated.

(b) The transmitter shall be adjusted so that the transmission of speech normally produces peak modulation within the limits 75 percent and 100 percent.

(c) The transmitter shall be considered as capable of complying with the power output requirement specified in paragraph (a) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 83.526; and

(2) The transmitter has been demonstrated, or is of a type which has been demonstrated, to the satisfaction of the Commission as capable, with normal operating voltages applied, of delivering not less than 25 watts of carrier power on each of the frequencies 2182 kc/s and 2638 kc/s into an artificial antenna consisting of a series network of 10 ohms effective resistance and 200 picofarads capacitance: *Provided, however,* That an individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required whenever in the judgment of the Commission this is deemed necessary.

§ 83.518 Very high frequency transmitter.

(a) The transmitter shall have a carrier power output of at least 20 watts, and shall be capable of effective transmission of F3 emission on 156.8 Mc/s, 156.3 Mc/s, and on the ship-to-shore working frequency 157.2, 157.25, 157.3, 157.35, or 157.4 Mc/s as necessary for communication with one or more public coast stations serving the area in which the vessel is navigated.

(b) The transmitter shall be adjusted so that the transmission of speech normally produces peak modulation within the limits 75 percent and 100 percent.

(c) The transmitter shall be considered as capable of complying with the power output requirement specified in paragraph (a) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 83.526; and

(2) The transmitter has been demonstrated, or is of a type which has been demonstrated, to the satisfaction of the Commission as capable, with normal operating voltages applied, of delivering not less than 20 watts of carrier power into 50 ohms effective resistance on each of the frequencies 156.3 Mc/s, 156.8 Mc/s, and any one of the frequencies 157.2, 157.25, 157.3, 157.35, or 157.4 Mc/s: *Provided, however,* That an individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required whenever in the judgment of the Commission this is deemed necessary.

§ 83.519 Radiotelephone receivers.

(a) If a medium frequency radiotelephone installation is provided, the receiver used for maintaining the watch required by § 83.202(c) shall be capable of effective reception of A3 emission, shall be connected to the antenna system specified by § 83.526, and shall be preset to, and capable of accurate and convenient selection of, the frequencies 2182 kc/s, 2638 kc/s, and the receiving frequency(s) associated with the ship-to-shore transmitting frequency(s) provided pursuant to § 83.517(a).

(b) If a very high frequency radiotelephone installation is provided, the receiver used for maintaining the watch required by § 83.202(c) shall be capable of effective reception of F3 emission, shall be connected to the antenna system specified by § 83.526, and shall be preset to, and capable of accurate and convenient selection of, the frequencies 156.3 Mc/s, 156.8 Mc/s, and the receiving frequency associated with the ship-to-shore transmitting frequency provided pursuant to § 83.518(a).

(c) One or more loudspeakers capable of being effectively used to maintain the listening watch required by § 83.202(c) shall be provided, and so located as to permit reception of 2182 kc/s or 156.8 Mc/s signals, as applicable, at the principal operating position and at any other place where listening is performed.

(d) Any receiver provided as a part of the required radiotelephone installation shall have a sensitivity, as defined in paragraph (f) of this section, on any required receiving frequency of at least 50 microvolts in the case of medium frequency equipment, and 1 microvolt in the case of very high frequency equipment.

(e) The receiver required by paragraph (a) or paragraph (b) of this section shall be capable of efficient operation when energized by the main source of energy, and when energized by the reserve source of energy if a reserve source of energy is required by § 83.522(a).

(f) The sensitivity of a receiver is the strength in microvolts of a signal, modulated 30 percent at 400 cycles per second, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels. Evidence of a manufacturer's rating or a demonstration of the sensitivity of a required receiver computed on this basis shall be furnished upon request of a Commission representative.

§ 83.521 Main source of energy.

(a) There shall be readily available for use under normal load conditions, at all times when required including times of inspection of the ship radio station by a Commission representative, a main source of energy sufficient to simultaneously energize the radiotelephone transmitter at its required antenna power, and the required receiver. Under this load condition the potential of the main source of energy at the power input terminals of the radiotelephone installation shall not deviate from its rated potential by more than 10 percent on vessels completed on or after March 1, 1957, nor by more than 15 percent on vessels completed before that date.

(b) When the main source of energy consists of or includes batteries, they shall be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 10 inches head room.

(c) Means shall be provided for adequately charging any storage batteries used as a main source of energy, or any part thereof. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

§ 83.522 Reserve source of energy.

(a) In the case of a vessel of more than 100 gross tons, the keel of which was laid after March 1, 1957, a reserve source of energy shall be provided and shall be located on the same deck as the main wheelhouse or at least one deck above the vessel's main deck, unless the main source of energy is so situated.

(b) The reserve source of energy, when required, shall be independent of the propelling power of the vessel and of any other electrical system, and shall be sufficient to simultaneously energize the radiotelephone transmitter at its required output power, and the required receiver. Such reserve source of energy shall be readily available for use under normal load conditions at all times when required, including times of inspection of the ship radio station by a Commission representative.

(c) When the reserve source of energy consists of or includes batteries, they shall be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 10 inches head room.

(d) The reserve source of energy shall be located as near to the required transmitter and receiver as is practicable: *Provided,* That the location of such reserve source of energy complies with all applicable rules and regulations of the United States Coast Guard. (See § 83.113.)

(e) All reserve power supply circuits shall be appropriately protected by means of suitable devices from overloads or short circuits which could damage any component thereof.

(f) Means shall be provided for adequately charging any storage batteries used as a reserve source of energy, or any part thereof, for the required radiotelephone installation. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

(g) The cooling system of each internal combustion engine used as a part of the reserve source of energy shall be adequately protected or treated to prevent freezing or overheating consistent with the season and route to be travelled by the particular vessel involved.

(h) Use of the reserve source of energy, when required by paragraph (a) of this section, shall be available within 1 minute after any need arises for its use.

§ 83.523 Required capacity.

If the main source of energy or the reserve source of energy provided for the purpose of complying with §§ 83.521 and 83.522 consists of or includes batteries, such batteries shall have sufficient reserve capacity available at all times while

the vessel is subject to part III of title III of the Communications Act and during Commission inspections to permit proper operation of the required transmitter and receiver for at least 3 hours continuously under normal working conditions.

§ 83.524 Proof of capacity.

(a) The shipowner, operating company, or station licensee, when directed by the Commission or its authorized representative, shall prove by demonstration as prescribed in paragraphs (b), (c), (d), and (e) of this section, or by such other means as may be deemed necessary, that the requirements of § 83.523 are met.

(b) Proof of the ability of a storage battery used as a main or reserve source of energy, or any part thereof, to operate continuously and effectively over the 3-hour period of time is authorized to be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal and effective operation to an electrical load as prescribed by paragraph (d) of this section.

(c) When the reserve source of energy consists of or includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively over the 3-hour period of time may be established by using as a basis the fuel consumption during a continuous period of 1 hour when supplying power, at the voltage required for normal and effective operation, to an electrical load as prescribed by paragraph (d) of this section.

(d) For the purpose of determining the electrical load to be supplied, the following formula shall be used:

(1) One-half the current consumption of the required transmitter at its rated output power; plus

(2) Current consumption of the required receiver; plus

(3) Current consumption of electric light, if required by § 83.527; plus

(4) The sum of the current consumption of all other loads to which the reserve source of energy may supply power in time of emergency.

(e) At the conclusion of the test specified in paragraphs (b) and (c) of this section, no part of the main or reserve sources of energy shall have an excessive temperature rise, nor shall the specific gravity or voltage of any storage battery be below the 90 percent discharge point as determined from information (such as voltage curves or specific gravity tables) supplied by the manufacturer of the type of battery involved.

§ 83.526 Antenna system.

An antenna shall be provided in accordance with the applicable requirements of § 83.107 which is as nondirectional and as efficient as is practicable for the transmission and reception of radio ground waves. The construction and installation of this antenna shall be such as to insure, insofar as is practicable, proper operation in time of an emergency.

§ 83.527 Electric light.

(a) If the vessel is navigated during hours of darkness, a reliable electric light of not less than 10 watts per unit shall be installed and permanently arranged so as to provide satisfactory illumination confined as far as practicable to the operating controls at the principal operating position.

(b) The electric light shall be energized from the main source of energy and, if a reserve source of energy for the radiotelephone installation is required, means shall be provided for energizing the light from such source of energy also.

§ 83.528 Antenna radio frequency indicator.

The transmitter shall be equipped with a device which will provide continuous visual indication whenever the transmitter is supplying radio frequency power to the antenna.

§ 83.529 Nameplate.

A durable nameplate shall be mounted on the required radiotelephone transmitting and receiving equipment or shall be made an integral part thereof. When the transmitter and receiver comprise a single unit, one nameplate shall be sufficient. The nameplate shall show at least the name of the manufacturer and the type or model number.

§ 83.531 Test of radiotelephone installation.

Unless the normal use of the required radiotelephone installation demonstrates that the equipment is in proper operating condition, a test communication for the purpose on 2182 kc/s or 156.8 Mc/s shall be made by a qualified operator each day the vessel is navigated. When this test is performed by a person other than the master and the equipment is found not to be in proper operating condition, the master shall be promptly notified thereof.

Subpart U—Radiotelephone Installations Provided for Compliance With the Great Lakes Radio Agreement

§ 83.536 Applicability.

The Agreement Between the United States and Canada for the Promotion of Safety on the Great Lakes by Means of Radio applies to vessels of all countries (except as otherwise stipulated in Articles 3 and 6 thereof) which are of 500 gross tons or over, to vessels transporting persons for hire which are over 65 feet in length, and to vessels under 500 gross tons engaged in towing another vessel of 500 gross tons or over or engaged in towing any other floating object having a dimension in any direction of 150 feet or more unless the towed vessel complies with the requirements of the Agreement. The Great Lakes Radio Agreement is applicable to such vessels while they are being navigated on the Great Lakes outside of a port, or while being navigated on the St. Mary's River, the St. Clair River, the Detroit River, the Welland Ship Canal, and the River St. Lawrence as far eastward as Montreal. As defined in the Great Lakes Radio Agreement, "Great Lakes" includes Lakes Superior, Michigan, Huron, St. Clair, Erie, and Ontario, including their bays and interconnecting waters except the Niagara River and the Black Rock Canal.

§ 83.537 Survey and certification.

Except as provided in § 83.538, each vessel of the United States subject to the Great Lakes Radio Agreement shall have a periodical survey of the required radiotelephone installation not less than once every 12 months for the purpose of obtaining an appropriate certificate as prescribed by Article 12 of the said Agreement. The survey shall be made while the vessel is in active service or within not more than 1 month before the date on which it is placed in service. The Great Lakes Agreement Radiotelephony Certificate, which is issued to vessels found, as a result of a periodical survey, to be in compliance with the Agreement, shall be prominently posted at the principal operating position of the required radiotelephone installation.

§ 83.538 Occasional navigation on the Great Lakes.

Any vessel of the United States which enters the Great Lakes from Montreal or below and which engages in not more than two voyages on the Great Lakes in any one calendar year solely between (a) one or more ports outside the Great Lakes and (b) one or more ports on the Great Lakes, may in lieu of complying with the technical radiotelephone requirements of the Great Lakes Radio Agreement, comply with the radiotelephone installation requirements of Regulation 15 of Chapter IV of the Safety of Life at Sea Convention, 1948: *Provided,* That:

(1) The vessel has on board a valid Safety Radiotelephony Certificate; and

(2) The radiotelephone installation is equipped to transmit and receive on the frequencies 2003 kc/s and 2182 kc/s.

§ 83.539 Radiotelephone installation.

(a) Each vessel of the United States while subject to the requirements of the Great Lakes Radio Agreement shall, in accordance with the Agreement, be fitted with a radiotelephone installation in effective operating condition which is capable of meeting the provisions set forth in this subpart in addition to the provisions of such other rules in this part, governing ship stations using telephony, as are applicable.

(b) The term "radiotelephone installation", for the purpose of the Great Lakes Radio Agreement, means a ship radio station (including the source of power necessary to energize the apparatus) capable of being used for the effective transmission and reception of speech for the purpose of quickly establishing and effectively carrying on, primarily in time of emergency or distress, radiotelephone communication on the frequencies 2182 kc/s or 2003 kc/s, each of these frequencies being readily available for use at all times. Nothing contained in this paragraph shall be con-

strued either to require or to prohibit the availability of other frequencies by the use of this same "radiotelephone installation" for any class of emission or communication authorized by this part on such other frequencies.

(c) The radiotelephone installation, exclusive of the main source of power for energizing such installation, shall be located as high as practicable in the upper part of the vessel and shall be adequately protected to ensure proper operation and so as not to endanger the vessel and the radio apparatus comprising such installation.

§ 83.541 Principal operating position.

(a) The principal operating position of the radiotelephone installation shall be on the bridge. If the radio apparatus of this installation (as distinguished from the normal operating controls) is located other than on the bridge, the radiotelephone installation shall be capable of being operated from that location as well as from the principal operating position. In any event, except as provided in paragraph (b) of this section, a direct and positive means shall be provided at the principal operating position to take full control of the installation.

(b) The use of a readily available, reliable, effective, and completely independent communication system between the principal operating position and all other operating locations is acceptable as a method for taking control at the principal operating position: *Provided, however,* That in the case of installations first placed in service on or after April 1, 1955, the use of such a method for taking control at the principal operating position is acceptable only for operating locations in the chartroom or master's quarters.

§ 83.542 Radiotelephone transmitter.

(a) The transmitter shall be capable of effective transmission of A3 emission on the frequencies 2003 kc/s and 2182 kc/s.

(b) The transmitter shall be adjusted so that the transmission of speech normally produces peak modulation within the limits 70 percent and 100 percent.

(c) The transmitter shall be capable of delivering at least 50 watts of carrier power into a ship transmitting antenna of average characteristics.

(d) The transmitter shall be considered as capable of complying with the power output requirement specified in paragraph (c) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with the actual ship station transmitting antenna; and

(2) The transmitter has been demonstrated, or is of a type which has been demonstrated, to the satisfaction of the Commission as capable, with normal operating voltages applied, of delivering not less than 50 watts of carrier power on each of the frequencies 2182 kc/s and 2003 kc/s into an artificial antenna consisting of a series network of 10 ohms effective resistance and 200 picofarads capacitance: *Provided, however,* That an individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required whenever in the judgment of the Commission this is deemed necessary.

83.543 Radiotelephone receiver.

(a) The receiver used for maintaining the listening required by § 83.206 shall:

(1) Be capable of effective reception of A3 emission on the frequencies 2003 kc/s and 2182 kc/s;

(2) Be capable of properly energizing a loudspeaker on each of the frequencies 2003 kc/s and 2182 kc/s when the radio field intensity of the received carrier wave (measured when no modulation is present) is as low as 10 microvolts per meter. The receiver may be considered capable of meeting this requirement if on each of the frequencies concerned the numerical value of the sensitivity of the receiver expressed in microvolts is equal to or less than the numerical value of the maximum height of the associated receiving antenna expressed in feet as measured from the cabin lead-in insulator. The numerical value of the sensitivity of the receiver may be based on manufacturer's specifications.

(b) The sensitivity of the receiver is expressed as the strength in microvolts of a signal, modulated 30 percent at 400 cycles per second, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels.

§ 83.544 Main source of energy.

(a) A main source of energy of sufficient capacity to energize the radiotelephone installation properly and immediately shall be available at all times while the vessel is subject to the requirements of the Great Lakes Radio Agreement;

(b) Means shall be provided for adequately charging any storage batteries used as a main source of energy, or any part thereof. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current.

§ 83.545 Auxiliary source of energy.

(a) Vessels transporting persons for hire which are of 1,000 gross tons and over shall be provided with an auxiliary source of energy, independent of the vessel's normal electrical system and capable of properly energizing the radiotelephone installation and the electric light prescribed by § 83.547, in addition to any other electrical loads to which it may supply energy in times of emergency or distress, for at least 4 continuous hours under normal operating conditions. When meeting this 4-hour requirement, such auxiliary source of energy shall be located on the level of the main pilothouse or at least one deck above the vessel's main deck;

(b) Means shall be provided for adequately charging any storage batteries used as an auxiliary source of energy, or any part thereof, for the required radiotelephone installation. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the rate and polarity of the charging current;

(c) Use of the auxiliary source of energy, when required by paragraph (a) of this section, shall be available within 1 minute after any need arises for its use;

(d) The shipowner, operating company, or station licensee, when directed by the Commission or its authorized representative, shall prove by demonstration as prescribed in subparagraphs (1), (2), (3), and (4) of this paragraph, or by such other means as may be deemed necessary, that the auxiliary source of energy is capable of meeting the requirements of paragraph (a) of this section:

(1) When the auxiliary source of energy consists of or includes a storage battery, proof of the ability of such battery to operate continuously and effectively over the 4-hour period of time is authorized to be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal and effective operation to an electrical load as prescribed by subparagraph (3) of this paragraph;

(2) When the auxiliary source of energy consists of or includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively over the 4-hour period of time may be established by using as a basis the fuel consumption during a continuous period of 1 hour when supplying power, at the voltage required for normal and effective operation, to an electrical load as prescribed by subparagraph (3) of this paragraph;

(3) For the purpose of determining the electrical load to be supplied, the following formula shall be used:

(i) One-half the current consumption of the required transmitter at its rated output power; plus

(ii) Current consumption of the required receiver; plus

(iii) Current consumption of the electric light prescribed by § 83.547; plus

(iv) The sum of the current consumption of all other loads to which the auxiliary source of energy may supply power in time of emergency or distress;

(4) At the conclusion of the test specified in subparagraphs (1) and (2) of this paragraph, no part of the auxiliary source of energy shall have an excessive temperature rise, nor shall the specific gravity or voltage of any storage battery be below the 90 percent discharge point as determined from information (such as voltage curves or specific gravity tables) supplied by the manufacturer of the type of battery involved.

§ 83.546 Radiating system.

The radiating system of the radiotelephone installation provided for use on each of the frequencies 2182 kc/s and 2003 kc/s shall comply with the following requirements:

(a) The antenna shall be adequately protected to ensure proper operation and so as not to endanger the vessel and the radio apparatus comprising the installation.

(b) The conductor or system of conductors comprising the antenna shall, consistent with the prevailing physical limitations affecting the antenna installation, be of such configuration and so

located physically with regard to proximity to metallic objects and structures as to allow for the development of as uniform a vertically polarized ground wave in all directions as possible for a given antenna power.

(c) Wherever practicable the radiating system shall as a minimum be capable of converting at least 11.5 watts (unmodulated carrier power) of the power supplied to the system by the transmitting apparatus, on 2182 kc/s and 2003 kc/s respectively, into radiated power. A radiating system shall be deemed capable of meeting this requirement and also the requirements of paragraph (b) of this section if it is demonstrated to the satisfaction of the Commission that the radiotelephone installation is capable of developing an effective inverse distance radio field intensity of 19.9 millivolts per meter at 1 statute mile on each of the frequencies 2003 kc/s and 2182 kc/s, or if the product of the antenna current on 2182 kc/s in root mean square amperes measured at the base of the antenna and the maximum height of the antenna expressed in feet as measured from the cabin lead-in insulator is at least 41.4 for an antenna having a horizontal length of not less than one-half of its maximum height, or 70.5 in the case of any other antenna.

(d) When an electrical ground connection is used as a necessary element of the radiating system, such connection shall be made in an effective manner to the hull of a vessel having a metal hull or, in the case of a vessel not having a metal hull, to a bare plate or strips of a corrosion resistant metal of good electrical conductivity having a total area of at least 12 square feet in the aggregate, permanently attached to the hull below the waterline and insofar as possible located directly under the antenna structure and radio apparatus.

§ 83.547 Electric light.

Light from an electric source of energy shall be available and permanently arranged to so illuminate the operating controls of the radiotelephone installation at the principal operating position that the installation may be used at any time for quickly establishing and effectively carrying on radiotelephone communication in time of emergency or distress. If an auxiliary source of energy is required to be provided on board the vessel, arrangements shall be provided to utilize or to permit the use of such source of energy for such illumination within 1 minute after the need arises for its use.

§ 83.548 Trial of radiotelephone installation.

At least once during each calendar day in which a vessel of the United States is navigated while subject to the Great Lakes Radio Agreement, a test communication on 2182 kc/s to demonstrate that the radiotelephone installation is in proper operating condition shall be made by a certified person who is required in accordance with § 8.158, unless the normal daily use of the equipment demonstrates that this installation is in proper operating condition for that purpose. Should the equipment be found at any time by a person other than the master not to be in proper operating condition, the master shall be promptly notified thereof. A record shall be made in the radio station log showing the operating condition of the equipment as determined by either the daily normal communication or the daily test communication referred to in this section, and showing that, if an improper operating condition was found, the master was properly notified thereof.

§ 83.549 Failure of radiotelephone installation while en route.

If, while a United States vessel is subject to the Great Lakes Radio Agreement, the vessel's radiotelephone installation required by Article 8 of said Agreement ceases to be in effective operating condition, the master shall forthwith exercise due diligence to restore the radiotelephone installation to effective operating condition at the earliest practicable moment, and, in any event, the effective operating condition of the radiotelephone installation shall be restored at the destination on the Great Lakes of the vessel. In addition to the foregoing, the master shall within 12 hours after the time of arrival of the vessel at the destination, mail to the Secretary, Federal Communications Commission, Washington, D.C., 20554, an explanation of the full particulars of the matter in writing including the date the master became aware of the deficiency in the radiotelephone installation and the nature of such deficiency, a description of steps taken to correct such deficiency, and in the case of a vessel whose destination is on the Great Lakes, a statement that the radiotelephone installation has been, or will be, placed in effective operating condition before the ship leaves that port.

Subpart V—Type Approval of Compulsory Shipboard Equipment

§ 83.551 Scope of type approval.

(a) Approval by the Commission of a particular type of equipment in accordance with the provisions of any section or sections of this subpart, for use on board ships for the purpose of compliance with Part II of Title III of the Communications Act, is extended to all equipment of the same identical type, design, and construction, which is manufactured by the same person.

(b) For the purpose of determining compliance with sections 351 (a), 355 (c), (d), (e), and 358 (a) of the Communications Act, the term "transmitter" means a transmitter proper, together with all auxiliary equipment which is deemed necessary to make this unit operate efficiently as a main and/or emergency transmitter in a ship station at sea. For this purpose, each separate motor-generator, rectifier or other unit required to convert the power available as a primary source or sources on the ship, to the phase, frequency, and/or voltage necessary to energize the transmitter proper is construed to be a component of the transmitter.

§ 83.552 Requirements for main transmitter.

(a) A main transmitter will be type approved by the Commission as capable of meeting the relevant requirements of section 355 (c) and (d) of the Communications Act if it is demonstrated to the satisfaction of the Commission that the transmitter involved, or a transmitter of the same identical type, is capable of meeting the requirements of paragraphs (b), (c), and (d) of this section: *Provided*, That if deemed necessary, a demonstration of the capabilities of an individual main transmitter installed on board a ship may be required to determine compliance with any or all of the following provisions of this section before initial or continued type approval of such transmitter will be given by the Commission.

(b) Tabulation of basic technical requirements (for the purpose of these specific requirements, the term "average ship station antenna" means an actual antenna installed on board ship having a capacitance of 750 picofarads and an effective resistance of 4 ohms at a frequency of 500 kilocycles, or an artificial (dummy) antenna having the same electrical characteristics):

Operating carrier frequency	Frequency tolerance (parts in 10^6)	Class of emission	Percentage modulation (for amplitude modulation)	Modulation frequency (for amplitude modulation)	Antenna power
500 kc/s	1,000	A2	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 cycles per second; except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 cycles per second.	Not less than 200 watts into an average ship station antenna.
Do	do	A1			Not less than 100 watts into an average ship station antenna.
410 kc/s and 2 authorized working frequencies in the band 415 to 490 kc/s.	do	A2	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 cycles per second; except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 cycles per second.	Not less than 200 watts into an average ship station antenna.
Do	do	A1			Not less than 100 watts into an average ship station antenna.

(c) A main transmitter shall be capable of efficient operation at its required antenna power when adjusted to any required operating frequency and, when energized by the main power supply of the ship station in which it is installed or by a power supply equivalent thereto, shall be capable of being adjusted rapidly for operation on any one of its required operating frequencies, and shall conform with all other applicable rules of this part.

(d) A main transmitter shall be equipped with suitable indicating instruments of standard accuracy and reliability to measure (1) the current in the antenna circuit, (2) the potential of the heating current applied to the cathode or cathode heater of each electron tube or a potential directly proportional thereto, and (3) the anode current of the radio frequency oscillator or amplifier which supplies power to the antenna circuit, or in lieu thereof, the anode current of such oscillator or amplifier plus the anode current of any other radio or audio frequency oscillator(s) or amplifier(s) normally employed as part of the transmitter.

(e) Measurements for the purpose of demonstrating compliance with the specific requirements of this section shall be made by methods acceptable to the Commission.

(1) The antenna power shall be determined by the product of the square of the antenna current and the antenna resistance at the operating carrier frequency, both measured at the same point in the antenna circuit and at approximately ground potential.

(f) Each transmitter which was not in existence prior to February 1, 1938, but which is installed after that date on board a vessel in order to comply with the provisions of this section, shall be furnished with a durable name plate with the month and year of its completion permanently inscribed thereon.

(g) (1) A main transmitter, completed prior to January 1, 1952, shall be provided with an arrangement for conveniently reducing the plate input power of such transmitter to approximately one-half of its rated plate input power.

(2) A main transmitter, completed in construction subsequent to January 1, 1952, which is capable of a plate input power exceeding 450 watts, shall be provided with an arrangement readily permitting the use of a plate input power for telegraphy which is not in excess of 200 watts; unless there is available in the same station a duly authorized radiotelegraph transmitter capable of operation on the radio-channels required for a main transmitter, capable of being energized by a source of power other than the emergency power supply installed for compliance with applicable provisions of treaty or statute, and not capable of a plate input power in excess of 450 watts when operated on frequencies within the band 405 kc/s to 535 kc/s.

§ 83.553 Requirements for reserve transmitter.

(a) A reserve transmitter will be type approved by the Commission as capable of meeting the relevant requirements of section 355 (c) and (f) of the Communications Act if it is demonstrated to the satisfaction of the Commission that the transmitter involved, or a transmitter of the same identical type, is capable of meeting the requirements of paragraphs (b), (c), and (d) of this section when energized for a period of at least six continuous hours by a power supply equivalent to the radio station reserve power supply which is, or will be, available on board the vessel on which the transmitter is, or will be, installed and operated: *Provided,* That if deemed necessary, a demonstration of the capabilities of an individual reserve transmitter installed on board a ship may be required to determine compliance with any or all of the following provisions of this section before initial or continued type approval of such transmitter will be given by the Commission.

(b) Tabulation of basic technical requirements (for the purpose of these specific requirements, the term "average ship station antenna" means an actual antenna installed on board ship having a capacitance of 750 picofarads and an effective resistance of 4 ohms at a frequency of 500 kilocycles, or an artificial (dummy) antenna having these same electrical characteristics):

Operating carrier frequency	Frequency tolerance (parts in 10^6)	Class of emission	Percentage modulation (for amplitude modulation)	Modulation frequency (for amplitude modulation)	Antenna power
500 kc/s	1,000 except for reserve transmitters whose use is confined solely to safety communications as defined in § 83.6(a). Such transmitters shall maintain a frequency tolerance of 3,000 parts in 10^6.	A2	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 cycles per second; except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 cycles per second.	Not less than 25 watts into an average ship station antenna.
410 kc/s and 1 authorized working frequency in the band 415 to 490 kc/s.	do	A2	do	do	Do.

(c) A reserve transmitter shall be capable of efficient operation at its required antenna power when adjusted to any required operating frequency and, when energized by the reserve power supply of the ship station in which it is installed or by a power supply equivalent thereto, shall be capable of being adjusted rapidly for operation on any one of its required operating frequencies, and shall conform with all other applicable rules of this part.

(d) A reserve transmitter shall be equipped with suitable indicating instruments of standard accuracy and reliability to measure the current in the antenna circuit and, if completed by the manufacturer after January 1, 1944, the potential of the heating current applied to the cathode or cathode heater of each electron tube or a potential directly proportional thereto.

(e) Measurements for the purpose of demonstrating compliance with the specific requirements of this section shall be made by methods acceptable to the Commission. The antenna power shall be determined by the product of the square of the antenna current and the antenna resistance at the operating carrier frequency both measured at the same point in the antenna circuit and at approximately ground potential.

(f) Each transmitter which was not in existence prior to February 1, 1938, but which is installed after that date on board a vessel in order to comply with the provisions of this section, shall be furnished with a durable name plate with the month and year of its completion permanently inscribed thereon.

§ 83.554 Requirements for radiotelegraph auto alarm.

(a) To be type approved by the Commission pursuant to section 3(x) of the Communications Act subsequent to January 1, 1954, radiotelegraph auto alarms shall comply with the following requirements:

(1) *Basic technical requirements.* (i) The auto-alarm shall be capable of being operated by either three or four consecutive dashes when the dashes vary in length from 3.5 to as near 6 seconds as possible and the spaces vary in length between 1.5 seconds and the lowest practicable value, preferably not greater than 10 milliseconds.

(ii) In the absence of interference of any kind, without manual adjustment during operation, the auto-alarm shall be capable of positive and reliable operation with a minimum available signal of 100 microvolts from the antenna circuit. It shall be capable under these conditions of operation on signals of the following classes of emission:

(*a*) A2 (carrier modulated 30 percent at each modulation frequency from 300 to 1350 cycles per second, inclusive).

(*b*) B (at each tone frequency from 300 to 1350 cycles per second, inclusive).

(iii) The overload capacity must be sufficient to enable the auto-alarm to operate with inputs from the antenna circuit up to 1 volt, under normal operating conditions.

(iv) The auto-alarm shall respond to the alarm signal through interference (provided it is not continuous) caused by atmospherics and powerful signals other than the alarm signal. In the presence of atmospherics or interfering signals, the auto-alarm shall automatically adjust itself so that within a reasonably short time it approaches, in so far as is practicable, the condition in which it can most readily distinguish the alarm signal.

(v) The auto-alarm receiver shall be capable of operating when the received auto-alarm signals have a radio frequency of 500 kilocycles with a sensitiv-

ity as set forth in subdivision (ii) of this subparagraph and shall, in addition, respond without adjustment and with the same sensitivity to signals having any radio frequency from 492 to 508 kc/s, inclusive. With respect to the reception of signals having a radio frequency outside the band 492 to 508 kc/s, the sensitivity of the auto-alarm shall decrease as rapidly as possible, in conformity with the best engineering practice.

(vi) The auto-alarm must not be operated, so as to actuate the warning device, by atmospherics or by any signal from the antenna circuit other than the alarm signal: *Provided,* That received signals other than the alarm signal itself do not in fact constitute a signal falling within the tolerance limits indicated in subdivision (i) of this subparagraph.

(vii) When operated by an alarm signal, or in the event of failure of the auto-alarm apparatus, the auto-alarm shall cause a continuous audible warning to be given in the principal radiotelegraph operating room, in the radio operator's cabin, and on the bridge. In so far as may be practicable, the audible alarm shall also be given in the event of any failure of the auto-alarm system, as a whole, which results in the auto-alarm becoming inoperative.

(viii) For the purpose of regularly testing the auto-alarm, without connection to the antenna, the apparatus shall include a generator pre-tuned to the 500 kc/s distress frequency and a keying device by means of which an alarm signal of minimum strength approximately as indicated in subdivision (ii) of this subparagraph is produced solely for actuating the particular auto-alarm and is not radiated beyond the immediate area of the vessel.

(2) *Requirements as to construction.* (i) The auto-alarm shall consist essentially of:

(*a*) A radio receiver capable of receiving emissions of classes A2 and B over the entire frequency range 492 to 508 kc/s, inclusive.

(*b*) A selector device capable of selecting the alarm signal specified under subparagraph (1) (i) of this paragraph.

(*c*) A suitable form of audible alarm (minimum of 3 units required).

(*d*) A testing device to determine locally that the auto-alarm system is effectively operative.

(ii) The auto-alarm may be constructed in one or more units, but must be independent of the ship's regular radio receiving apparatus.

(iii) A telephone jack shall be provided to permit reception, if desired, by a telephone receiver.

(iv) Tuning and timing controls shall not be accessible to the exterior of the device and shall be so designed and housed as to permit adjustment with special tools only.

(v) Once set into operation the audible alarms must continue to function until switched off in the principal radiotelegraph operating room.

(vi) A nonlocking or momentary-throw switch shall be provided to permit temporary disconnection of the audible alarm on the bridge and in the operator's quarters when the auto-alarm system is being tested.

(vii) The receiver and selector shall be of rugged construction throughout, capable of withstanding continuous and severe vibration equivalent to conditions that may be experienced on board a ship under the worst possible conditions and capable of continuous operation over long periods of time.

(viii) All units of the auto-alarm system shall be designed and constructed in accordance with generally accepted principles and practices of modern electronic engineering.

(ix) The auto-alarm system shall not be affected by sudden changes in ambient temperature between zero degrees centigrade and 50 degrees centigrade, shall not be affected by salt atmosphere, and by humidity conditions as high as 90 percent at a temperature of 40 degrees centigrade.

(x) Condensers, transformers, or other units shall not contain compounds which will flow at temperatures below 85 degrees centigrade, which will crack at temperatures above 0° centigrade, which are hygroscopic or which contain any corrosive substance.

(3) *Requirements as to testing and approval.* (i) Before an auto-alarm receiver will be approved by the Commission pursuant to paragraph (x) of section 3 of the Communications Act, a sample type of such auto-alarm receiver must be submitted for the purpose of demonstrating by means of suitable laboratory and field tests, that it complies with these requirements. Such tests will be conducted by the Commission, and other cooperating United States Government departments or agencies as may be appropriate, under the test specifications set forth under subparagraph (5) of this paragraph.

(ii) Failure to pass any specified test may result, by order of the Commission, in the discontinuance of all tests on the unit or component involved and the immediate rejection of the entire apparatus.

(iii) Manufacturers' tests of the complete device and/or of any components thereof shall be conducted in the laboratory or shop of the manufacturer(s). These tests shall be carried out in accordance with the provisions of subparagraph (4) of this paragraph.

(iv) Laboratory tests conducted by the Commission and/or by any other cooperating United States Government department or agency as may be appropriate, under test specifications prescribed by the Commission shall be at the expense of the manufacturer or person submitting the device for approval. A report of the tests conducted by the Commission, and/or other Government department, will be available to the Commission only: *Provided,* That such reports will be made available to the manufacturer involved at a subsequent date to be determined by the Commission.

(4) *Requirements as to manufacturers' tests.* (i) The following tests shall be conducted by the manufacturer of the auto-alarm device, who shall submit data in a signed statement showing that such tests have been made as hereinafter required prior to submission of a working model for type tests: *Provided, however,* That data obtained from manufacturers of parts used in construction of the device may be submitted in lieu of the results of such tests conducted by the manufacturer of the complete device. The Commission may require that any or all of the prescribed tests be witnessed by its representative(s).

(*a*) The insulation resistance of the windings and terminals to case and core of transformers and electromagnet coils and the dielectric resistance of condensers shall be measured and data recorded for the information of the Commission.

(*b*) Transformers and/or electromagnet coils shall be energized continuously under normal conditions of operation for a period of one hour at an ambient temperature of 25 degrees centigrade. For purposes of making this test, maximum rated voltage at rated frequency with the secondary of transformers normally loaded and with the frame or enclosure grounded will be applied. Under these conditions the temperature of each transformer and/or electromagnet coil shall not be such as to affect injuriously any of the material used in construction and the temperature rise of the unit undergoing test shall not exceed 40 degrees centigrade at the end of one hour.

(*c*) Immediately after each transformer and/or electromagnet coil has been tested under (*a*) of this subdivision, a test for breakdown capability will be made by applying between windings and between each winding and the core or enclosure, for a period of five minutes, a potential ten times the maximum rated effective potential of the circuit in which the coil or winding is connected.

(*d*) All components containing wax or other sealing, insulating or electrolytic compounds shall be placed in an oven and the ambient temperature brought to 75 degrees centigrade and maintained for a period of 15 minutes. They shall then be placed in a refrigerator and the ambient temperature brought to zero degrees centigrade and maintained for a period of 15 minutes. If sealing, insulating or electrolytic compounds flow during this oven test or crack during this refrigerator test, these units will not be acceptable for use as components in the device. The electrical characteristics of each unit shall be measured at these temperatures and any deviations from their normal ratings that would adversely affect the operation of the auto-alarm device shall preclude the use of that component.

(5) *Requirements as to laboratory tests.* (i) The following tests shall be conducted at the Commission's Laboratory at Laurel, Maryland, and shall be at the expense of the manufacturer or person submitting the auto-alarm for approval. The report of these tests will be furnished to the Commission only. Tests will be conducted as described in the following paragraphs with the auto-alarm connected to an artificial antenna consisting of a 20 microhenry inductance, a 500 picofarad capacitor and a 5 ohm resistor connected in series. The receiver will be tested with its internal sensitivity control (if provided) set at

maximum sensitivity, except where otherwise specified.

(a) Test of sensitivity of the auto-alarm at the radio frequency 500 kc/s to determine operation of the aural warning device.

(1) Measurement of minimum alarm signal input, A2 emission, 30 per cent modulated with a 300 cycles per second tone, required to operate aural warning device.

(2) Test of operation using 100 microvolts alarm signal input, A2 emission, 30 percent modulated with a 300 cycles per second tone.

(3) Test of operation using 1 volt alarm signal input, A2 emission, 30 percent modulated with a 300 cycles per second tone.

(4) Using A2 emission, 30 percent modulated with a 1350 cycles per second tone, test as in (a) (1), (2), and (3).

(5) Test of aural warning device operation with 50 microvolts noise input and 100 microvolts alarm signal, A2 emission, 30 percent modulated with a 300 cycles per second tone.

(b) Test to determine operation of aural warning device from a 100 microvolts alarm signal, A2 emission, 30 percent modulated with a 300 cycles per second tone transmitted on any radio frequency or frequencies selected by the Commission from 492 to 508 kc/s, inclusive.

(c) Test of auto-alarm operation with internal receiver sensitivity control (if provided) set at minimum setting at which 100 microvolts input on the radio frequency 492 kc/s will operate aural warning device with simultaneous inputs of 100 microvolts auto-alarm signal, A2 emission, 30 percent modulation with an 800 cycles per second tone on 492 kc/s and 200,000 microvolts, A2 emission (800 cycles per second modulation) unkeyed signal on the frequency 350 kc/s; similar tests with the same alarm signal and a 25,000 microvolts, A2 emission (800 cycles per second modulation) unkeyed signal on the frequency 460 kc/s; similar test with internal receiver sensitivity control (if provided) set at minimum setting at which 100 microvolts input on the frequency 508 kc/s will operate aural warning device with simultaneous input of A2 emission (800 cycles per second modulation) unkeyed signal on the frequency 540 kc/s at 25,000 microvolts; and similar test with this latter signal on the frequency 650 kc/s at 200,000 microvolts.

(d) Test of selector response to dashes from 3.5 up to 6.0 seconds in duration when the spaces between the dashes have a duration from 10 milliseconds to 1.5 seconds. These tests shall be made on the radio frequency 500 kc with an input of 100 microvolts, A2 emission, 30 percent modulated with 300 cycles per second tone.

(e) [Reserved]

(f) Test of ability of the aural warning device to operate satisfactorily when the auto-alarm becomes inoperative under the following conditions:

(1) Filament burn-out of any electron tube in the apparatus;

(2) Failure of power supply.

(g) Tests to determine capability of proper operation of auto-alarm over long periods of time under any condition which may be expected on board ships while being navigated during extreme weather and sea conditions.

(1) The auto-alarm device shall be placed in operation for a period of one hour while subjected to each of the following conditions of temperature and relative humidity:

(i) 50 degrees centigrade and 50 percent relative humidity;

(ii) 30 degrees centigrade and 95 percent relative humidity;

(iii) Zero centigrade and 50 percent relative humidity.

(2) The auto-alarm device shall be placed in operation for a sufficient length of time under the following conditions to determine whether or not it will operate properly under such conditions:

(i) While the device is being rocked in such manner as to stimulate a roll and pitch of 45 degrees from the vertical.

(ii) When subjected to severe vibration comparable to that which might be experienced on board ship, as for example when subjected to vibrations having a period between 20 and 30 cycles per second and an amplitude (0.03 inch total excursion, i.e., 0.015 inch each side of the position of rest) of at least 0.03 inch in a direction at an angle of 30 to 45 degrees with the base of the device.

(h) Test of the testing device incorporated in the auto-alarm.

(i) Tests to determine satisfactory operation of the apparatus on a 500 kc/s alarm signal at temperatures of approximately 20 and 50 degrees centigrade. Tests to be made on the frequencies 500, 492 and 508 kc/s with an input of 100 microvolts, A2 emission, modulated 30 percent with a 300 cycles per second tone.

(j) General inspection of electrical and mechanical features.

(6) *Requirements as to field test.* (i) This test shall be conducted 24 hours a day for a period of not less than 30 consecutive days and shall be for the purpose of ascertaining the reliability of the auto-alarm and its freedom from false operation under practical interference conditions. For this test the auto-alarm shall be connected to an antenna typical of the average main antenna on shipboard and its operation shall be observed continuously during this period.

(ii) During this test period a minimum of 500 test alarm signals shall be transmitted locally while the test antenna is connected to the auto-alarm. The power used for the production of this test alarm signal shall be produced by a suitable radio frequency generator coupled to the antenna system. The receiver internal sensitivity adjustment (if provided) shall be set at the value designated by the manufacturer. During the official test period, adjustment of the auto-alarm shall not be made more than once in each 12 consecutive hours.

(iii) Tests for response to the alarm signal shall be made on at least the radio frequencies 492, 500, and 508 kc/s in a proportion on each frequency as determined by the Commission.

(b) No change shall be made in any auto-alarm under the type approval identification issued by the Commission, except upon specific authorization by the Commission to make such change(s). When it is desired to make any change, an application therefor, together with pertinent detailed information shall be submitted to the Commission for consideration and appropriate action.

(c) Type approval of an auto-alarm when given by the Commission, may be for a limited period of time only, and is subject to withdrawal if the device proves defective in service and cannot be relied upon under usual conditions of maintenance and operation encountered on board ships at sea. Withdrawal of approval means that no further devices of the particular model affected may be installed, but will not immediately apply to such devices already installed unless it is found that there has been an unauthorized change in design or construction, or the material or workmanship is defective.

§ 83.555 Requirements for automatic-alarm-signal keying device.

(a) To be approved by the Commission for use in compliance with § 83.508 and to be recognized as being capable of functioning in compliance with §§ 83.508 and 83.509, each type of automatic-alarm-signal keying device shall comply with the requirements set forth in this section.

(b) No change shall be made in any automatic-alarm-signal keying device under the type approval identification issued by the Commission, except upon specific authorization by the Commission to make such change(s). When it is desired to make any change, an application therefor, together with pertinent detailed information shall be submitted to the Commission for consideration and appropriate action.

(c) Type approval of an automatic-alarm-signal keying device when given by the Commission, may be for a limited period of time only, and is subject to withdrawal if the device proves defective in service and cannot be relied upon under usual conditions of maintenance and operation encountered on board ships at sea. Withdrawal of approval means that no further devices of the particular model affected may be installed, but will not immediately apply to such devices already installed unless it is found that there has been an unauthorized change in design or construction, or the material or workmanship is defective.

(1) *Basic technical requirements.* (i) The automatic-alarm-signal keying device may consist of one or more units, either separate and distinct from other units of the ship's radio installation or may be incorporated, if approved by the Commission, as part of any other unit.

(ii) The device shall be designed so as to properly operate, on board ships at sea, the normal keying circuits of any transmitter approved by the Commission for use as a main or as a reserve transmitter in compliance with section 355 of the Communications Act of 1934, as amended. A list of transmitters approved by the Commission for this purpose will be furnished upon request.

(iii) Timing-adjustment controls shall not be accessible from the exterior of the device and shall be designed and housed

so as to prevent adjustment by unauthorized persons.

(iv) The keying mechanism shall operate so as to repeatedly transmit the alarm signal. For this purpose the dashes transmitted shall have a duration within the limits of 3.8 to 4.2 seconds, and spaces between each of the twelve dashes constituting a series shall have a duration within the limits of 0.8 to 1.2 seconds. Spaces between each series of twelve dashes shall have a duration within the limits of 0.8 second to one minute.

(v) A single control, protected so as to avoid accidental manipulation, shall be provided for placing the device itself into full operation within a maximum period of 30 seconds. Once set into operation, the device shall be capable of continuously and properly operating without further attention for a period of not less than one hour.

(vi) The automatic-alarm-signal keying device shall be capable of being energized solely by a source of power independent of the propelling power of the ship and independent of any other system: *Provided, however,* That the device may be energized by the radio station emergency power supply and any storage battery power supply regularly used for operating a required automatic alarm receiver.

(vii) When the proper operation of the device is dependent upon the maintenance of any inherent conditions of operating within relatively narrow limits, the Commission, as a provision of its approval, may prescribe such limits and require that the device shall include means for indicating to the operator when deviations from the conditions occur.

(viii) Instructions concerning the proper adjustment of the device and the correct indication of any instrument incorporated for the purpose of revealing improper operation, shall be inscribed in a durable manner on a plate mounted on the device in a position to be easily read by the operator.

(ix) Means shall be provided to insure that when the "on-off" control of the device is placed in the "off" position, the keying circuit to the radio transmitter(s) is automatically opened.

(2) *Requirements as to construction.* (i) The design of the automatic-alarm-signal keying device shall be in accordance with the modern engineering practice and the device shall be capable of operating under conditions of constant and severe vibrations and extreme variations of temperature and humidity equivalent to those experienced on board ships at sea under the worst possible conditions. This requirement applies only to use of the device on board such types of vessels as are normally subject to Title III, Part II of the Communications Act.

(ii) A durable nameplate shall be mounted on each device showing the name of the manufacturer, the type and serial number and the month and year of completion by the manufacturer. However, this nameplate need not be provided on a working model submitted to the Commission for type testing and approval.

(3) *Requirements as to testing and approval.* (i) Before an automatic-alarm signal keying device is approved by the Commission, a working model of the particular type for which approval is desired shall be submitted for inspection, and it shall be demonstrated by means of suitable type tests that it complies with these requirements. The model equipment will be operated in these tests in the same way and under conditions similar to those encountered in actual service. In connection with such tests, the manufacturer shall supply all instructions and/or services which are intended to be supplied to the purchaser of the equipment, including a proposed instruction book and a tentative list of spare parts as would normally be supplied with shipboard installations.

(ii) Failure to pass any specified test may result, by order of the Commission, in the discontinuance of all tests on the particular device involved and in the immediate rejection thereof: *Provided,* That the Commission, within its discretion, may relax to a reasonable extent the provisions of subparagraph (4) of this paragraph with respect to an automatic-alarm-signal keying device which is included as an integral part of any automatic-alarm receiver approved by the Commission and completed by the manufacturer prior to the effective date of these requirements and type tests.

(iii) Manufacturers' tests of the complete device and/or of any components thereof shall be conducted in the laboratory or shop of the manufacturer(s). These tests shall be carried out in accordance with the following requirements under the heading "manufacturers' tests" and at the expense of the manufacturer or person submitting the device for approval.

(iv) Laboratory tests shall be conducted by the Commission, and/or by any other cooperating United States Government department as may be appropriate, under test specifications prescribed by the Commission and shall be at the expense of the manufacturer or person submitting the device for approval. A report of the tests conducted by the Commission, and/or other government department, will be available to the Commission only: *Provided,* That such reports will be made available to the manufacturer involved at a subsequent date to be determined by the Commission.

(v) Field tests, as deemed necessary or desirable.

(4) *Requirements as to manufacturers' test.* (i) Tests shall be conducted by the manufacturer of the automatic-alarm-signal keying device, who shall submit proof in a signed statement that they have been made as required, together with supporting data: *Provided, however,* That data obtained from manufacturers of parts used in the construction of the device may be submitted in lieu of the results of such tests conducted by the manufacturer of the complete device.

(ii) Sufficient tests shall be applied to all components to determine the durability of materials, character of workmanship, and that the electrical and/or mechanical characteristics are those required for efficient operation of the device.

(5) *Requirements as to laboratory tests.* (i) The automatic-alarm-signal keying device shall be capable of operating the keying circuit of any transmitter approved by the Commission for use as a main transmitter or as a reserve transmitter in compliance with section 355 of the Communications Act of 1934 (a list of the types of transmitters approved by the Commission for this purpose will be furnished upon request). For the purpose of demonstrating compliance with this requirement the transmitter keying circuit of the device shall be tested for a direct current carrying capacity of two amperes through a non-inductive resistance of 115 ohms. Terminals, electrical conductors and keying contacts shall be of sufficient size and properly spaced and insulated for these values of current and for the voltage which will necessarily be applied in this test. During this test, arcing shall not occur when the keying contacts are operated which would unduly affect the duration of the dashes and spaces between dashes, or which would otherwise adversely affect the operation of an approved radiotelegraph transmitter keyed by the device.

(ii) The automatic-alarm-signal keying device, if electrically driven, shall be capable of operation when the required electrical energy is furnished solely by an independent power supply. For the purpose of demonstrating compliance with this requirement, the following tests are prescribed:

(*a*) The device shall be operated continuously for a period of one hour from a power supply equivalent to the radio station emergency power supply or the required automatic alarm receiver storage battery power supply of vessels on which the device is to be used. (Radio station emergency power supplies having potentials of 12, 24, and 110 volts are commonly used on board vessels of the United States. Twelve volt emergency power supplies are most common on these vessels. Some of the approved automatic alarm receivers used on board United States ships to date are energized by a storage battery power supply of either 6 or 24 volts, or from a separate and independent source of power furnished as an integral part of the device.) For this operation test the potential of the electrical power supply, if used, shall be varied over a voltage range of plus or minus 15 per cent of the rated potential of such power supply, during which the transmitted dashes shall have a duration within the limits of 3.8 to 4.2 seconds, and spaces between dashes shall have a duration within the limits of 0.8 to 1.2 seconds.

(*b*) The electrical circuits of the device shall be inspected and tested as may be necessary to determine whether or not they are properly fused for adequate protection of the device and the power supply.

(iii) The automatic-alarm-signal keying device shall be capable of properly operating the keying circuit of an approved radiotelegraph transmitter so as

to transmit the alarm signal for a continuous period of one hour, under any condition which may be expected on board ships while being navigated during extreme weather and sea conditions. For this purpose the following tests are prescribed in addition to the test prescribed in subdivision (ii) of this subparagraph.

(*a*) The keying device shall be placed in operation for a period of one continuous hour while subjected to each of the following conditions of temperature and relative humidity:

(*1*) 50 degrees centigrade and 50 percent relative humidity.

(*2*) 30 degrees centigrade and 95 percent relative humidity.

(*3*) Zero centigrade and 50 percent relative humidity.

(*b*) The keying device shall be placed in operation for a sufficient length of time under the following conditions to determine whether or not it will operate properly under such conditions:

(*1*) While the keying device is being rocked in such a manner as to simulate a roll and pitch of 45 degrees from the vertical, that is, over an arc of 45 degrees in two planes normal to the horizon and perpendicular to each other.

(*2*) When subjected to severe vibration comparable to that which might be experienced on board ship, as for example when subjected to vibrations having a period between 20 and 30 cycles per second and an amplitude (0.03 inch total excursion, i. e., 0.015 inch each side of the position of rest) of at least 0.03 inch in a direction at an angle of 30 to 45 degrees with the base of the device.

(*3*) The keying device shall be inspected to determine whether or not all delicate parts are properly enclosed and protected from moisture and from mechanical injury and whether or not components are accessible as may be necessary for inspection and repair, when in service.

(*4*) The keying device shall be inspected and tested as may be necessary to determine the effectiveness of adjustment controls and means for making these adjustments under service conditions, together with precautions taken to prevent tampering with adjustments.

(*5*) Indicating instruments (when provided) and operating controls shall be inspected to determine whether indication is given that the device is in satisfactory operation when the starting control is placed in the "on" position and to determine that a single control for starting and stopping is provided, capable of placing the device in full operation within 30 seconds from the time the control is placed in the "on" position.

§ 83.556 General requirements for survival craft radio equipment.

To be type approved by the Commission pursuant to § 83.469 or 83.472, survival craft radio equipment shall comply with the following general requirements in addition to the applicable specific requirements set forth in §§ 83.557 and 83.558.

(a) The design and construction of the radio equipment shall be such that no tools are required to place it in operation for routine tests or for emergency communication.

(b) The components and assembly of the entire survival craft radio equipment shall insure the utmost dependable operation and the design shall be such that heavy vibration and physical shocks to which a survival craft is subject will cause no damage. Components shall be housed and treated to withstand saline dampness and to minimize the adverse effect of prolonged exposure to salt water or salt spray.

(c) A durable nameplate shall be mounted on the equipment or made an integral part thereof showing at least the type or model number, the name of the manufacturer, and the month and year of manufacture.

(d) Each survival craft equipment shall be provided with a copy of an instruction manual covering the design, installation, operation, and maintenance of the equipment.

(e) Simple instructions suitable for the guidance of unskilled persons shall be durably imprinted on a card, which shall be prominently and permanently attached to the equipment. These instructions shall contain information together with sketches covering the erection of the antenna(s) and the operation of the equipment for automatic transmission; also information as to manual transmission of the international radiotelegraph distress signal and the international radiotelegraph alarm signal, and a statement that the latter signal is effective only if transmitted on the frequency 500 kc/s.

(f) An artificial antenna for test purposes shall be provided.

§ 83.557 Requirements for survival craft portable radio equipment.

(a) There shall be provided as a single unit a portable buoyant apparatus consisting of a transmitter, receiver including headphones, power supply, grounding conductor, a collapsible rod antenna or in lieu thereof a collapsible mast, a single-wire antenna, and a line for lowering the apparatus.

(1) The apparatus, as a single unit, shall be of sufficient buoyancy to float in sea water and shall be sufficiently rugged in construction to withstand physical shocks and rough handling. The apparatus shall be deemed to comply with this requirement if, after being dropped into sea water in various positions from a height of at least 20 feet, it can be operated immediately without any repair or adjustment (other than normal antenna circuit tuning) and without departure from required performance. Suitable protection shall be provided for the operating controls, indicating devices and instruments, including the head receiver, against physical harm from accidental or inadvertent blows and from the adverse effects of prolonged exposure to the weather. Operational parts of the apparatus adversely affected by immersion in sea water shall be enclosed so as to provide the necessary protection. Any such enclosure shall be deemed to be water-tight if it can be submerged in sea water so that no part is less than two inches below the surface of the water for a continuous period of two hours without leaking.

(2) The apparatus, as a unit, shall be fitted with durable handles or grips. These shall be so arranged and the distribution of the weight of the apparatus shall be such as to provide for convenient carrying by either one or two persons.

(3) Provision shall be made for securely fastening components of the apparatus, by lashing or other acceptable means, to a lifeboat thwart as may be necessary to enable easy and convenient operation of the lifeboat portable radio equipment.

(4) The apparatus exclusive of the line for lowering shall not weigh more than sixty pounds.

(5) The line for lowering shall consist of not less than 40 feet of 9 thread manila or sisal rope, or the equivalent thereof, which shall be in good condition and securely attached to the apparatus at all times.

(6) Components of the apparatus subject to loss by detachment from the unit for operation or test of the equipment shall be so arranged as to insure their availability at all times.

(7) Each apparatus shall be equipped with a durable removable plate showing clearly the survival craft radio call sign in letters and digits and in characters of the International Morse Code.

(b) (1) The radio transmitter shall comply with the following requirements:

Operating frequencies (kilocycles)	Frequency tolerance	Type of emission	Modulation percentage (average of modulation percentage of positive and negative peaks)	Modulation frequency	Power output (into specified artificial antenna)	Artificial antenna
	Parts in 10^6					
500	5,000	A2	Not less than 70.	Not less than 450 nor greater than 1350 cycles per second.	Not less than 0.25 watt.	1 ohm resistance, 75 picofarads capacitance.
500	5,000	A2	do	do	Not less than 2 watts.[1]	15 ohms resistance, 100 picofarads capacitance.
8364	200	A2	do	do	Not less than 4 watts.	40 ohms resistance.

[1] In the case of equipment type approved prior to the effective date of the Safety Convention, 1960, the power output may be 1.7 watts into an artificial antenna of 10 ohms resistance and 75 picofarads capacitance.

(2) The transmitter radio frequency and modulation frequency control circuits shall be pretuned to the required frequencies and shall be of such design and construction that the operating frequencies are maintained within the prescribed tolerances under varying voltages, antenna circuit characteristics, and other normal conditions of adjustment. The frequency control circuit adjust-

ment(s) shall be securely locked to prevent detuning as a result of shock or vibration and shall not be readily available to the person using the transmitter.

(3) Controls shall be provided on the operating panel for efficient transfer of radio frequency energy at each required operating radio frequency to the required antenna. An initial adjustment of these controls shall effectively resonate the antenna circuit at each required operating radio frequency and this condition shall be maintained without further adjustment of these controls during a normal operating period of the transmitter.

(4) Simple and reliable controls shall be provided so that the operator of the transmitter can quickly and conveniently place it in use for: Manual operation on 500 kc/s, manual operation on 8364 kc/s, and automatic operation alternately on these two frequencies: *Provided*, That not more than one manual switch adjustment shall be necessary to place the transmitter in operation for automatic transmission. For manual radiotelegraphy the transmitter and receiver, including their controls, shall be arranged mechanically and electrically so that they can be operated efficiently and conveniently from the same operating position for communication on the required operating frequencies and so that the time necessary to change from transmission to reception, and vice versa, on these frequencies is as short as possible and in no event more than two seconds. For automatic operation provision shall be made as follows:

(i) On 500 kc/s for transmission of the international radiotelegraph alarm signal followed by the international radiotelegraph distress signal, the latter to be transmitted in one or more separate groups, each group consisting of three separate distress signals.

(ii) On 8364 kc/s for transmission of the international radiotelegraph distress signal in one or more separate groups, each group consisting of three separate distress signals; this group or these groups to be followed by a continuous long dash of not less than 30 seconds in duration.

(iii) For transmission of the specified signals by automatically changing the operating frequency of the transmitter from 500 kc/s to 8364 kc/s and vice versa with a transfer time interval not to exceed one second.

(iv) For completely de-energizing the receiver during such operation of the transmitter.

(v) For testing the required automatic keying arrangement without the generation of radio frequency energy.

(vi) The speed of the automatic transmission of the international radiotelegraph distress signal shall be at a rate not in excess of 16 words per minute nor less than 8 words per minute. The alarm signal dashes shall have a duration within the limits of 3.8 to 4.2 seconds, and the spaces between each of the 12 dashes constituting a series shall have a duration within the limits of 0.8 to 1.2 seconds.

(5) The transmitter shall be equipped with a reliable visual indicator or indicators as may be necessary (such as neon tubes) to indicate antenna circuit resonance at each operating frequency with any antenna provided. Failure of the indicator(s) shall have no adverse effect on the actual operation of the transmitter.

(c) The receiver shall comply with the following requirements:

(1) The receiver shall, when used with headphones, be capable without manual tuning of receiving A2 emission over the band 492–508 kc/s, and shall be capable when manually tuned of receiving A1 and A2 emission on any frequency in the band 8320–8745 kc/s.

(2) The sensitivity of the receiver shall be such that at least 1 milliwatt of audio power is developed in a noninductive load resistor having an ohmic value substantially equal to the value of the impedance of the head receiver at 1,000 cycles per second at a signal to noise power ratio of at least 10 to 1, when the receiver is supplied through the following artificial antennas with the respective radio frequency signals:

Frequency (kilocycles)	Signal strength (microvolts)	Modulation factor	Modulation frequency (cycles per second)	Artificial antenna
500.....	200	0.3	400	15 ohms resistance and 100 picofarads capacitance.[1]
8364.....	1000	.3	400	40 ohms resistance.

[1] In the case of equipment type approved prior to the effective date of the Safety Convention, 1960, the artificial antenna may be 10 ohms resistance and 75 picofarads capacitance.

The noise power present in the output of the receiver when the receiver is adjusted for the reception of type A2 emission on the frequencies 500 kc/s and 8364 kc/s shall be determined with an unmodulated input signal of the indicated strength.

(3) The selectivity of the receiver preceding the final detector shall be such that response uniform to within 6 db is obtained over the frequency range 492 to 508 kc/s.

(4) The audio frequency response of the receiver shall be electrically uniform to within 6 decibels over the range of frequencies between 400 and 1400 cycles per second.

(5) The receiver shall be equipped with only one manually operated volume control.

(d) The power supply shall comply with the following requirements:

(1) The source of power shall be a manually operated electric generator capable of efficiently energizing the survival craft radio installation. The mechanical power applied to the crank handle(s) or the propelling lever(s) of the generator driving mechanism shall not exceed a maximum of 0.15 horsepower for any required condition of operation of the survival craft radio installation at any temperature of the generator and its associated driving mechanism between minus 30 degrees and plus 125 degrees Fahrenheit. Under these conditions the speed of rotation of the crank handle(s) shall not be greater than 70 revolutions per minute nor shall the cycles of operation of the propelling lever(s) be greater than 70 cycles per minute. The voltages applied to the radio installation shall not vary from their normal values more than 20 per cent at any generator speed in excess of the normal operating speed which can be manually developed.

(e) The single wire antenna and the collapsible rod antenna or the collapsible mast provided in lieu thereof shall comply with the following requirements:

(1) The collapsible rod antenna shall be of the maximum practicable height as approved by the Commission for each particular type of survival craft radio apparatus. The collapsible mast provided in lieu of the collapsible rod antenna shall be of the maximum practicable height as approved by the Commission for each particular type of survival craft radio apparatus and capable of supporting the required single wire antenna.

(2) The single wire antenna shall consist of a length of at least 40 feet of extra-flexible stranded copper wire having a cross-sectional area of not less than 10,000 circular mils together with means for effective insulation of the antenna, means for fastening the wire to the antenna supports, and means for making electrical connection to the transmitter.

(f) The grounding conductor shall comply with the following requirements:

(1) The grounding conductor shall consist of a length of not less than 20 feet of No. 10 bare stranded copper wire or equivalent copper braid effectively weighted at one end for immersion in the sea. This conductor shall be securely fastened to an effective ground terminal on the apparatus.

(g) The artificial antenna shall comply with the following requirements:

(1) The artificial antenna shall provide a reliable load for the transmitter for test purposes, at the frequencies 500 kc/s and 8364 kc/s, of approximately the same electrical characteristics as the single wire antenna required by this section.

(2) The artificial antenna shall be housed in a single container and provided with appropriate terminals. If more than two terminals are provided on the artificial antenna, all the terminals shall be properly labeled.

§ 83.558 Requirements for lifeboat nonportable radio equipment.

(a)(1) The radio transmitter shall comply with the following requirements:

Operating frequencies (kilocycles)	Frequency tolerance	Type of emission	Modulation percentage (average of modulation percentages of positive and negative peaks)	Modulation frequency	Power output (into specified artificial antenna)	Artificial antenna
	Parts in 10⁶					
500	5,000	A2	Not less than 70.	Not less than 450 nor greater than 1350 cycles per second.	Not less than 30 watts.	10 ohms resistance and 100 picofarads capacitance.
8364	200	A2	do	do	Not less than 40 watts.	40 ohms resistance.

(2) The transmitter radio frequency and modulation frequency control circuits shall be pretuned to the required frequencies and shall be of such design and construction that the operating frequencies are maintained within the prescribed tolerances under varying voltages, antenna circuit characteristics, and other normal conditions of adjustment. The frequency control circuit adjustment(s) shall be securely locked to prevent detuning as a result of shock or vibration and shall not be readily available to the person using the transmitter.

(3) Controls shall be provided on the operating panel for efficient transfer of radio frequency energy at each required operating radio frequency to the required antenna. An initial adjustment of these controls shall effectively resonate the antenna circuit at each required operating radio frequency and this condition shall be maintained without further adjustment of these controls during a normal operating period of the transmitter.

(4) Simple and reliable controls shall be provided so that the operator of the transmitter can quickly and conveniently place it in use for: Manual operation on 500 kc/s, manual operation on 8364 kc/s, and automatic operation alternately on these two frequencies; provided that not more than one manual switch adjustment shall be necessary to place the transmitter in operation for automatic transmission. For manual radiotelegraphy the transmitter and receiver, including their controls, shall be arranged mechanically and electrically so that they can be operated efficiently and conveniently from the same operating position for communication on the required operating frequencies and so that the time necessary to change from transmission to reception, and vice versa, on these frequencies is as short as possible and in no event more than two seconds. For automatic operation provision shall be made as follows:

(i) On 500 kc/s for transmission of the international radiotelegraph alarm signal followed by the international radiotelegraph distress signal, the latter to be transmitted in one or more separate groups, each group consisting of three separate distress signals.

(ii) On 8364 kc/s for transmission of the international radiotelegraph distress signal in one or more separate groups, each group consisting of three separate distress signals; this group or these groups to be followed by a continuous long dash of not less than 30 seconds in duration.

(iii) For transmission of the specified signals by automatically changing the operating frequency of the transmitter from 500 kc/s to 8364 kc/s and vice versa with a transfer time interval not to exceed one second.

(iv) The speed of the automatic transmission of the international radiotelegraph distress signal shall be at a rate not in excess of 16 words per minute nor less than 8 words per minute. The alarm signal dashes shall have a duration within the limits of 3.8 to 4.2 seconds, and the spaces between each of the 12 dashes constituting a series shall have a duration within the limits of 0.8 to 1.2 seconds.

(v) For testing the required automatic keying arrangement without the generation of radio frequency energy.

(5) The transmitter shall be equipped with a radio frequency ammeter of suitable range and scale, connected so as to indicate the current in the antenna circuit for each operating frequency.

(b) The receiver shall comply with the following requirements:

(1) The receiver shall, when used with headphones, be capable without manual tuning of receiving A2 emission over the band 492–508 kc/s, and shall be capable when manually tuned of receiving A1 and A2 emission on any frequency in the band 8320–8745 kc/s.

(2) The sensitivity of the receiver shall be such that at least 1 milliwatt of audio power is developed in a non-inductive load resistor having an ohmic value substantially equal to the value of the impedance of the head receiver at 1,000 cycles per second at a signal to noise power ratio of at least 10 to 1, when the receiver is supplied through the following artificial antennas with the respective radio frequency signals:

Frequency (kilocycles)	Signal strength (microvolts)	Modulation factor	Modulation frequency (cycles per second)	Artificial antenna
500	25	0.3	400	10 ohms resistance and 100 picofarads capacitance.
8364	100	.3	400	40 ohms resistance.

The noise power present in the output of the receiver when the receiver is adjusted for reception of type A2 emission on the frequencies 500 kc/s and 8364 kc/s shall be determined with an unmodulated input signal of the indicated strength.

(3) The selectivity of the receiver preceding the final detector shall be such that response uniform to within 6 db is obtained over the frequency range 492 to 508 kc/s.

(4) The audio frequency response of the receiver shall be electrically uniform to within 6 decibels over the range of frequencies between 400 and 1400 cycles per second.

(5) The receiver shall be equipped with only one manually operated volume control.

(6) The receiver shall be capable of developing a useful audio power for the purpose of the reception of type A2 emission of at least 6 milliwatts into the non-inductive load resistor prescribed in subparagraph (2) of this paragraph.

(c) The artificial antenna shall comply with the following requirements:

(1) The artificial antenna shall provide a reliable load for the transmitter for test purposes at the frequencies 500 kc/s and 8364 kc/s, of approximately the same electrical characteristics as the antenna required by paragraph (d) of § 83.469;

(2) The artificial antenna shall be housed in a single container and provided with appropriate terminals. If more than two terminals are provided on the artificial antenna, all the terminals shall be properly labeled.

Subpart W—Violations

§ 83.601 Answers to notice of violation.

(a) Any person receiving official notice of a violation of the terms of the Communications Act, any legislative act, Executive order, treaty to which the United States is a party, terms of a station or operator license, or the rules and regulations of the Federal Communications Commission, shall, within 10 days from such receipt, send a written answer, in duplicate, to the office of the Commission originating the official notice. If an answer cannot be sent, or an acknowledgment made within such 10-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by references to other communications or answers to other notices. The answer shall contain a full explanation of the incident involved and shall set forth the action taken to prevent a continuation or recurrence thereof. If the notice relates to lack of attention to, or improper operation of the station, or to log or watch discrepancies, the answer shall give the name and license number of the licensed operator on duty.

(b) When an official notice of violation, impending violation, or discrepancy, pertaining to any provision of Part II of Title III of the Communications Act or the radio provisions of the Safety Convention, is served upon the master or person responsible for a vessel and any instructions appearing on such document as issued by a representative of the Commission are at variance with the content of paragraph (a) of this section, then the

instructions issued by the Commission's representative shall supersede those set forth in paragraph (a) of this section.

§ 83.602 Reports of infringements of the International Radio Regulations.

In the event that infringement of the International Radio Regulations by a foreign station is detected, report thereof may be made by the submission to the Commission of a form similar to that set forth in Appendix 7 to the International Radio Regulations.

Subpart X—[Reserved]

Subpart Y—Frequency Tables and Exemption Orders

§ 83.801 Tables of ship radiotelegraph frequencies from 2 Mc/s to 27.5 Mc/s.

(a) *Table 1a.* High traffic ship radiotelegraph working frequencies.

(b) *Table 1b.* Ship radiotelegraph calling frequencies.

(c) *Table 1c.* Low traffic ship radiotelegraph working frequencies.

(d) *Table 2.* Ship radiotelegraph frequency assignment plan.

(e) *Procedures and tables.* The following procedures and tables may be used in applying for license for the frequencies listed in Tables 1a, 1b, and 1c insofar as these frequencies are consistent with the provisions of this chapter. Frequencies, assigned in accordance with this section to a station on a particular vessel, may be retained at the option of the applicant despite subsequent relicensing of the station to a different licensee. Frequencies appearing in the tables may only be used in the manner and to the extent permitted elsewhere in this part.

(f) *Radiotelegraph, 2 Mc/s to 27.5 Mc/s.* The applicant must consult Table 2 to determine the frequency column symbols which are available for assignment. The frequencies designated by the symbols shown in Table 2 may be determined from Tables 1a, 1b, and 1c which list all of the frequencies in each series.

(g) *Calling frequencies.* Application may be made for one calling frequency column symbol from the "C" series, which represents one frequency in each of the 2, 4, 6, 8, 12, 16 and 22 Mc/s bands, for each ship. If more than one symbol of the "C" series is allocated for a particular licensee, the general principle to follow is to apply for the first vessel under the first symbol, the second symbol for the second vessel, etc., until the allocated symbols are exhausted. The procedure is then repeated, beginning again with the first symbol.

(h) *Low traffic ship working frequencies.* Application may be made for one low traffic working frequency symbol from the "L" series for each low traffic ship, which will include one frequency from the 2 Mc/s and two frequencies from the 4, 6, 8, 12, 16, and 22 Mc/s bands. A primary frequency to be used for working in each frequency band having two frequencies available must be indicated by suffixing the frequency symbol with the letter "A" for the lower frequency in each band and the letter "B" for the higher frequency in each band. If more than one symbol of the "L" series is allocated for a particular licensee, the frequency symbols, to include the suffix "A" or "B", should be applied for in rotation for successive vessels as for calling frequencies, otherwise either "A" or "B" may be applied for.

(i) *High traffic ship working frequencies.* High traffic ship working frequencies are normally available only to passenger ships but may be assigned to whaling factory vessels, tankers above 40,000 gross tons, and cargo ships above 12,500 gross tons in lieu of low traffic frequencies if a satisfactory showing is submitted indicating that the vessel concerned handles a large volume of traffic. Application may be made for the number of passenger ship working frequencies which, in the best judgment of the applicant, will be essential for the traffic volume of the particular vessel. Frequency column symbols shall be taken from the "H" series, with a minimum of two symbols. If more than two symbols of the "H" series are allocated for a particular licensee, the frequency symbols should be applied for in rotation for successive vessels as for calling frequencies, except that the first symbol for each vessel must be the one after the last of the series of two or more symbols of the previous vessel.

TABLE 1a—HIGH TRAFFIC SHIP RADIOTELEGRAPH WORKING FREQUENCIES (kc/s)

H1: 2080.5, 4161, 6241.5, 8322, 12474, 12478.5, 12483, 16626, 16632, 16638, 16644, 22151, 22157.

H2: 2081.25, 4162.5, 6243.75, 8325, 12474, 12478.5, 12487.5, 16626, 16632, 16638, 16650, 22151, 22163.

H3: 2082, 4164, 6246, 8328, 12474, 12478.5, 12492, 16626, 16632, 16638, 16656, 22151, 22169.

H4: 2082.75 4165.5, 6248.25, 8331, 12474, 12478.5, 12496.5, 16626, 16632, 16638, 16662, 22151, 22175.

H5: 2083.5, 4167, 6250.5, 8334, 12474, 12478.5, 12501, 16626, 16632, 16638, 16668, 22151, 22181.

H6: 2084.25, 4168.5, 6252.75, 8337, 12474, 12478.5, 12505.5, 16626, 16632, 16638, 16674, 22151, 22187.

H7: 2085, 4170, 6255, 8340, 12474, 12478.5, 12510, 16626, 16632, 16638, 16680, 22151, 22193.

H8: 2085.75, 4171.5, 6257.25, 8343, 12474, 12478.5, 12514.5, 16626, 16632, 16638, 16686, 22151, 22199.

H9: 2086.5, 4173, 6259.5, 8346, 12474, 12478.5, 12519, 16626, 16632, 16638, 16692, 22151, 22205.

H10: 2087.25, 4174.5, 6261.75, 8349, 12474, 12478.5, 12523.5, 16626, 16632, 16638, 16698, 22151, 22211.

H11: 2088, 4176, 6264, 8352, 12474, 12478.5, 12528, 16626, 16632, 16638, 16704, 22151, 22217.

TABLE 1b—SHIP RADIOTELEGRAPH CALLING FREQUENCIES (kc/s)

C1: 2089, 4178, 6267, 8356, 12534, 16712, 22225.

C2: 2089.5, 4179, 6268.5, 8358, 12537, 16716, 22230.

C3: 2090, 4180, 6270, 8360, 12540, 16720, 22235.

C4: 2090.5, 4181, 6271.5, 8362, 12543, 16724, 22240.

C5: 2091.

C6: 2091.5, 4183, 6274.5, 8366, 12549, 16732, 22250.

C7: 2092, 4184, 6276, 8368, 12552, 16736, 22255.

C8: 2092.5, 4185, 6277.5, 8370, 12555, 16740, 22260.

C9: 2093, 4186, 6279, 8372, 12558, 16744, 22265.

TABLE 1c—LOW TRAFFIC SHIP WORKING FREQUENCIES[1] (kc/s)

L1	2094	4188 4212.5	6282 6318.75	8376 8425	12564 12637.5	16752 16850	22272.5 22335
L2	2094.25	4188.5 4213	6282.75 6319.5	8377 8426	12565.5 12639	16754 16852	22272.5 22335
L3	2094.5	4189 4213.5	6283.5 6320.25	8378 8427	12567 12640.5	16756 16854	22275 22337.5
L4	2094.75	4189.5 4214	6284.25 6321	8379 8428	12568.5 12642	16758 16856	22275 22337.5
L5	2095	4190 4214.5	6285 6321.75	8380 8429	12570 12643.5	16760 16858	22277.5 22340
L6	2095.25	4190.5 4215	6285.75 6322.5	8381 8430	12571.5 12645	16762 16860	22277.5 22340
L7	2095.5	4191 4215.5	6286.5 6323.25	8382 8431	12573 12646.5	16764 16862	22280 22342.5
L8	2095.75	4191.5 4216	6287.25 6324	8383 8432	12574.5 12648	16766 16864	22280 22342.5
L9	2096	4192 4216.5	6288 6324.75	8384 8433	12576 12649.5	16768 16866	22282.5 22345
L10	2096.25	4192.5 4217	6288.75 6325.5	8385 8434	12577.5 12651	16770 16868	22282.5 22345
L11	2096.5	4193 4217.5	6289.5 6326.25	8386 8435	12579 12652.5	16772 16870	22285 22347.5
L12	2096.75	4193.5 4218	6290.25 6327	8387 8436	12580.5 12654	16774 16872	22285 22347.5
L13	2097	4194 4218.5	6291 6327.75	8388 8437	12582 12655.5	16776 16874	22287.5 22350
L14	2097.25	4194.5 4219	6291.75 6328.5	8389 8438	12583.5 12657	16778 16876	22287.5 22350
L15	2097.5	4195 4219.5	6292.5 6329.25	8390 8439	12585 12658.5	16780 16878	22290 22352.5
L16	2097.75	4195.5 4220	6293.25 6330	8391 8440	12586.5 12660	16782 16880	22290 22352.5
L17	2098	4196 4220.5	6294 6330.75	8392 8441	12588 12661.5	16784 16882	22292.5 22355

See footnote at end of table.

TABLE 1c—LOW TRAFFIC SHIP WORKING FREQUENCIES [1] (kc/s)—Continued

L18	2098.25	4196.5 4221	6294.75 6331.5	8393 8442	12589.5 12663	16786 16884	22292.5 22355
L19	2098.5	4197 4221.5	6295.5 6332.25	8394 8443	12591 12664.5	16788 16886	22295 22357.5
L20	2098.75	4197.5 4222	6296.25 6333	8395 8444	12592.5 12666	16790 16888	22295 22357.5
L21	2099	4198 4222.5	6297 6333.75	8396 8445	12594 12667.5	16792 16890	22297.5 22360
L22	2099.25	4198.5 4223	6297.75 6334.5	8397 8446	12595.5 12669	16794 16892	22297.5 22360
L23	2099.5	4199 4223.5	6298.5 6335.25	8398 8447	12597 12670.5	16796 16894	22300 22362.5
L24	2099.75	4199.5 4224	6299.25 6336	8399 8448	12598.5 12672	16798 16896	22300 22362.5
L25	2100	4200 4224.5	6300 6336.75	8400 8449	12600 12673.5	16800 16898	22302.5 22365
L26	2100.25	4200.5 4225	6300.75 6337.5	8401 8450	12601.5 12675	16802 16900	22302.5 22365
L27	2100.5	4201 4225.5	6301.5 6338.25	8402 8451	12603 12676.5	16804 16902	22305 22367.5
L28	2100.75	4201.5 4226	6302.25 6339	8403 8452	12604.5 12678	16806 16904	22305 22367.5
L29	2101	4202 4226.5	6303 6339.75	8404 8453	12606 12679.5	16808 16906	22307.5 22370
L30	2101.25	4202.5 4227	6303.75 6340.5	8405 8454	12607.5 12681	16810 16908	22307.5 22370
L31	2101.5	4203 4227.5	6304.5 6341.25	8406 8455	12609 12682.5	16812 16910	22310 22372.5
L32	2101.75	4203.5 4228	6305.25 6342	8407 8456	12610.5 12684	16814 16912	22310 22372.5
L33	2102	4204 4228.5	6306 6342.75	8408 8457	12612 12685.5	16816 16914	22312.5 22375
L34	2102.25	4204.5 4229	6306.75 6343.5	8409 8458	12613.5 12687	16818 16916	22312.5 22375
L35	2102.5	4205 4229.5	6307.5 6344.25	8410 8459	12615 12688.5	16820 16918	22315 22377.5
L36	2102.75	4205.5 4230	6308.25 6345	8411 8460	12616.5 12690	16822 16920	22315 22377.5
L37	2103	4206 4230.5	6309 6345.75	8412 8461	12618 12691.5	16824 16922	22317.5 22380
L38	2103.25	4206.5 4231	6309.75 6346.5	8413 8462	12619.5 12693	16826 16924	22317.5 22380
L39	2103.5	4207 4231.5	6310.5 6347.25	8414 8463	12621 12694.5	16828 16926	22320 22382.5
L40	2103.75	4207.5 4232	6311.25 6348	8415 8464	12622.5 12696	16830 16928	22320 22382.5
L41	2104	4208 4232.5	6312 6348.75	8416 8465	12624 12697.5	16832 16930	22322.5 22385
L42	2104.25	4208.5 4233	6312.75 6349.5	8417 8466	12625.5 12699	16834 16932	22322.5 22385
L43	2104.5	4209 4233.5	6313.5 6350.25	8418 8467	12627 12700.5	16836 16934	22325 22387.5
L44	2104.75	4209.5 4234	6314.25 6351	8419 8468	12628.5 12702	16838 16936	22325 22387.5
L45	2105	4210 4234.5	6315 6351.75	8420 8469	12630 12703.5	16840 16938	22327.5 22390
L46	2105.25	4210.5 4235	6315.75 6252.5	8421 8470	12631.5 12705	16842 16940	22327.5 22390
L47	2105.5	4211 4235.5	6316.5 6353.25	8422 8471	12633 12706.5	16844 16942	22330 22392.5
L48	2105.75	4211.5 4236	6317.25 6354	8423 8472	12634.5 12708	16846 16944	22330 22392.5
L49	2106	4212 4236.5	6318 6354.75	8424 8473	12636 12709.5	16848 16946	22332.5 22395

[1] The frequency symbols are suffixed by the letters "A" or "B" to indicate the primary working frequency in each band. [See §§ 83.324(e) and 83.701(h).]

TABLE 2—SHIP RADIOTELEGRAPH FREQUENCY PLAN

[For columns of frequencies designated by these symbols, see tables 1a, 1b, and 1c]

	Calling frequency column symbols	High traffic ship working frequency column symbols	Low traffic ship working frequency column symbols
RCA Communications, Inc.	C3, C5, C7, C9.	H1, H3, H5, H7, H9.	L1, L3, L5, L7, L9, L11, L13, L15, L17, L19, L21, L23, L25, L27, L29, L31, L33, L35, L37, L39, L41, L43, L45, L47.
Mackay Radio & Telegraph Co., Inc.	C2, C4, C5, C6.	H4, H6, H8, H10	L2, L6, L8, L10, L14, L18, L20, L24, L28, L32, L34, L36, L40, L42, L48, L49.
Tropical Radio Telegraph Co.	C1, C5, C8	H2, H11	L4.
Matson Navigation Co.	do	do	L12.
Globe Wireless Co.	do	H4, H6, H8, H10	L16.
Other applicants: [1]			
A–C	do	H2, H11	L22.
D–L	do	do	L26.
M	do	do	L30.
N–R	do	do	L38
S	do	do	L44.
T–Z	do	do	L46.

[1] Applicants other than the companies listed must apply for the frequency column symbols shown, in alphabetic groups according to the first letter of their name. As an example, if the applicant's name begins with A, B, or C, he may apply only for frequency column symbols C1, C5, or C8, H2, and H11 for a high traffic ship, or C1, C5, or C8 and L22 for a low traffic ship. For this purpose, the alphabetic group of first letters of the name will be selected by using the first word of a trade name omitting "The"; the last name of a personal name; or the last name of the first person appearing in a series of personal names. As examples, the following names would all apply for the third, or "M", group: Marine Communications, Inc.; A. B. Miller and Co.; C. D. Muncey; E. F. Murphy, Alfred Abrams, et al.

§ 83.803 General exemption orders issued exempting ships from compulsory radio provisions.

(a) Order, May 8, 1957, granting exemption, pursuant to section 352(b)(3) of the Communications Act of 1934, as amended, to all United States passenger vessels of less than 100 gross tons, not subject to the radio provisions of the Safety Convention, from the radiotelegraph provisions of Title III, Part II of the Communications Act of 1934, as amended: *Provided,* That the vessels are equipped with a radiotelephone installation fully complying with the provisions of Part III of Title III of the Communications Act of 1934, as amended, and the Commission's rules and regulations made pursuant thereto including the requirements with respect to certificates, operators, and listening watches: *And provided further,* That during the course of the voyages the vessels are not navigated more than 50 nautical miles from the nearest land.

(b) Order, April 8, 1959, granting exemption pursuant to section 383 of the Communications Act of 1934, as amended, to all United States vessels subject to Title III, Part III of said Act which are of less than 50 gross tons and are navigated not more than 1,000 feet from the nearest land at mean low tide in the coastal waters and tidewaters of the Gulf of Mexico in the area between the Rio Grande River and Cape Sable, East Cape, Florida, from the provisions of Title III, Part III of the Communications Act of 1934, as amended.

(c) These exemptions may be terminated at any time without hearing if, in the Commission's discretion, the need for such action arises.

PART 85—PUBLIC FIXED STATIONS AND STATIONS OF THE MARITIME SERVICES IN ALASKA

NOTE: See Commission Order (FCC 61-1492) of Dec. 20, 1961, 26 F.R. 12519, Dec. 27, 1961, providing for the modification of licenses of coast and ship stations in Alaska and on the Mississippi River by the addition of certain frequencies. The general authorization shall be for a period which shall extend from December 22, 1961, until termination of the present license authority, of coast and ship stations affected, by the issuance of a modified or renewal license in response to an application therefor. All provisions in Part 85 which are inconsistent with the above authorization are hereby waived for the period specified.

AUTHORITY: §§ 85.1 to 85.265 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

§ 85.1 Basis and purpose.

(a) The basis for the rules following in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions, to issue licenses for radio stations, and to regulate common carriers of interstate and foreign communication.

(b) The purpose of the rules and regulations in this part is to prescribe the manner in which frequencies may be made available for radio-communication, including public correspondence, in the maritime mobile service for Alaska and between fixed points on land within Alaska.

Subpart A—Definition of Terms

§ 85.2 General definitions.

(a) *Alaska Communication System or ACS.* The telecommunication system within Alaska and between Alaska and other areas which is operated by the United States Army Signal Corps.

(b) *Public correspondence.* Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

(c) *Fixed service.* A service of radiocommunication between specified fixed points.

(d) *Fixed station.* A station in the fixed service.

(e) *Alaska-public fixed station.* A fixed station in Alaska, which is open to public correspondence and is licensed by the Commission for radio-communication between specified fixed points in Alaska exclusively.

(f) *Developmental fixed station.* A fixed station operated for the express purpose of developing equipment or a technique solely for use only in that portion of the non-government fixed service which has been specifically allocated the authorized frequency (or frequencies) of the developmental fixed station.

(g) *Point of communication.* This term, when applied to an Alaska-public fixed station, means a specified fixed station or specified geographic location with which such station is authorized to communicate.

(h) *Harmful interference.* Any emission, radiation, or induction which endangers the functioning of a radionavigation service or of other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with regulations of this chapter.

(i) *"Common carrier" or "carrier".* "Common carrier" or "carrier" means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or in interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to the Communications Act of 1934, as amended; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier.

§ 85.3 Geographic definitions.

(a) *Alaska area.* For the purpose of frequency assignments to radio services and stations governed by this part, the Alaska Area is defined as follows:

The area bounded by a line extending due west—from the end of the southernmost boundary line between Canada and the mainland of southeastern Alaska—to 131 degrees west longitude, thence due south to 54 degrees and 30 minutes north latitude, thence due west to 142 degrees west longitude, thence due south to 50 degrees north latitude, thence due west to 165 degrees west longitude, thence due south to 47 degrees north latitude, thence due west to the boundary line between Regions 2 and 3 (as this line is defined by the Geneva Radio Regulations, 1959), thence generally northward along this boundary line to 80 degrees north latitude, thence due east to 135 degrees west longitude, thence due south to 70 degrees north latitude, thence due west to 140 degrees west longitude, thence generally southwest to the northern end of the boundary line between the mainland of northern Alaska and Canada, thence following the boundary line between Alaska and Canada to the southernmost point of this line in southeastern Alaska.

NOTE: Reference hereafter in this part to the "Alaska area" includes all of the "Zones" defined in paragraph (b) of this section.

(b) *Alaska zones.* For the same purpose expressed in paragraph (a) of this section, the Alaska area is subdivided into six zones, defined as follows:

Zone 1. That portion of the Alaska area east of 142 degrees west longitude and south of 61 degrees north latitude.

Zone 2. That portion of the Alaska area bounded on the east by a line south of 61 degrees north latitude which coincides with 142 degrees west longitude, and by a line

See footnote at end of table.

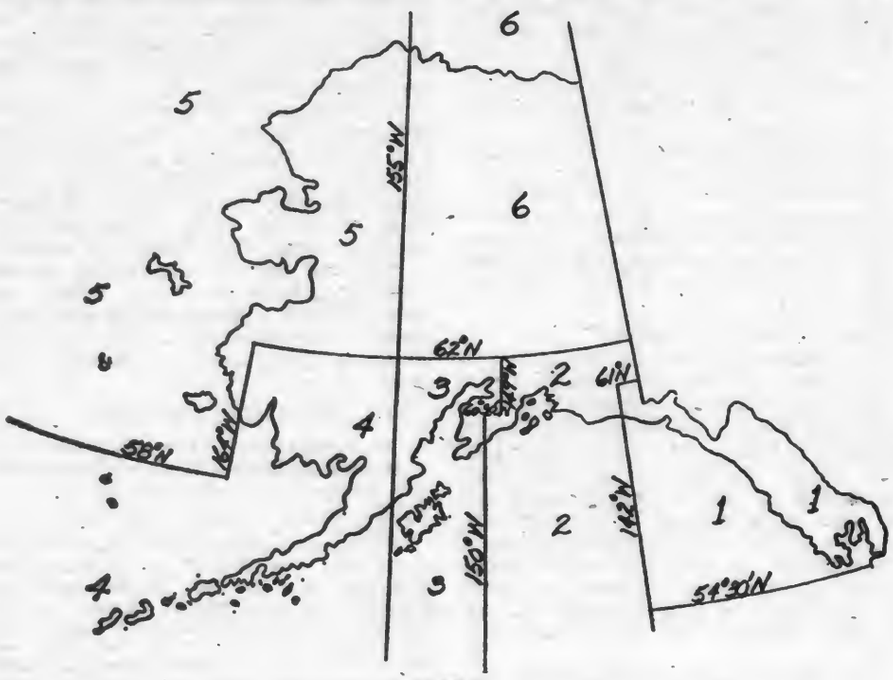
north of 61 degrees north latitude which coincides with the boundary line between Alaska and Canada, and by a line coinciding with 61 degrees north latitude which joins those two lines; and bounded on the west by a line south of 62 degrees north latitude which coincides with 149 degrees west longitude, thence running due south to 60 degrees and 30 minutes north latitude, thence due west to 150 degrees west longitude, thence due south to the southern limit of the Alaska area, and bounded on the north by a line coinciding with 62 degrees north latitude.

Zone 3. That portion of the Alaska area bounded on the north by a line which coincides with 62 degrees north latitude and extends eastward from 155 degrees west longitude to 149 degrees west longitude, thence due south to 60 degrees and 30 minutes north latitude, thence due west to 150 degrees west longitude, thence due south to the southern limit of the Alaska area, thence westward to 155 degrees west longitude, thence due north to 62 degrees north latitude.

Zone 4. That portion of the Alaska area west of 155 degrees west longitude which is bounded on the north by a line coinciding with 62 degrees north latitude extending due west to 164 degrees west longitude, thence bounded on the west by a line coinciding with 164 degrees west longitude extending due south to 58 degrees north latitude, thence bounded on the north by a line coinciding with 58 degrees north latitude extending due west to the western boundary of the Alaska area.

Zone 5. That portion of the Alaska area west of 155 degrees west longitude which is not included in Zone 4.

Zone 6. That portion of the Alaska area east of 155 degrees west longitude and north of 62 degrees north latitude.



ALASKA

Frequency Assignment Zones

§ 85.4 Definitions in other parts applicable.

(a) The definitions set forth in the rules and regulations governing stations in the maritime services (Subpart A of Parts 81 and 83 of this chapter) shall apply to stations of these services in the Alaska area so far as they are consistent with this part.

(b) The definitions set forth in the following sections of Subpart A of Part 81 of this chapter shall apply to stations of the fixed service subject to this part: §§ 81.2(a) to and including 81.2(h), 81.2(j), 81.7(a) to and including 81.7(h), 81.7(j), 81.7(m), 81.7(n), 81.8, 81.139, and 81.188.

Subpart B—Applications

§ 85.21 Authorization required for operation of a radio station.

(a) Any radio station required by the Communications Act to be licensed shall not be operated in any service regulated by this part except under and in accordance with a valid station authorization granted by the Commission. Further, the operation of such apparatus shall be conducted in conformity with the provisions of statute, international treaty or agreement, and the rules of the Commission relative to the licensing of operators.

NOTE: The Commission has exempted certain low power radio devices from its general licensing requirements; the extent of this exemption and related matters are set forth in Part 15, "Radio Frequency Devices", of this chapter. Licensing procedures and exemptions applicable to radio apparatus used for medical purposes, industrial heating, and other miscellaneous purposes not involving radiocommunication are set forth in Part 18, "Industrial, Scientific, and Medical Equipment", of this chapter.

(b) No license shall be issued by the Commission for the operation of any station on land subject to this part for which a permit for construction is required unless such permit has first been granted by the Commission upon written application therefor: *Provided,* That when applications for related construction permit and station license are filed under and in accordance with the provisions of § 81.39(a)(2) of this chapter, a construction permit and station license for a fixed or coast station subject to this part may be granted at the same time.

§ 85.22 Application precedent to authorization.

(a) Except as otherwise provided in §§ 81.26 and 81.41 of this chapter in respect to stations on land (including Alaska-public fixed stations), and in §§ 83.26, 83.41, and 83.42 of this chapter in respect to radio stations on board ship, no authorization will be granted for use or operation of any radio station subject to this part, nor for any change in station control, services, or transmitting apparatus, unless formal written application therefor in proper form first is filed with the Commission. Except as otherwise permitted by § 85.23 or by applicable rules in Parts 81 and 83 of this chapter (including such rule sections applicable to Alaska-public fixed stations as are designated in § 85.24), a separate application shall be filed in respect to each station and service subject to this part. Except as otherwise provided in §§ 81.32, 81.36, and 81.41 of this chapter in respect to stations on land (including Alaska-public fixed stations), and in §§ 83.35, 83.41, and 83.42 of this chapter in respect to radio stations on board ship, an application in writing should be filed at least sixty days prior to the earliest date on which it is desired that the requested authorization (or change in authorization) be granted by the Commission in order that action thereon may be taken by that date. Each application shall be specific and complete with regard to the information requested in the application form or otherwise specifically requested by the Commission.

(b) All applications, except those for renewal of station license, for authority to establish or operate stations (other than ship stations) in the Alaska area subject to this part, including correspondence relating thereto, shall be filed in triplicate with the Commission's Engineer in Charge at Seattle, Washington. The provision of this paragraph shall apply to each application for construction permit, license, or modification of construction permit or license.

(c) All applications for renewal of station license (when continued operation without change is desired) shall be filed with the Commission at its offices at Washington, D.C., 20554.

(d) All applications for authority to operate ship stations, including correspondence relating thereto, shall be filed with the Commission at its offices in Washington, D.C., 20554, or with respect to applications for interim ship station licenses made pursuant to § 83.35 of this chapter, at a Field Engineering Office of the Commission. Unless otherwise specified in a particular case or for a particular form, each application shall be filed in original only. The provisions of this paragraph shall apply to each application for license, modification of license, or renewal of license.

(e) An application by a corporation for a construction permit for an Alaska-public fixed station or a public coast station proposing to establish common

carrier radio facilities must (unless previously filed with the Commission) be accompanied by a copy of the applicant's charter, acts of incorporation, or articles of incorporation certified by the Secretary of the State of the place of incorporation, or certified otherwise by an appropriate public official.

(f) With reference to the provisions of § 81.25 of this chapter, applications for station authorizations submitted from any location in Alaska may be signed by the attorney for the applicant in case of (1) physical disability of the applicant or (2) absence of the applicant from Alaska.

NOTE: Standard forms are prescribed in applicable rule sections of Parts 81 and 83 of this chapter for use in connection with the majority of applications submitted for Commission consideration under the provisions of this part. These forms may be obtained without cost from the Commission at Washington, D.C., 20554, or from any of its engineering field offices.

§ 85.23 One application for fixed and coast station.

(a) In addition to the provisions of § 81.40(a)(3), (4) and (b) of this chapter, one application may be submitted by the same applicant to cover an Alaska-public fixed station and a public coast station at the same location in the Alaska area in the following categories:

(1) Application for construction permit;

(2) Application for license;

(3) Application for modification of construction permit or license when the desired modification will apply similarly to both classes of station;

(4) Application for renewal of license.

(b) The provisions of paragraph (a) of this section shall apply on condition that the respective fixed and coast stations covered by each application are clearly identified therein and all of the required information in respect to each class of station is included therein.

§ 85.24 Affirmative showing of need for service.

Only one Alaska-public fixed or public coast station will be authorized to serve any area whose point-to-point or ship-shore communication needs can be adequately served by a single radio-communication facility, either government (ACS) or non-Government.

§ 85.25 Rules in other parts applicable.

(a) The rules relating to applications set forth in the rules and regulations governing stations in the maritime services (Subparts B of Parts 81 and 83 of this chapter) shall apply to stations of these services in the Alaska area so far as they are consistent with this part.

(b) So far as they are consistent with this part, the following rule sections contained in Subpart B of Part 81 of this chapter shall apply to stations of the fixed service subject to this part: §§ 81.23, 81.25 to and including 81.37, 81.39(a), 81.40(a)(3), (4) and (b), 81.41 to and including 81.45, 81.47, 81.48, 81.49 and 81.50.

Subpart C—Station Authorization

§ 85.61 License term.

(a) Licenses for Alaska-public fixed stations and stations in the maritime services in Alaska are normally issued to expire at 3:00 a.m., e.s.t., five years from date of grant.

(b) Licenses for stations engaged in developmental operation will be issued on a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 85.62 One authorization for fixed and coast stations.

(a) Unless otherwise determined by the Commission, one construction permit or one station license may be issued to authorize the construction, or use and operation, respectively, of an Alaska-public fixed station and a public coast station in the Alaska area when—

(1) The licensee or permittee of each class of station is the same;

(2) The location of each class of station is identical;

(3) The conditions which establish and maintain control of each class of station by the permittee or the station licensee are the same.

(b) Whenever a single station authorization is issued in accordance with paragraph (a) of this section, distinction will be shown in each such document as may be necessary in respect to the details of authorization for each service and each class of station except as these may be otherwise established by applicable rules and regulations of the Commission. Unless the station authorization provides otherwise, the same radio transmitting apparatus may be used for both fixed service and maritime mobile service whenever it is capable, by reason of frequency tuning range, technical adjustment, power, frequency stability, emission, etc., of being so used.

§ 85.63 Dispatch points.

Any dispatch point in connection with an Alaska-public fixed station or a coast station in the Alaska area may be installed and used without obtaining any authorization from the Commission: *Provided,* That information relative to the location of each regularly used dispatch point, which is not located at an authorized control point and is located more than 500 feet from the authorized radio transmitting apparatus, shall be submitted by the station licensee to the Commission for record purposes at the earliest practicable date after such dispatch point is established.

NOTE: The term "dispatch point" is defined in § 81.7(n) of this chapter.

§ 85.64 Discontinuance of operation of a station on land.

(a) When the operation of a station on land in the Alaska area subject to this part, or Part 81 of this chapter, is permanently discontinued, the licensee shall, as soon as practicable, notify the Commission's Engineer in Charge at Anchorage, Alaska.

(b) If the station license covers authorization only for the particular station whose operation has been permanently discontinued, the licensee shall, without undue delay, forward the station license to the Commision's Engineer in Charge at Seattle, Washington, for cancellation by the Commisison at its Washington, D.C., office.

(c) If the station license also covers authorization for a different class of station at the same location whose operation is not being permanently discontinued, the licensee shall, without undue delay, file with the Commission's Engineer in Charge at Seattle, Washington, a formal application for appropriate modification of license.

(d) With respect to stations on land in the Alaska area, including Alaska public fixed stations, the provisions of this section shall apply in lieu of § 81.76 of this chapter.

§ 85.65 Rules in other parts applicable.

(a) The rules relating to station authorization set forth in the rules and regulations governing stations in the maritime services (Subpart C of Parts 81 and 83 of this chapter) shall, except paragraphs (b) and (c) of § 81.72 and subparagraphs (1) and (2) of § 81.63(b), apply to stations of these services in the Alaska area so far as they are consistent with this part.

(b) So far as they are consistent with this part, the following rule sections contained in Subpart C of Part 81 of this chapter shall apply to stations of the fixed service subject to this part: §§ 81.61, 81.62, 81.64, 81.66, 81.67, 81.69, 81.70, 81.71 (a) and (b) and 81.73. Section 81.63, except subparagraphs (1) and (2) of paragraph (b), shall apply to stations of the fixed service subject to this part.

Subpart D—Station and Operating Requirements

§ 85.101 Priority of distress and other signals.

(a) Stations operating in the fixed service or the maritime mobile service in the Alaska area shall, at all times, give absolute priority to radio communications or signals relating to any ship or aircraft in distress. When any distress signal or communication is anticipated or intercepted by any station, it shall cease all transmission on any frequency or frequencies which may interfere with any station hearing such radio communication or signal of distress except when engaged in answering or aiding the ship or aircraft in distress, and shall assist the vessel or aircraft in distress, so far as possible, by complying with its instructions.

(b) Stations of the maritime mobile service shall observe priority of communications in accordance with the requirements of §§ 81.180, 81.181, 83.176 and 83.177 of this chapter. Alaska public fixed stations, when operating on an assigned frequency which is used also by the maritime mobile service, shall, at all times, give priority on such frequency to distress signals or communications as set forth in paragraph (a) of this section, and to urgent or safety signals, or any

communication preceded by one of these signals.

NOTE: The types of signals to which reference is made in § 85.101 are defined in §§ 81.7 (d), (f), and (g); 81.188; 83.234; 83.245; 83.247; and 83.249 of this chapter.

§ 85.102 Practices concerning transmission of public correspondence.

(a) Pending Commission implementation of the tariff filing requirements of section 203 of the Communications Act and Part 61 of this chapter with respect to common carriers in Alaska, any charges made by an Alaskan public fixed station, or any public coast station or public ship station in the Alaska area, for interstate or foreign communication service, should conform to the applicable regulations and tariffs issued by the Alaska Communication System. Information regarding charges of any such station or any changes therein should be furnished promptly to the Tariff Manager of the Alaska Communication System, Seattle, Washington.

(b) Except in event of an emergency concerning the immediate safety of life or property, no Alaska-public fixed station, public ship station, or public coast station in the Alaska area shall transmit any communication in behalf of any person other than the licensee to any other station licensed by the Commission under circumstances wherein such telecommunication can be transmitted effectively by, or to, readily available facilities of the Alaska Communication System which are open to public correspondence and are capable of effectively forwarding (via connecting facilities if and when required) such telecommunication to the designated recipient.

§ 85.103 Hours of service of fixed stations.

(a) The hours of service of each Alaska-public fixed station shall, within the scope of its normal operations, be such as to adequately meet the requirements of the particular region served by the station and, unless otherwise specified by the Commission for individual stations, shall be determined by the station licensee subject to such applicable conditions and limitations as are imposed by the rules of the Commission.

(b) Each Alaska-public fixed station whose hours of service are not continuous shall not suspend operation before having concluded, when possible within the scope of its normal operations, all communications of an emergency nature.

(c) The Commission, as public interest, convenience, or necessity requires, may order, at any time, the licensee of an Alaska-public fixed station not authorized for continuous hours of service to increase the hours of service of such station as may, in the discretion of the Commission, be required to provide adequate public service: *Provided,* That such requirement shall not be prescribed without the consent of the station licensee unless, after hearing, the Commission shall determine that such requirement will promote public convenience or interest or will serve public necessity, or the provisions of the Communications Act will be more fully complied with.

NOTE: The hours of service of public coast stations and ship stations are regulated by §§ 81.186 and 83.183 of this chapter.

§ 85.104 Coast station facilities for 2182 kc/s.

Each public coast station in the Alaska area licensed to transmit by telephony on any radio-channel within the band 1600 kc/s to 3500 kc/s shall be capable of transmitting and receiving (and shall be licensed to transmit) A3 emission on the radio-channel of which 2182 kc/s is the authorized carrier frequency with antenna power not less than the maximum antenna power which it is capable of using for transmission by telephony on any other authorized radio frequency in this band; except that in any event the required antenna power on 2182 kc/s need not be more than 100 watts when no modulation is present.

§ 85.105 Fixed and coast station operating arrangements.

(a) The requirements of § 81.106 (a), (b), (c), (d), and (e) (2) of this chapter, applicable to coast stations and providing for certain operating controls to expedite communication and conserve the use of frequencies, shall apply to Alaska-public fixed stations and coast stations subject to this part.

(b) The requirements of § 81.106 (e) (1), (f), (g), and (h) of this chapter concerning certain operating controls shall apply to coast stations subject to this part.

(c) The radio equipment of each station subject to this part must be capable of permitting reception of the class or classes of emission on the frequency or frequencies used in accordance with the provisions of this part for the service carried on by the particular station. The technical arrangement of the station apparatus shall be such that the necessary reception of emissions can be readily effected prior to the transmission of any signals or communications by the station.

§ 85.106 Documents required for fixed stations.

(a) Each Alaska public fixed station shall be provided with the following documents:

(1) A valid station license, available in accordance with the provisions of § 81.102 (a) and (b) of this chapter;

(2) The necessary operator license or licenses, available in accordance with § 81.155 of this chapter;

(3) The station log as designated in § 85.109;

(4) This part and Part 81 of this chapter.

(b) These documents shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 85.107 Documents required for coast stations.

(a) Each public coast station in the Alaska area using telegraphy shall be provided with this part and the documents prescribed in § 81.213(a) of this chapter: *Provided,* That in public coast stations authorized to use telegraphy on frequencies solely within the band 1605–5000 kc/s, the following documents may be substituted in lieu of the documents specified by paragraph (a) (4) and (5) of § 81.213 of this chapter:

(1) A complete list of coast stations (including call signs) located in the Alaska area (including coast stations of the ACS), open to public correspondence, and authorized to transmit on frequencies within the band 1605–5000 kc/s;

(2) A list, as complete as is practicable, of ship stations (including call signs) known to operate regularly in the Alaska area and authorized to transmit on frequencies within the band 1605–5000 kc/s.

(b) Each limited coast station in the Alaska area authorized to use telegraphy on a frequency or frequencies below 30 Mc/s shall be provided with this part and the documents prescribed in § 81.213 (b) of this chapter.

(c) Each public coast station in the Alaska area using telephony shall be provided with this part and the documents prescribed in § 81.313 of this chapter.

(d) Each limited coast station in the Alaska area using telephony on any authorized frequency, and/or authorized to use telegraphy on frequencies solely above 30 Mc/s, shall be provided with this part and with the documents prescribed in § 81.369 of this chapter.

(e) The documents prescribed in this section shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 85.108 Documents required for ship stations.

(a) Each ship station in the Alaska area using telegraphy shall be provided with this part and the documents listed in § 83.329 of this chapter; except that in any ship station using telegraphy and located on board a vessel not compulsorily fitted with a radiotelegraph installation while in the Alaska area or while engaged on voyages solely between Alaska and other places on the Pacific seaboard of the continental United States or Canada, the following documents may be substituted in lieu of those specified in paragraph (a) (4), (5), and (6) of § 83.329 of this chapter if the ship station uses telegraphy on frequencies solely within the band 1605–5000 kc/s:

(1) A complete list of coast stations (including call signs) which are authorized to transmit on frequencies within the band 1605–5000 kc/s, which are open to public correspondence, or which maintain watch on 2182 kc/s or 2091 kc/s and are located in the Alaska area (including coast stations of ACS) and on the Pacific seaboard of the continental United States and Canada;

(2) A list, as complete as is practicable, of ship stations (including call signs) known to operate regularly in the Alaska area and/or on voyages between Alaska and other places on the Pacific seaboard of the continental United States or Canada, and authorized to transmit on frequencies within the band 1605–5000 kc/s.

(b) Each ship station in the Alaska area using telephony only (except telegraphy for calling and for operating signals incidental to the use of telephony) shall be provided with this part and the

documents set forth in § 83.367 of this chapter.

(c) The documents prescribed in this section shall be continuously and readily available to the licensed operator on duty during the hours of service of the station.

§ 85.109 Fixed and coast station records.

(a) Each Alaska-public fixed station and each public coast station in the Alaska area shall maintain an accurate radiotelegraph and/or radiotelephone log as required for public coast stations by §§ 81.214(a) and 81.314, respectively, of this chapter: *Provided,* That coast stations, with respect to operation on frequencies within the bands 1605–5000 kc/s and 156.35–162.05 Mc/s, and all Alaska-public fixed stations, may express the time of making each log entry in local standard time in the same manner as is permitted by those sections for coast stations which communicate exclusively with vessels on inland waters of the United States.

(b) Each limited coast station in the Alaska area shall maintain an accurate radiotelegraph and/or radiotelephone log as required by §§ 81.214(b) and 81.370, respectively, of this chapter.

§ 85.110 Ship station records.

Each ship station in the Alaska area shall maintain an accurate radiotelegraph and/or radiotelephone log as required by § 83.330 for telegraphy, and § 83.368 for telephony, of this chapter: *Provided,* That with respect to operation on frequencies within the bands 1605–5000 kc/s and 156.25–157.45 Mc/s, ship stations in the Alaska area and on board vessels engaged on voyages solely between Alaska and other places on the Pacific seaboard of the continental United States or Canada may express the time of making each log entry in local standard time in the same manner as is permitted by §§ 83.330(d) and 83.368 of this chapter for ship stations navigated on inland waters of the United States.

§ 85.111 Coast station communication.

(a) Except as otherwise stated in paragraphs (b) and (c) of this section, the provisions of § 81.302 of this chapter shall apply to public coast stations subject to this part.

(b) In lieu of the provisions set forth in § 81.302(a) (3) and (4) of this chapter, public coast stations in the Alaska area using telephony are authorized to communicate with public ship stations, government ship stations, aeronautical public service stations on board aircraft, and government aircraft stations for the transmission or reception of public correspondence when the mobile station uses telephony on a radio channel below 5000 kc/s designated in this part for ship-shore public correspondence by means of telephony and used by the coast station with which it communicates. Under this condition, the mobile station and the coast station transmit alternately on the same radio channel.

(c) In lieu of the requirement of § 81.302 (b) (2) (i) of this chapter, the station with which communication is carried on shall transmit to the coast station on a radio channel below 5000 kc/s designated in this part for ship-shore public correspondence by means of telephony and used by the coast station with which it communicates. Under this condition, the fixed station and the coast station transmit alternately on the same radio channel.

§ 85.112 Coast station working frequency required.

Coast stations in the Alaska area using telephony shall be regarded as complying with § 81.104 (c) (1) of this chapter when the particular coast station is capable also of transmitting and receiving (and is licensed to transmit) A3 emission on at least one other radio channel authorized for working with ship stations in the band 1605 to 3500 kc/s in lieu of the band 2000 to 3500 kc/s.

§ 85.113 Suspension of coast station watch.

If, for any reason, a watch on 500 kc/s or 2182 kc/s maintained by a coast station, licensed for continuous or definite hours of service, is suspended, impaired, or discontinued during the regular season of operation of that station, notification thereof shall be given at the earliest practicable time by the station licensee to the nearest station or office of the U. S. Coast Guard or the Alaska Communication System that can be contacted via available channels of communication (preferably by wire or radio) and to the Commission's Engineer in Charge at Anchorage, Alaska. This notification shall include a statement of any estimated time of resumption of such watch if it has been suspended only, and shall state the reason for suspension, impairment, or discontinuance of the watch. When such watch is resumed after being suspended, or when impairment thereof no longer exists, notification of this fact likewise shall be given at the earliest practicable time. The provisions of this section shall apply to coast stations in the Alaska area in lieu of the provisions of §§ 81.74 and 81.75 of this chapter.

§ 85.114 Use of developmental fixed stations.

(a) Developmental fixed stations subject to this part shall be constructed and used in such manner as to conform with all applicable technical and operating requirements contained in this part, unless deviation therefrom is specifically provided in the station authorization.

NOTE: Such requirements are those applicable to the corresponding established class of station including provisions relating to operator requirements, station records, station documents, and assignment of call signs.

(b) Communication with any station of a country other than the United States is prohibited unless specifically authorized by the terms of the station authorization.

(c) The operation of a developmental station is subject to the condition that harmful interference is not caused to the operation of stations licensed in an established service under any part of the Commission's rules.

NOTE: The rules applicable to developmental coast stations and developmental stations on board ship are contained in Subpart M of Part 81 and Subpart Q of Part 83, respectively, of this chapter.

§ 85.115 Rules in other parts applicable.

(a) The rules relating to station and operating requirements and other rules set forth in the rules and regulations governing stations in the maritime services (Subpart D and Subparts F through P of Part 81 of this chapter, and Subpart D and Subparts F through V of Part 83 of this chapter) shall, except as otherwise specifically provided in this part, apply to stations of these services in the Alaska area so far as they are consistent with this part.

(b) So far as they are consistent with this part, the following rule sections contained in Subparts D, F, G, H, I, M, O, and P of Part 81 of this chapter shall apply to stations of the fixed service subject to this part:

81.101	81.155	81.310
81.102(a) (b)	81.171	81.311
81.107(a)	81.173	81.501
81.108	81.174	81.502
81.109	81.175	81.503(a)
81.110	81.179(e)	81.505
81.111	81.190	81.506
81.115	81.191	81.507
81.116	81.192	81.551
81.151	81.209	81.552
81.152	81.210	
81.154	81.211	

Subpart E—Standard Technical Requirements

§ 85.151 Authorized frequency tolerance.

(a) Unless the particular station authorization specifically provides otherwise, the frequency tolerance authorized for coast stations and fixed stations subject to this part shall be as prescribed in paragraphs (b) and (c) of this section. This section shall apply to coast stations subject to this part, in lieu of § 81.131 of this chapter except as to coast station operation within any frequency band not designated in this section.

(b) Authorized frequency tolerances:

Assigned frequencies	Class of station	Tolerance, parts in 10^6
From 50 to 515 kc/s	Fixed or coast	200
From 1605 to 3400 kc/s	do	100
On frequencies within the band from 5000 to 9000 kc/s.	Fixed	100
On frequencies within the band from 4000 to 9000 kc/s.	Coast	50
From 156.35 to 162.05 Mc/s	do	50

NOTE: The authorized frequency tolerances applicable to ship stations are set forth in § 83.131 of this chapter.

(c) Fixed stations which, in exceptional cases are authorized to use plate (anode) input power in excess of the respective value specified below shall, when using such higher power, maintain the respective frequency tolerance designated below:

Class of emission in use	Class of radio frequency amplifier used in last stage of transmitter	Plate (anode) input power in use	Frequency band	Tolerance, parts in 10^6
A0, A1, A2, A2a, A2b	Any class for telegraphy	More than 300 watts	1605-3400 kc/s.	50
		More than 750 watts	5000-9000 kc/s.	30
A2, A2a, A2b, A3, A3a, A3b; also A0 or A1 as produced by the unmodulated carrier or by the keyed unmodulated carrier, respectively.	Class C; plate, or plate and screen-grid modulated.	More than 300 watts	1605-3400 kc/s.	50
		More than 750 watts	5000-9000 kc/s.	30
	Class C; control, screen, or suppressor-grid modulated.	More than 600 watts	1605-3400 kc/s.	50
		More than 1,500 watts	5000-9000 kc/s.	30
	Class C; cathode modulated.	More than 480 watts	1605-3400 kc/s.	50
		More than 1,200 watts	5000-9000 kc/s.	30
	Class B; linear	More than 600 watts	1605-3400 kc/s.	50
		More than 1,500 watts	5000-9000 kc/s.	30
	Class BC; high efficiency	More than 360 watts	1605-3400 kc/s.	50
		More than 900 watts	5000-9000 kc/s.	30
	Other classes; primarily for telephony.	As specified in the station authorization.	1605-3400 kc/s.	50
			5000-9000 kc/s.	30

NOTE: See § 81.8(v) of this chapter for definition of plate (anode) input power.

§ 85.152 Authorized classes of emission.

(a) Unless the particular station authorization specifically provides otherwise, the classes of emission authorized for coast stations and fixed stations subject to this part and ship stations when in the Alaska area shall, with respect solely to frequencies within the following limits assigned in this part for use by such stations, be as set forth in the following paragraphs of this section. This section shall, solely in reference to such frequencies as are duly assigned in this part, apply to coast stations subject to this part in lieu of § 81.132 of this chapter and to ship stations in the Alaska area in lieu of § 83.132 of this chapter.

(b) For stations authorized by this part to use telegraphy on a frequency or frequencies within the respective frequency ranges designated in this paragraph the authorized classes of emission for telegraphy on such frequencies shall be as follows:

Class of station	Frequency range	Class of emission
Fixed	From 50 to 200 kc/s and on 1666 kc/s.	A1, and for brief testing A0.
Fixed	From 1605 to 1800 kc/s (except 1666 kc/s).	A1, and for brief testing A0.
	From 2000 to 2035 kc/s.	
	From 2107 to 3400 kc/s.	
	From 5000 to 9000 kc/s.	
Coast	From 415 to 490 kc/s.	A1, and for brief testing A0. A2, A2a, A2b for brief testing and distress, urgency and safety signals, or any communication preceded by one of these signals.
Coast	From 490 to 515 kc/s.	A1, A2, A2a, A2b, and for brief testing A0.
Ship	From 405 to 515 kc/s.	A1, A2, A2a, A2b, and for brief testing A0.
Coast and ship.	From 1605 to 1800 kc/s.	A1, and for brief testing A0.
	From 2000 to 2035 kc/s.	
	From 2107 to 3400 kc/s.	
Coast and ship.	From 2035 to 2107 kc/s.	A1, and for brief testing A0.

(c) For stations authorized by this part to use telephony on a frequency or frequencies within the respective frequency ranges designated in this paragraph, the authorized classes of emission for telephony on such frequencies shall be as follows:

Class of station	Frequency range	Class of emission
Fixed	From 1605 to 1800 kc/s	A3, A3a, A3b, and for brief testing A0; also for brief operating signals A1, A2, A2a, A2b.
	From 2000 to 2035 kc/s.	
	From 2107 to 3400 kc/s.	
	From 5000 to 9000 kc/s.	
Coast and ship	From 1605 to 1800 kc/s.	A3, A3a, A3b, and for brief testing A0; also for brief operating signals A1, A2, A2a, A2b.
	From 2000 to 2035 kc/s.	
	From 2107 to 3400 kc/s.	
	From 4000 to 9000 kc/s.	
Do	From 156 to 174 Mc/s.	F3, and for brief operating signals F1 and F2; also for brief testing F0.

(d) As used in paragraphs (b) and (c) of this section, the letter "a" following "A2" or "A3" emission means the emission of a single side band, with reduced carrier. The letter "b" following "A2" or "A3" emission means the emission of two independent side bands, with reduced carrier. For radiotelegraph communication, the use of A2, A2a, or A2b emission is permissible only when the modulated emission is keyed. In telegraph communication, keying only the modulating audio frequency is not authorized except when used in connection with radiotelephone communication solely for transmitting brief operating signals.

(e) Classes of emission not authorized in paragraphs (b) and (c) of this section may be authorized by the Commission in special circumstances, subsequent to a satisfactory showing by the applicant of a need therefor and provided harmful interference will not result from the use thereof. Each application requesting such special authorization shall fully describe the emission desired to be used, shall indicate the emission-bandwidth required for effective operation, and shall state the purpose for which such emission is required.

NOTE: For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2, and to Subparts E of Parts 81 and 83 of this chapter.

§ 85.153 Authorized transmitter power.

(a) Each fixed station and each coast station subject to this part, and each ship station when in the Alaska area, may use such antenna power as is necessary to carry on the service for which the station is licensed, on condition that the respective maximum authorized transmitter power as set forth herein shall not be exceeded (subject to the provisions of §§ 81.110(a) and 83.110 (a) of this chapter and the provisions of paragraph (b) of this section) when transmitting on any frequency, assigned by this part for use by such station, which is within any frequency band set forth herein. The maximum authorized transmitter power for this purpose is designated in column 5 of the following table in relation to the respective controlling elements designated in columns 1, 2, 3 and 4:

1 Class of emission in use	2 Class of radio frequency amplifier used in the last radio stage of transmitter	3 Frequency band	4 Class of station	5 Maximum authorized transmitter power
A0, A1	Any class for telegraphy	From 50 to 200 kc/s	Fixed	650 watts.
		From 400 to 515 kc/s	Coast or ship	265 watts; with or without modulation.
A0, A1, A2, A2a, A2b	Any class for telegraphy	From 1605 kc/s to 9000 kc/s	Fixed, coast or ship	150 watts; with or without modulation.
A2, A2a, A2b, A3, A3a, A3b; also A0 and A1 provided the amplitude of the carrier shall not exceed its effective amplitude as used for telephony with the class of amplifier specified.	Class C—plate, or plate and screen-grid modulated.	From 1605 kc/s to 9000 kc/s	Fixed, coast or ship	150 watts when no modulation is present. 300 watts when no modulation is present.
	Class C—control, screen or suppressor-grid modulated.			240 watts when no modulation is present.
	Class C—cathode modulated.			300 watts when no modulation is present.
	Class B—linear			180 watts when no modulation is present.
	Class BC—high efficiency.			As specified in the station authorization.
	Other classes; primarily for telephony.			
F0, F1, F2, F3	Any class for frequency-modulated transmission.	From 156.25 to 161.25 Mc/s.	Ship	100 watts.
			Coast	Limited—100 watts. Public—250 watts.
		From 161.775 to 162.025 Mc/s.	Public coast	1,000 watts.

NOTE: As used in this part the terms "last radio stage", "plate (anode) input power", "antenna power", and "authorized transmitter power" are defined in Subpart A of Parts 81 and 83 of this chapter. See § 81.8 (u), (v), (w), (x), and § 83.7 (s), (t), (u), and (v).

(b) The limitations governing the maximum authorized transmitter power set forth in paragraph (a) of this section may be exceeded when necessary:

(1) By a ship or coast station to expedite communication concerning a ship or aircraft in distress;

(2) To enable a ship station using a radio installation required for safety purposes by treaty or statute to satisfy the applicable transmitter power or communication range (distance) stipulated by such treaty or statute; or

(3) To provide effective communication, under exceptional conditions, on an assigned frequency or frequencies within the band 1605 kc/s to 6000 kc/s between an Alaska public fixed station and one or more fixed stations of the Alaska Communication System. Such exceptional power, however, must be specifically requested in each case by the applicant or licensee and, before being used must be specifically authorized by the Commission. Except as may be otherwise determined by the Commission, such authorization will not be granted unless concurred in by the ACS. Each request for such authority must show at least that the local representative of the ACS has been fully informed thereof, and that technical means are available and can be used to reduce the power to not more than that permitted by paragraph (a) of this section when operating on assigned frequencies which would not be covered by such exceptional authorization.

(c) Unless the station license specifically provides otherwise, ship stations in the Alaska area shall, in addition to the provisions of this section, be subject to § 83.134(c)(2) of this chapter in respect to minimum authorized transmitter power on frequencies between 2000 kc/s and 25000 kc/s authorized for telephony, only when transmitted by telephony to a public coast station which is providing a direct electrical connection between the ship-shore radio channel in use and a public land telephone system.

§ 85.154 Modulation limiter for fixed and coast stations.

Except for transmitters used solely for developmental stations, each radiotelephone transmitter licensed for use and operation on a frequency or frequencies below 30 Mc/s in a fixed or coast station subject to this part shall always be used with a device that will automatically prevent modulation in excess of 100 percent. With respect to operation on frequencies below 30 Mc/s only, this section shall apply to coast stations located in the Alaska area in lieu of § 81.137(a) of this chapter.

NOTE: For a similar requirement applicable to ship stations, reference is made to § 83.137(a) of this chapter.

§ 85.155 Rules in other parts applicable.

(a) The rules relating to standard technical requirements set forth in the rules and regulations governing stations in the maritime services (Subparts E of Parts 81 and 83 of this chapter) shall, except § 81.137(a), apply to stations of these services in the Alaska area so far as they are consistent with this part.

(b) So far as they are consistent with this part, §§ 81.133 and 81.136 of this chapter shall apply to stations of the fixed service subject to this part.

Subpart F—Assignment and Use of Fixed Service Frequencies

§ 85.201 Cooperative use of frequency assignments.

Unless provided otherwise by this part, or by the particular station authorization, each radio-channel authorized for use by a fixed station subject to this part is available for use on a shared basis only and shall not be construed as available for the exclusive use of any one station or any one station licensee. All station licensees shall cooperate in the use of their respective frequency assignments in order to minimize interference and obtain the most effective use of the authorized radio-channels.

§ 85.202 Protection of Government services.

Notwithstanding other provisions of this part, the assignment and use of any of the frequencies designated in this subpart shall be subject to the express condition that any individual assigned frequency may not be authorized for transmission by a fixed station at any specific location in the Alaska area where its use could cause harmful interference to a United States Government radio service which, in the discretion of the Commission, must be protected from such interference.

§ 85.203 Alternate transmission on same radio-channel.

Except for communication between licensed fixed stations and fixed stations of the Alaska Communication System as hereinafter specifically designated in this subpart all transmission, on each radio-channel assigned by this subpart, by two or more stations engaged in any one exchange of signals or communications with each other, shall take place on only one radio-channel. For this purpose, the stations communicating with each other shall transmit and receive on the same radio-channel: *Provided,* That this requirement is waived in an emergency affecting the safety of life or property when, by reason of interference or limitation of equipment, this method of single-channel communication cannot be used.

§ 85.204 Frequencies assigned for use in all zones.

(a) Each of the following frequencies is authorized as an assigned frequency for use by Alaska-public fixed stations in accordance with Subpart E of this part. These frequencies are authorized for use by stations located in any zone of the Alaska area, for communication with other licensed Alaska-public fixed stations located in any zone of the Alaska area:

(1) 149.6 kc/s for telegraphy only; the use of this frequency by non-Government stations shall be shared with Government stations of the ACS in accordance with §§ 85.201 and 85.206.

(2) [Reserved]

(3) 2118 kc/s for telegraphy and/or telephony; available on a shared basis with maritime mobile service. The use of this frequency by fixed stations shall be coordinated with ship-to-shore communication on 2134 kc/s in the Alaska area so as to avoid harmful interference.

(4) [Reserved]

(5) 3201 kc/s for telegraphy and/or telephony; in so far as is practicable, fixed stations shall limit their use of this frequency to communication over distances which cannot be effectively covered by the use of a frequency below 2700 kc/s or above 70 Mc/s.

(6) [Reserved]

(7) 5167.5 kc/s for telegraphy and/or telephony; to be used exclusively for communication over distances of not less than 50 miles and only during the hours from 6:00 a. m. to 9:00 p. m. local standard time.

(8) 8070 kc/s for telegraphy and/or telephony; to be used exclusively for

communication over distances of not less than 200 miles and only during the hours from 6:00 a.m. to 6:00 p.m. local standard time, except in zone 4 west of 165 degrees west longitude where the hours of its use shall not be limited.

§ 85.205 Frequencies assigned for use in particular zones.

(a) Each of the following frequencies in kilocycles is authorized as an assigned frequency for use by Alaska-public fixed stations employing telegraphy and/or telephony in accordance with Subpart E, of this part. These frequencies are authorized for use (on a shared basis—except 1660 kc/s—with stations of the maritime mobile service) exclusively by stations located in the zone or zones designated herein opposite the respective frequency; for use, subject to the specific conditions and limitations designated herein by identifying reference placed opposite the respective frequency in each column, for communication with other Alaska-public fixed stations. In so far as is practicable, each station, when transmitting on any of these frequencies, shall communicate only with a station or stations located in its own zone or in a contiguous zone.

Zones in which transmission on the particular frequency is authorized subject to the limiting conditions specified by references to following paragraphs of this section:

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
1646			1646		1646.
	1652			1652	
			1660 (b)		1660 (b).
		1708	1708		
1712				1712 (c)	
2006 (d) (e)					
2422		2422			
	2430 (k) (e)		2430 (e)	2430 (e)	
		2450 (e) (f)	2450 (f)		2450 (f).
		2482 (e) (k) (g)	2482 (e) (g)		2482 (e) (g).
				2506 (h)	2506 (h).
2512	2512	2512	2512		
	2538	2538			
2566 (e)			2566	2566	
2616 (d) (e) (i)					
3261 (j)			3261 (j)	3261 (j)	

(b) Use of the frequency 1660 kc/s shall be coordinated as necessary with use of the frequency 1666 kc/s by other fixed stations in the Alaska area so as to avoid harmful interference.

(c) To minimize interference to the service of stations in Zone 4 operating on 1708 kc/s, use of the frequency 1712 kc/s in Zone 5 is authorized only for stations located north of 62 degrees north latitude.

(d) To minimize interference to or from the operation of stations outside the Alaska area or United States Government stations within Alaska, each of the frequencies listed in paragraph (a) of this section, to which this paragraph designator (d) is applied, is authorized for use annually in the respective zone only during the hours from 7:00 a. m. to 11:00 p. m. local standard time from May 15 to September 15 inclusive; and from 8:00 a. m. to 9:00 p. m. local standard time from April 1 to May 14 inclusive and from September 16 to October 31 inclusive.

(e) To provide for the most effective use of assigned frequencies available under this part and to minimize interference to or from the operation of stations outside the Alaska area, each of the frequencies listed in paragraph (a) of this section, to which this paragraph designator (e) is applied is authorized for use in the respective zone for fixed service, exclusively by coast station licensees who operate a public coast station at the same location and on the same frequency for maritime mobile service; and, in order to serve adequately an industry in Alaska, have an established requirement for a radio-communication system of fixed service and maritime mobile service on a radio-channel common to both of these services.

(f) Use of the frequency 2450 kc/s shall be coordinated as necessary with use of the frequency 2466 kc/s by other fixed stations in the Alaska area as authorized in § 85.206, so as to avoid harmful interference.

(g) Use of the frequency 2482 kc/s shall be coordinated as necessary with use of the frequencies 2466 kc/s and 2474 kc/s by other fixed stations in the Alaska area as authorized in § 85.206, so as to avoid harmful interference.

(h) Use of the frequency 2506 kc/s for fixed service in the Alaska area is authorized on condition that harmful interference shall not be caused to the service of any coast station located in the vicinity of San Francisco or Eureka, California, to which this frequency is assigned as a carrier frequency for transmission.

(i) Use of the frequency 2616 kc/s shall be coordinated as necessary with use of the frequency 2632 kc/s by other fixed stations in the Alaska area as authorized in § 85.206, so as to avoid harmful interference.

(j) Insofar as is practicable, fixed stations shall limit their use of the frequency 3261 kc/s to communication over distances which cannot be effectively covered by the use of a frequency below 2700 kc/s or above 70 Mc/s.

(k) To minimize interference to or from the operation of stations outside the Alaska area, each of the frequencies listed in paragraph (a) of this section, to which this paragraph designator (k) is applied, is authorized for use annually in the respective zone only during the hours from 6:00 a.m. to 11:00 p.m. local standard time, from April 1 to September 30 inclusive.

NOTE: The frequencies designated in paragraph (a) of § 85.205 are additionally available (except 1660 kc/s) for maritime mobile service as provided in Subpart G of this part. This dual allocation is primarily for the purpose of providing a group of frequencies for radio station licensees in the Alaska area whose industrial operations require an integrated system of point-to-point and ship-shore communication.

§ 85.206 Frequencies for communication with ACS.

(a) Each of the following frequencies in kilocycles is authorized as an assigned frequency for use by Alaska-public fixed stations in accordance with Subpart E of this part, for communication with fixed stations of the Alaska Communication System which are located in the Alaska area and are open to public correspondence: *Provided*, That to assure necessary coordination each Alaska-public fixed station when communicating with a fixed station of the ACS shall transmit only on a frequency listed in this section which is specifically designated for such use by that station in a written notification to the respective station licensee from the ACS in response to a written request therefor received by the ACS from that licensee. Likewise, the periods of time during which the licensed station may transmit on such frequency shall be those which are designated in such notification from the ACS. The particular ACS station(s) with which the licensed station may communicate and the specific ACS frequency or frequencies to be used for transmitting to the licensed station are designated by the ACS in its written notice to the station licensee:

(1) 149.6 for telegraphy only; normally for use at any appropriate location in the Alaska area.

NOTE: The frequency 149.6 kc/s may be used also for transmission by ASC fixed stations to public fixed stations.

(2) 1666 for telegraphy only; normally for communication with ACS stations located at Ketchikan and King Salmon. The use of this frequency shall be coordinated as necessary with use of the frequency 1660 kc/s by other fixed stations in the Alaska area so as to avoid harmful interference.

NOTE: The frequency 1666 kc/s may be used also for transmission by ACS fixed stations to public fixed stations.

(3) 2256 for telegraphy and/or telephony; for communication with ACS stations located at Anchorage and Ketchikan.

(4) 2466 for telegraphy and/or telephony; normally for communication with ACS stations located at Wrangell, King Salmon, and Kotzebue. The use of this frequency shall be coordinated as necessary with use of the frequencies 2450 kc/s, 2474 kc/s, and 2482 kc/s by other stations in the Alaska area so as to avoid harmful interference.

(5) 2474 kc/s for telegraphy and/or telephony; normally for communication with ACS stations located at Sitka, Kodiak, Nome and Barrow. The use of this frequency shall be coordinated as necessary with use of the frequencies 2466 kc/s and 2482 kc/s by other stations in the Alaska area so to avoid harmful interference.

(6) 2632 for telegraphy and/or telephony; normally for communication with ACS stations located at Cordova, Fairbanks, Bethel and Unalaska. The use of this frequency shall be coordinated as

necessary with use of the frequency 2616 kc/s by other stations in the Alaska area so as to avoid harmful interference.

(7) 2694 for telegraphy and/or telephony; for communication with ACS stations located at Juneau and Cold Bay.

(8) 2776 for telegraphy and/or telephony; for communication with ACS station located at Ketchikan.

(9) 3357 for telegraphy and/or telephony; for communication with ACS stations located at Fairbanks, Anchorage, and Juneau. The use of this frequency for communication with Anchorage shall be coordinated as necessary with use of the frequency 3353 kc/s by United States Government stations so as to avoid harmful interference to the latter. The use of 3357 kc/s for communication with Juneau, Fairbanks and Anchorage shall be coordinated as necessary with the use of the frequency 3365 kc/s by other fixed stations in the Alaska area so as to avoid harmful interference.

NOTE: The ACS station at Anchorage will act as coordinator between the non-Government stations transmitting to Anchorage on 3357 kc/s and the Government stations operating on 3353 kc/s.

(10) 3365 for telegraphy and/or telephony; for communication with ACS station located at Unalaska. The use of this frequency shall be coordinated as necessary with use of the frequency 3357 kc/s by other fixed stations in the Alaska area so as to avoid harmful interference.

(11) 5137.5 for telegraphy and/or telephony; normally for communication with ACS stations located at Anchorage and Ketchikan. The use of this frequency shall be limited to the hours from 6:00 a. m. to 9:00 p. m. local standard time.

(12) 5207.5 for telegraphy and/or telephony; normally for communication with ACS stations located at Juneau, Fairbanks and Kodiak. The use of this frequency (except in Zone 4 west of 165 degrees west longitude) shall be limited to the hours from 6:00 a. m. to 9:00 p. m. local standard time.

(13) Frequencies shown herein which are designated for transmission to particular ACS stations shall be utilized only for transmission to those stations except with respect to the frequencies 2466, 2474, 2632, 5137.5 and 5207.5 kc/s. In the case of these five frequencies, the ACS may designate other station locations depending upon operational requirements.

(b) When transmitting to any ACS fixed station on any frequency above 2000 kc/s authorized in paragraph (a) of this section, each Alaska-public fixed station shall use any class of emission permissible under applicable provisions of § 85.152 which is designated by the ACS; when such designation is not made by the ACS, the station licensee shall select the class of emission to be used in accordance with the provisions of § 85.152. Insofar as is practicable when transmitting by means of telegraphy on any of these frequencies above 2000 kc/s, and subject to designation by the ACS as herein provided, A1 emission only shall be used.

§ 85.207 Use of United States Government frequencies.

Frequencies assigned to Federal Government radio stations under Executive order of the President may be authorized for use by Alaska-public fixed stations when such assignment is necessary for inter-communication with Federal Government stations or required for coordination with activities of the Federal Government provided the Commission determines, after consultation with the appropriate Government agency or agencies, that such assignment is in the public interest.

Subpart G—Assignment and Use of Maritime Service Frequencies

§ 85.251 Cooperative use of frequency assignments.

Unless provided otherwise by this part, or by the particular station authorization, each radio channel authorized for use by a ship or coast station subject to this part is available for use on a shared basis only and shall not be construed as available for the exclusive use of any one station or any one station licensee. All station licensees shall cooperate in the use of their respective frequency assignments in order to minimize interference and obtain the most effective use of the authorized radio-channels.

§ 85.252 Protection of Government services.

Notwithstanding other provisions of this part, the assignment and use of any of the frequencies designated in this subpart shall be subject to the express condition that any individual assigned frequency may not be authorized for transmission by a ship or coast station at any specific location in the Alaska area where its use could cause harmful interference to a United States Government radio service which, in the discretion of the Commission, must be protected from such interference.

§ 85.253 Alternate transmission on the same frequency.

Except when communicating with coast stations of the Alaska Communication System, stations when communicating with each other within the bands 1605–2035 kc/s and 2107–9000 kc/s, shall transmit and receive on the same frequency: *Provided*, That this requirement is waived in an emergency affecting the safety of life or property when, by reason of interference or limitation of equipment, this method of single channel communication cannot be used.

§ 85.254 Frequencies to be used for distress signals.

(a) In case of distress in the maritime service, the frequency to be used shall be the international radiotelegraph distress frequency 500 kc/s with maximum power obtainable; the class of emission to be used if possible shall be A2. Stations which cannot transmit on 500 kc/s or use A2 emission shall, if possible, use their normal calling frequency and normal class of emission with maximum power obtainable.

(b) The frequency 2182 kc/s is the international radiotelephone distress frequency for the maritime mobile service. It may be used for this purpose by ship or aircraft stations employing telephony in the band 1605 to 2850 kc/s when requesting assistance from the maritime services.

(c) No provision of the International Radio Regulations shall prevent a mobile station in distress from using any means available to it for drawing attention, signaling its position, and obtaining help. No provision of this part shall prevent a mobile station in distress from using any frequency assigned by this part for the transmission of distress signals or distress communications in the event it is impossible, impracticable, or ineffective for such station to use the frequency 500 kc/s or 2182 kc/s to draw attention, signal its position and obtain help.

NOTE: To determine the detailed procedure to follow in case of distress in the maritime mobile service, refer to Subpart J of Part 83 and § 81.187 of this chapter.

§ 85.255 Ship station frequencies for use in all zones for telegraphy only.

(a) Each of the following frequencies in kilocycles is authorized as an assigned frequency for use by ship stations in any zone of the Alaska area when transmitting by means of telegraphy, in accordance with Subpart E of this part, for communication with other stations of the maritime mobile service using telegraphy:

500—for calling and distress as provided in § 85.254 of this subpart and in Subparts J and N of Part 83 of this chapter.

425, 448, 454, 468, 480—for working as provided in Subpart N of Part 83 of this chapter.

410—for maritime radionavigation service (radio direction-finding) as provided in Subpart P of Part 83 of this chapter. In addition to the transmission of specific signals for direction-finding, this frequency may be used for communication by telegraphy with direction-finding stations in connection with established international operating procedure relative to radiolocation by means of direction-finding.

444—exclusively for communication with United States Government stations; the use of this frequency for any other communication (except distress) is not authorized. The use of this frequency shall not cause harmful interference to the service of any coast station.

(b) (1) The frequency 2091 kc/s is the Region 2 (including the Alaska area) international calling frequency for ship stations using telegraphy within the band 2065–2107 kc/s. This frequency shall be used for call, reply and signals preparatory to traffic by all ship stations using telegraphy to establish communication with other ship stations operating in the band 2065–2107 kc/s or with coast stations using telegraphy and operating within the band 2035–2065 kc/s. Additionally in the Alaska area, this frequency may be used as a calling frequency to establish communication with ship or coast stations using telegraphy and operating within the band 1605–2035 kc/s or 2107–3400 kc/s. Transmission by ship stations for the purposes herein set forth on any calling frequency within

the band 2088.5–2093.5 kc/s is permissible as a practical operating procedure to minimize interference, in lieu of transmission on the frequency 2091 kc/s. (These alternative calling frequencies are 2089, 2089.5, 2090, 2090.5, 2091.5, 2092, 2092.5 and 2093 kc/s.) The use of the frequency 2091 kc/s or any other calling frequency within the band 2088.5–2093.5 kc/s by ship stations for purposes other than those set forth herein (except for distress traffic) is not authorized. A ship station, after establishing communication on a calling frequency within this band, shall change to an authorized telegraph working frequency for the transmission of message traffic by means of telegraphy.

(2) Working frequencies within the band 2065–2107 kc/s designated in Subpart N of Part 83 of this chapter for use by ship stations employing telegraphy are authorized for use as assigned frequencies by ship stations using telegraphy in the Alaska area in accordance with the applicable provisions of Part 83 of this chapter: *Provided,* That the authorized class of emission and the authorized transmitter power shall, with respect to ship stations in the Alaska area, be in conformity with Subpart E of this part.

(c) Assigned calling and working frequencies below 405 kc/s and within the band 4000–25000 kc/s designated in Subpart N of Part 83 of this chapter for use by ship stations employing telegraphy are available for use by ship stations in the Alaska area using telegraphy and operating in accordance with applicable provisions of Part 83 of this chapter, including provisions therein governing the class of emission and the authorized transmitter power.

§ 85.256 Coast station frequencies for use in all zones for telegraphy only.

Each of the following frequencies in kilocycles is authorized as an assigned frequency for use by public coast stations in all zones of the Alaska area when transmitting by means of telegraphy, in accordance with Subpart E of this part, for communication with ship and aircraft stations, and with other public coast stations using telegraphy in the Alaska area, in accordance with § 81.202 of this chapter:

500—for calling and distress as provided in §§ 81.187, 81.207(a), 81.208(b), and 81.212 of this chapter.

416 and 438—for working as provided in Subpart H of Part 81 of this chapter.

2052.5—calling and working frequency for communication with ship stations when such stations are using telegraphy within the band 2065–2107 kc/s.

§ 85.257 Safety frequencies for ship and coast stations in all zones using telephony.

In addition to the frequencies for safety purposes in the 156–174 Mc/s band available under Parts 81 and 83 of this chapter, the frequency 2182 kc/s is authorized for distress, calling, and safety purposes for use by ship and coast stations in all zones of the Alaska area in accordance with the provisions of Parts 81 and 83 of this chapter: *Provided,* That the authorized class of emission and and the authorized transmitter power shall be in conformity with the provisions of Subpart E of this part.

§ 85.258 Frequencies for intership communication in all zones by telephony.

In addition to the intership frequencies in the 156–174 Mc/s band available under Part 83 of this chapter, the frequencies 2638 kc/s and 2738 kc/s are available for intership communications in all zones of the Alaska area by ship stations using telephony and operating in accordance with applicable provisions of Part 83 of this chapter: *Provided,* That the authorized class of emission and the authorized transmitter power shall be in conformity with the provisions of Subpart E of this part.

§ 85.259 Frequencies for ship-shore and intership communication by telegraphy to telephony in all zones.

(a) Each of the following frequencies in kilocycles is authorized as an assigned frequency for use, in accordance with Subpart E of this part, by coast and ship stations in all zones of the Alaska area, as designated in this section:

(1) For communication by telegraphy and/or telephony between public coast stations and public ship stations on board any type of vessel—1622, 2382.

(2) For intership communication (for business, operational and safety purposes) by telegraphy and/or telephony:

(i) Between ship stations on board vessels of less than 500 gross tons—1622 only; and

(ii) Between ship stations on board vessels of 500 gross tons or more—2382 only.

(3) (i) Primarily for communication by telephony between public coast stations and public ship stations on board any type of vessel, during the hours from 6:00 a.m. to 9:00 p.m. local standard time only—4390.2.

(ii) Additionally the frequency 4390.2 kc/s may be used on a secondary basis for communication by telephony, during the hours from 6:00 a.m. to 9:00 p.m. local standard time only:

(*a*) Between public coast stations, separated not less than 50 miles, for the exchange of public correspondence under conditions which make it necessary to use this frequency for this purpose in lieu of an assigned frequency specifically designated in Subpart F of this part for fixed service; on condition that ship-shore communication shall be given priority at all times;

(*b*) Between ship stations on board any type of vessel for business, operational, and safety purposes, on condition that harmful interference shall not be caused to the service of any coast station using telephony. In so far as is practicable, the use of this frequency of this purpose shall be limited to the relatively longer distances over which the use of frequencies below 3400 kc/s or above 156 Mc/s would not be effective.

§ 85.260 Frequencies in the band 1605–3400 kc/s for ship-shore public telephone service in all zones.

(a) The frequency 2134 kc/s is authorized as an assigned frequency for use in all zones of the Alaska area by public ship stations, in accordance with Subpart E of this part, for communication exclusively with coast stations of the Alaska Communication System which are located in the Alaska area and are open to public correspondence. When transmitting on this frequency to any ACS coast station, ship stations normally shall employ A3 emission for telephony; they may employ telegraphy if desired, with class of emission designated by the ACS, when the particular ACS coast station is capable of using telegraphy. The associated frequency to be used for transmission from the coast station to the ship station shall be within the band 1605–3400 kc/s and shall be designated for each location by the ACS.

NOTE: The ACS coast station transmitting frequency and the hours of service of each ACS coast station at the respective locations in the Alaska area at which this service is available may be obtained upon request made to the ACS or to the Commission's Engineer in Charge at Anchorage, Alaska, or Seattle, Washington. These frequencies are listed for the information of ship station licensees.

ACS coast station location:	*Respective transmitting frequency (kc/s)*
Anchorage	2312
Barrow	2312
Cold Bay	2312
Cordova	2309
Craig	2312
Juneau	2704
Ketchikan	2309
Kodiak	2704
King Salmon	2312
Nome	2704
Seward	2312
Sitka	2312
Skagway	2312
Unalaska	2312
Valdez	2309
Whittier	2312
Wrangell	2312

(b) Frequencies within the band 4000 kc/s–30 Mc/s designated in §§ 83.354 and 83.355 of this chapter for use by ship stations employing telephony for communication with public coast stations located in the vicinity of specified geographic locations (outside the Alaska area) are available for use by ship stations, at sea in the Alaska area, using telephony and operating in accordance with applicable provisions of Part 83 of this chapter, including provisions therein governing the class of emission and the authorized transmitter power.

§ 85.264 Frequencies assigned for use in particular zones.

(a) (1) Each of the following frequencies in kilocycles is authorized as an assigned frequency for use by public coast stations and ship stations employing telegraphy and/or telephony in accordance with Subpart E of this part: *Provided,* That telephony only shall be employed on the frequencies 4409.4 and 4434.9 kc/s. With respect to the operation of coast stations, these frequencies are authorized for use (below 3400 kc/s on a shared basis with Alaska-public fixed stations) by coast stations located only in the zone or zones designated herein opposite the respective frequency; and for use in accordance with paragraph (1) of this section, subject to the specific conditions and limitations desig-

nated herein by identifying reference placed opposite the respective frequency in each column.

(2) Zones in which transmission on the particular frequency is authorized subject to the limiting conditions specified by references to following paragraphs of this section, including paragraph (l) of this section in reference to each frequency:

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
			1646		1646.
1646	1652			1652	
		1708	1708		
1712(b)				1712(b)	
2006(d)					
	2118(m)		2118(m)		
2422		2422			
	2430(c)(n)		2430	2430	
		2450(f)	2450(f)		2450(f).
		2482(n)(g)	2482(g)		2482(g).
				2506(h)	2506(h).
2512	2512	2512	2512		
	2538(e)	2538(e)			
2566			2566	2566	
2616(d)(i)					
3261(j)			3261(j)	3261(j)	
4409.4(k)	4409.4(k)	4409.4(k)			
			4434.9(k)	4434.9(k)	4434.9(k).

(b) To minimize interference to the service of stations in Zone 3 or 4 operating on 1708 kc/s, ship stations in Zone 1 shall not transmit on 1712 kc/s when west of 138 degrees west longitude, nor in Zone 5 when south of 62 degrees north latitude; also coast stations in Zone 5 south of that latitude shall not transmit on 1712 kc/s.

(c) To minimize interference to the service of ship stations transmitting on 2430 kc/s to any public coast station in the vicinity of Seattle, Washington, ship stations in Zone 2 shall not transmit on 2430 kc/s when south of 59 degrees north latitude.

(d) To minimize interference to or from the operation of stations outside the Alaska area or United States Government stations within Alaska, each of the frequencies listed in paragraph (a) of this section, to which this paragraph designator (d) is applied, is authorized for use annually in the respective zone only during the hours from 7:00 a.m. to 11:00 p.m. local standard time from May 15 to September 15 inclusive, and from 8:00 a.m. to 9:00 p.m. local standard time from April 1 to May 14 inclusive and from September 16 to October 31 inclusive.

(e) To minimize interference to or from the service of any coast station transmitting on 2538 kc/s and located in the vicinity of Vancouver, British Columbia, ship stations in Zones 2 and 3 shall not transmit on 2538 kc/s when south of 56 degrees north latitude.

(f) Use of the frequency 2450 kc/s shall be coordinated as necessary with use of the frequency 2466 kc/s by fixed stations in the Alaska area as authorized in § 85.206 so as to avoid harmful interference.

(g) Use of the frequency 2482 kc/s shall be coordinated as necessary with use of the frequencies 2466 kc/s and 2474 kc/s by fixed stations in the Alaska area as authorized in § 85.206 so as to avoid harmful interference.

(h) Use of the frequency 2506 kc/s for maritime mobile service in the Alaska area is authorized on condition that harmful interference shall not be caused to the service of any coast station located in the vicinity of San Francisco or Eureka, California, to which this frequency is assigned as a carrier frequency for transmission.

(i) Use of the frequency 2616 kc/s shall be coordinated as necessary with use of the frequency 2632 kc/s by fixed stations in the Alaska area as authorized in § 85.206, so as to avoid harmful interference.

(j) Insofar as is practicable, ship and coast stations shall limit their use of the frequency 3261 kc/s to communication over distances which cannot be effectively covered by the use of a frequency below 2700 kc/s or above 156 Mc/s.

(k)(1) The frequencies 4409.4 and 4434.9 kc/s are authorized for telephony exclusively; for use during the hours from 6:00 a.m. to 9:00 p.m. local standard time only. Such use of the frequency 4434.9 kc/s is authorized on condition that harmful interference shall not be caused to the service of any coast station located in the Great Lakes area to which this frequency is assigned as a carrier frequency for transmission.

(2) Additionally, public coast stations may communicate, on a secondary basis, during the hours from 6:00 a.m. to 9:00 p.m. local standard time only, on 4409.4 and 4434.9 kc/s for the exchange of public correspondence with other public coast stations within not less than 50 miles; under conditions which make it necessary to use either of these frequencies for this purpose in lieu of an assigned frequency specifically designated in Subpart F of this part for fixed service; and on condition that priority shall be given at all times to ship-shore communication.

(l)(1) When operating on any frequency designated in paragraph (a) of this section, a ship station shall transmit only on an assigned frequency which is specifically authorized by that paragraph for transmission in the zone in which the ship station then is located: *Provided*, That for communication with a ship or coast station located in a contiguous zone which uses a frequency in accordance with paragraph (a) but not designated by that paragraph for use in the zone in which the ship station then is located, such ship station may transmit on the contiguous zone frequency when, by reason of conditions not under its control, such operation becomes necessary.

(2) Ship stations are authorized generally to communicate on each frequency designated in this section with public coast stations using the same frequency, in accordance with § 85.253. A ship station may communicate on any of these frequencies with another ship station only when requested to do so by a public coast station which operates on the same frequency in accordance with paragraph (a) of this section and is within communication range of the ship station.

(m) Use of the frequency 2118 kc/s for maritime mobile service is subject to interference from transmission by ship stations on frequencies within the band 2065 to 2107 kc/s. Use of 2118 kc/s shall be coordinated as necessary with use of the frequency 2134 kc/s as authorized in § 85.260(a) so as to avoid harmful interference.

(n) To minimize interference to or from the operation of stations outside the Alaska area, each of the frequencies listed in paragraph (a) of this section, to which this paragraph designator (n) is applied, is authorized for use annually in the respective zone only during the hours from 6:00 a.m. to 11:00 p.m. local standard time, from April 1 to September 30 inclusive.

NOTE: The frequencies designated in paragraph (a) of § 85.264 are additionally available (except 4409.4 and 4434.9 kc/s for Alaska public fixed stations as provided in Subpart F of this part. This dual allocation is primarily for the purpose of providing a group of frequencies for radio station licensees in the Alaska area whose industrial operations require an integrated system of ship-shore and point-to-point communication.

§ 85.265 Rules in other parts applicable.

The rules relating to the assignment and use of frequencies for ship, aircraft, marine utility, and coast stations operating in the maritime mobile service and for stations operating in the maritime radio location service which are set forth in Parts 81 and 83 of this chapter shall, except as otherwise specifically provided in this part, apply to stations of these services (including developmental stations) in the Alaska area so far as they are consistent with this part.

PART 87—AVIATION SERVICES

Subpart A—General Information

AUTHORITY: §§ 87.1 to 87.517 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General Information

§ 87.1 Basis and purpose.

(a) The basis for the rules contained in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of the rules in this part is to prescribe the manner and conditions under which portions of the radio spectrum may be made available for radio communication and navigation facilities to aircraft operators, aeronautical enterprises and organizations which require radio transmitting facilities for safety purposes or other necessity.

§ 87.3 General citizenship restrictions.

A station license may not be granted to or held by:

(a) Any alien or the representative of any alien: *Provided, however,* That a license for a radio station on an aircraft may be granted to and held by a person who is an alien or a representative of an alien if such person holds a valid United States pilot certificate;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign government, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 87.5 Definition of terms.

For the purpose of this part the following definitions are applicable:

Aeronautical advisory station. An aeronautical station used for advisory and civil defense communications with private aircraft stations.

Aeronautical enroute station. An aeronautical station carrying on a service with aircraft stations, but which may also carry on a limited communication service with other aeronautical enroute stations.

Aeronautical fixed service. A fixed service intended for the transmission of information relating to air navigation, preparation for and safety of flight.

Aeronautical fixed station. A station in the aeronautical fixed service.

Aeronautical metropolitan station. An aeronautical station used for communication with aircraft, including helicopters, operating between a main air terminal of a metropolitan area and subordinate landing areas.

Aeronautical mobile service. A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may also participate.

Aeronautical multicom land station. An aeronautical station operating in the aeronautical multicom service.

Aeronautical multicom mobile station. A mobile station operating in the aeronautical multicom service.

Aeronautical multicom service. A mobile service not open to public correspondence, used to provide communications essential to conduct of activities being performed by or directed from private aircraft.

Aeronautical public communication service. A communication service carried on between aircraft and land radio stations for the purpose of providing a public communication service for persons aboard aircraft.

Aeronautical public service station. A radio station, ground or aircraft, operated in the aeronautical public communication service.

Aeronautical radionavigation service. A radionavigation service intended for the benefit of aircraft.

Aeronautical search and rescue mobile station. A mobile station used for communication with aircraft engaged in search and rescue operations.

Aeronautical station. A land station in the aeronautical mobile service. In certain instances an aeronautical station may be placed on board a ship.

Aeronautical telemetering land station. A telemetering land station used in the flight testing of manned or unmanned aircraft, missiles, or major components thereof.

Aeronautical telemetering mobile station. A telemetering mobile station used in the flight testing of manned or unmanned aircraft, missiles, or major components thereof.

Aeronautical utility land station. A land station located at airdrome control towers and used for control of ground vehicles and aircraft on the ground at airdromes.

Aeronautical utility mobile station. A mobile station used for communication, at airdromes, with the aeronautical utility land station, ground vehicles, and aircraft on the ground.

Air carrier aircraft station. An aircraft station aboard an aircraft engaged in or essential to, transportation of passengers or cargo for hire. For the purpose of the rules in this part an aircraft weighing less than 10,000 lbs. may be considered, at the option of the applicant, as a private aircraft even though actually engaged in air carrier operations. The election by the applicant will determine the equipment and frequencies to be employed and the regulations applicable to the aircraft radio station.

Aircraft station. A mobile station in the aeronautical mobile service on board an aircraft.

Airdrome control station. An aeronautical station providing communication between an airdrome control tower and aircraft.

Authorized frequency. The frequency assigned to a station by the Commission and specified in the instrument of authorization.

Authorized power. The power assigned to a radio station by the Commission and specified in the instrument of authorization. The authorized power does not necessarily correspond to the power used by the Commission for purposes of its Master Frequency Record (MFR) and notification to the International Telecommunication Union.

Aviation services. Aviation services are primarily for the safe, expeditious and economical operation of aircraft. They include the aeronautical fixed service, aeronautical mobile service, aeronautical radionagivation service, and secondarily, the handling of public correspondence to and from aircraft.

Civil Air Patrol Land Station. A land station used exclusively for communications of the Civil Air Patrol.

Civil Air Patrol Mobile Station. A mobile station used exclusively for communications of the Civil Air Patrol.

Coast station. A land station in the maritime mobile service.

Earth-space service. A radiocommunication service between earth stations and space stations.

Earth station. A station in the earth-space service located either on the earth's surface or on an object which is limited to flight between points on the earth's surface.

Fixed service. A service of radiocommunication between specified fixed points.

Fixed station. A station in the fixed service.

Flight test aircraft station. An aircraft station aboard an aircraft used for the transmission of essential communications in connection with the tests of aircraft or major components of aircraft.

Flight test station. An aeronautical station used for the transmission of essential communications in connection with the testing of aircraft or major components of aircraft: *Provided, however,* flight test stations, when operating on the frequency 3281 kc/s, are designated as land stations, only with respect to operation on the frequency 3281 kc/s.

Flying school aircraft station. An aircraft station aboard an aircraft used for communications pertaining to instructions to students or pilots while actually operating aircraft.

Flying school station. An aeronautical station used for radiocommunication pertaining to instructions to students or pilots while actually operating aircraft.

Glide path station. A directional radio beacon associated with an instrument landing system which provides guidance in the vertical plane to an aircraft for the purpose of approach in landing.

Ground radio station. Any radio station on the ground equipped or engaged in radio communication or radio transmission of energy.

Harmful interference. Any emission, radiation or induction which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radio communication service operating in accordance with this chapter.

Instrument landing system. A radionavigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

Instrument landing system glide path. A system of vertical guidance embodied in the instrument landing system which indicates the vertical deviation of the aircraft from its optimum path of descent.

Instrument landing system localizer. A system of horizontal guidance embodied in the instrument landing system which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.

Landing area. Any locality either land or water, including airports and intermediate landing fields, which is used, or intended to be used, for the landing and take-off of aircraft, whether or not facilities are provided for shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Land station. A station in the mobile service not intended to be used while in motion.

Localizer station. A radionavigation land station in the aeronautical radionavigation service which provides signals for the lateral guidance of aircraft with respect to a runway center line.

Marker beacon. A transmitter in the aeronautical radionavigation service which radiates vertically a distinctive pattern for providing position information to aircraft.

Marker beacon station. An aeronautical radionavigation land station employing a marker beacon.

Meteorological aids service. A radiocommunication service used for meteorological, including hydrological, observations and explorations.

Mobile service. A service of radiocommunication between mobile and land stations, or between mobile stations.

Mobile station. A station in a mobile service intended to be used while in motion or during halts at unspecified points.

Omni-directional range station. A radionavigation land station in the aeronautical radionavigation service providing direct indication of the bearing

(omni-bearing) of that station from an aircraft.

Operational fixed station. A fixed station, not open to public correspondence, operated by and for the sole use of those agencies operating their own radiocommunication facilities in the Public Safety, Industrial, Land Transportation, Marine, or Aviation Service.

Private aircraft station. An aircraft station on board an aircraft not operated as an air carrier.

Public correspondence. Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

Racon. A radionavigation system transmitting, automatically or in response to a predetermined received signal, a pulsed radio signal with specific characteristics.

Racon station. A radionavigation land station which employs a racon.

Radar. A radiodetermination system based on the comparison of reference signals with radio signals reflected, or re-transmitted, from the position to be determined.

Radio altimeter. A radionavigation equipment, on board an aircraft, which makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the ground. (For the purpose of this definition, "ground" refers to the surface of the earth.)

Radio astronomy. Astronomy based on the reception of radio waves of cosmic origin.

Radio astronomy service. A service involving the use of radio astronomy.

Radiobeacon station. A station in the radionavigation service the emissions of which are intended to enable a mobile station to determine its bearing or direction in relation to the radiobeacon station.

Radiodetermination. The determination of position, or the obtaining of information relating to position, by means of the propagation properties of radio waves.

Radiodetermination service. A service involving the use of radiodetermination.

Radiodetermination station. A station in the radiodetermination service.

Radio direction-finding. Radiodetermination using the reception of radio waves for the purpose of determining the direction of a station or object.

Radio direction-finding station. A radiodetermination station using radio direction-finding.

Radionavigation. Radiodetermination used for the purposes of navigation, including obstruction warning.

Radionavigation land station. A station in the radionavigation service not intended to be used while in motion.

Radionavigation mobile station. A station in the radionavigation service intended to be used while in motion or during halts at unspecified points.

Radionavigation service. A radiodetermination service involving the use of radionavigation.

Radionavigation station. A station in the radionavigation service.

Radio range station. A radionavigation land station in the aeronautical radionavigation service providing radial equisignal zones.

Radiosonde. An automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.

Radiosonde station. A station in the meteorological aids service employing a radiosonde.

Space service. A radiocommunication service between space stations.

Space station. A station in the earth-space service or the space service located on an object which is beyond, or intended to go beyond, the major portion of the earth's atmosphere and which is not intended for flight between points on the earth's surface.

Surveillance radar station. A radionavigation land station in the aeronautical radionavigation service employing radar to display the presence of aircraft within its range.

Survival craft station. A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, life raft or other survival equipment.

Telemetering. The use of telecommunication for automatically indicating or recording measurements at a distance from the measuring instrument.

Telemetering fixed station. A fixed station, the emissions of which are used for telemetering.

Telemetering land station. A land station, the emissions of which are used for telemetering.

Telemetering mobile station. A mobile station, the emissions of which are used for telemetering.

Tropospheric scatter. The propagation of radio waves by scattering as a result of irregularities or discontinuities in the physical properties of the troposphere.

Applications and Licenses

§ 87.21 Applications made on prescribed forms.

Applications for authorizations for stations in the Aviation Services shall be submitted on the prescribed forms which may be obtained from the Washington, D. C. office of the Commission, or from any of its field offices.

§ 87.23 Place of filing.

Each application for authorization for stations in the Aviation Services shall be filed with the Federal Communications Commission, Washington, D.C., 20554.

§ 87.25 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 87.27 Full disclosures.

Each application shall contain full and complete disclosures with regard to the real party or parties in interest and as to all matters and things required to be disclosed by the application form.

§ 87.29 Application for aircraft radio station license.

(a)(1) Application for new, modified, or renewal of aircraft radio station licenses shall be made on FCC Form 404. The purchaser or assignee of a radio-equipped aircraft shall apply for a new aircraft radio station license on FCC Form 404.

(2) An air carrier, in applying for aircraft radio station licenses, may specify on a single FCC Form 404, the total number of air carrier aircraft stations in the fleet. Under these circumstances, a single instrument of authorization (fleet license) may be issued for operation of all radio stations aboard the aircraft of the fleet.

(3) Any U. S. air carrier conducting operations pursuant to an interchange or lease agreement authorized by the Civil Aeronautics Board may include in its application for fleet license a request for permission to transfer the control of any of its air carrier aircraft radio stations temporarily to another U. S. air carrier, curently licensed by the FCC and with which it has such an interchange or lease agreement, in order to enable the transferee to operate the station while the agreement is in effect. Such request must specify the names of the air carriers participating in the interchange or lease agreement.

(b) Application for new, modified, or renewal of Civil Air Patrol mobile (in-

cluding aircraft) radio station licenses shall be made on FCC Form 480.

(c) The purchaser of new aircraft with factory-installed radio equipment may operate a private aircraft radio station on the aircraft for a period of 30 days under special temporary authority evidenced by a cpoy of a certificate (FCC Form No. 453–B) executed by the manufacturer, dealer, or distributor of such aircraft, the original of which has been mailed to the Commission with an application for new station license on FCC Form 404.

§ 87.31 Application for ground station authorization.

(a) Application for new, modified, renewal of, or assignment of ground station authorizations, except as provided in paragraphs (b), (c), and (d) of this section, shall be submitted on FCC Form 406. A construction permit must be obtained prior to commencement of construction in the case of operational fixed stations and stations involving special antenna considerations.

(b) Applications for new, modified, or renewal of Civil Air Patrol land station authorizations shall be submitted on FCC Form 480.

(c) Applications for transfer of control by reason of sale or exchange of voting stock, or by other means, shall be submitted on FCC Form 703.

(d) Application for construction permit, license, modification, renewal, or assignment thereof for a fixed station using frequencies above 952 Mc/s (a so-called microwave station) shall be submitted on FCC Form 402.

§ 87.37 Radio astronomy protection.

In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, temporary fixed, or Civil Air Patrol seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15′ N on the north 78°30′ W on the east, 37°30′ N on the south and 80°30′ W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P. O. Box #2, Green Bank, West Virginia, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 87.39 Amendment of applications.

(a) Any amendment to an application shall be signed and submitted in the same manner and with the same number of copies as was the original application.

(b) An application may be amended as a matter of right prior to the designation of such application for hearing by filing the appropriate number of duly executed copies of the amendment.

§ 87.41 Application for special temporary authority.

(a) Applications for special temporary authority may be filed either formally (by submission of an appropriate application form) or informally (by letter or telegram) to operate new facilities, or to operate existing facilities in a manner beyond that authorized in the current authorization. The nature of the emergency, equipment failure or other circumstances which, in the opinion of the applicant justifies issuance of a special temporary authorization, must be fully described in the request.

(b) Informal requests for special temporary authority shall contain the following information:

(1) Name, address, and citizenship status of applicant:

(2) Statement of facts on which the request is based, including estimated duration of proposed use;

(3) Class of station and nature of service;

(4) Location of station including, when appropriate, geographical coordinates;

(5) Equipment to be used, specifying manufacturer and model number, frequencies desired, types of emission, power, and other pertinent information; and

(6) Description of proposed antenna structure if any.

(c) Information presently on file with the Commission may be included by reference.

§ 87.43 Dismissal of applications.

(a) Any application may be dismissed upon written request signed by the applicant or his attorney, without prejudice and as a matter of right at any time prior to the designation of such application for hearing.

(b) Failure to prosecute an application or failure to respond to official correspondence or request for additional information will be cause for dismissal.

§ 87.45 Defective applications.

(a) Applications which are incomplete with respect to completeness of answers, supplementary statements, execution, or other matters of a formal character shall be deemed to be defective and may be returned to the applicant with a brief statement as to such defects.

(b) Applications will also be deemed to be defective and may be returned to the applicant in the following cases:

(1) Statutory disqualification of applicant;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed.

(c) Applications which are not in accordance with the provisions of this chapter, or other requirements of the Commission will be considered defective and may be dismissed unless accompanied either by (1) a petition to amend any rule or regulation with which the application is in conflict, or (2) a request of the applicant for waiver of, or exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof. Applications may be dismissed, if the accompanying petition for waiver or amendment of rules does not set forth reasons which would justify a waiver or change of the rules.

§ 87.47 Partial grants.

Where an application is granted in part, or with terms and conditions other than those requested, without hearing thereon, such action of the Commission shall be considered acceptable and final unless rejected in writing by the licensee within 30 days of grant. Upon receipt of a written rejection, the Commission will set aside the outstanding authorization and may, in appropriate circumstances, designate the application for hearing.

§ 87.49 License period.

(a) For all stations in the Aviation Services, except those engaged in developmental operation, the license period is normally five years.

(b) Authorization for stations engaged in developmental operation will be made upon a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 87.51 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 87.53 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 87.53 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part shall be accompanied by the fees prescribed below:

Applications for radio station authorizations for operational fixed radio stations for which frequencies above 952 Mc/s are requested (no fee is required for applications for license to cover construction permit)	$30
All other applications for radio station authorizations	10

(b) Fees are not required in the following instances:

Applications filed pursuant to § 87.41 (Special Temporary Authorization).
Applications filed by governmental entities.
Applications for Aeronautical Search and Rescue Mobile Stations (Subpart K).
Applications for Radionavigation Land Stations (Subpart N).
Applications for Civil Air Patrol Stations (Subpart O).

Technical Specifications

§ 87.61 Frequencies.

(a) Specific information concerning the assignment of frequencies to stations operating in any of the Aviation Services is set forth in the applicable subparts of this part. Applicants for, and licensees of, stations in these services shall cooperate in the selection and use of frequencies in order to minimize interference and obtain the most effective use of authorized facilities. Frequencies are available for assignment to stations in these services on a shared basis only and will not be assigned for the exclusive use of any applicant. The use of any assigned frequency may be restricted to one or more geographical areas.

(b) Frequencies assigned to government radio stations under Executive order of the President may be authorized for use by stations in these services upon a satisfactory showing by the applicant that such assignment is required for inter-communication with government stations or required for coordination with activities of the Federal Government, and where the Commission finds, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(c) The frequency coinciding with the center of an authorized bandwidth of emission shall be specified as the assigned frequency; for single sideband emission, the carrier frequency shall also be specified.

§ 87.63 Power.

(a) The power which may be authorized for use at any station in the Aviation Services shall not be greater than the minimum required for satisfactory technical operation.

(b) Except as indicated in paragraph (c) of this section, the power authorized for use at any station shall be specified in terms of peak envelope power at the transmitter output terminals. Peak envelope power is defined as the mean power during one radio frequency cycle at the highest crest of the modulation envelope.

(c) For stations using amplitude modulated emission and transmitting both sidebands and a full carrier, authorized power will be specified in terms of unmodulated radio frequency carrier power at the transmitter output terminals.

(d) Power may be determined either by direct measurement or by multiplying the plate input power to the final amplifier by an appropriate factor.

§ 87.65 Frequency stability.

(a) Except for microwave stations for which the frequency stability is specified in § 87.81, radar stations, and stations transmitting single sideband emissions, the carrier frequency of each station in the Aviation Services shall be maintained within the applicable following percentage of the assigned frequency:

Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Tolerances applicable until Jan. 1, 1966, to transmitters in use and to those to be installed before Jan. 1, 1964	Tolerances applicable to new transmitters installed after Jan. 1, 1964, and to all transmitters after Jan. 1, 1966 [1]
(1) Band—10 to 535 kc/s:		
Land stations	0.01	0.01
Mobile stations	.02	.02
(2) Band—1605 to 4000 kc/s:		
Fixed stations:		
Power 200 w or less	.01	.01
Power above 200 w	.005	.005
Land stations:		
Power 200 w or less	.01	.01
Power above 200 w	.005	.005
Mobile stations	.01	.01
(3) Band—4 to 29.7 Mc/s:		
Fixed stations:		
Power 500 w or less	.01	.005
Power above 500 w	.003	.0015
Land stations:		
Power 500 w or less	.01	.01
Power above 500 w	.005	.005
Mobile stations	.01	.01
(4) Band—29.7 to 100 Mc/s:		
Fixed stations:		
Power 200 w or less	.01	*.005
Power above 200 w	.01	.003
Land stations:		
Power 15 w or less	.01	.005
Power above 15 w	.01	.002
Mobile stations:		
Power 5 w or less	.01	.01
Power above 5 w	.01	.005
(5) Band—100 to 470 Mc/s:		
Fixed stations:		
Power 50 w or less	.01	*.005
Power above 50 w	.01	*.002
Land stations	.01	(2)
Mobile stations:		
Land mobile stations with power above 5 w	.01	.002
All other mobile stations	.01	(2)
(6) All stations on frequencies above 470 Mc/s	.01	.01

[1] Jan. 1, 1970, in the case of all tolerances marked with an asterisk.
[2] To be determined in a Further Proceeding in Docket 14452.

(b) The power set forth in paragraph (a) of this section is mean power, which is defined as the power supplied to the antenna transmission line by a transmitter during normal operation, averaged over a time sufficiently long compared with the period of the lowest frequency encountered in the modulation. A time of 1/10 second during which the mean power is greatest will be selected normally.

(c) When transmitting single sideband emissions, the carrier frequency shall be maintained within the applicable following number of cycles per second of the specified carrier frequency.

(1) All ground stations	10 cps
(2) All aircraft stations	20 cps

(d) Radar transmitters shall meet the following requirements in lieu of a frequency tolerance: The frequency at which maximum emission occurs shall be within the authorized frequency band and shall not be closer than 1.5/T Mc/s to the upper and lower limits of the authorized bandwidth, where T is the pulse duration in microseconds.

(e) Tolerances other than those specified in this section may be authorized upon a satisfactory showing of need therefor. In such cases, the tolerance authorized may be specified on the instrument of authorization.

§ 87.67 Types of emission.

(a) Each authorization issued pursuant to these rules shall show as the emission designator a symbol representing the classification of emission and the bandwidth.

(b) (1) The emissions normally available for assignment in the Aviation Services and the corresponding emission designators and authorized bandwidths are as follows:

Class of emission	Emission designator	Authorized bandwidth	
		Below 50 Mc/s	Above 50 Mc/s
		Kilocycles	*Kilocycles*
A1	0.1A1	0.25	----------
A2	2.1A2	2.724	10
A3	6A3	8.0	20
A3A [3]	3A3A [3]	4.0	----------
A3H [3]	3A3H [3]	4.0	----------
A3J [3]	3A3J [3]	4.0	----------
F1	1.7F1	1.7	----------
F1	2.5F1	2.5	----------
P	(1)	(1)	----------

[1] To be specified on authorization.
[3] Operation with carrier suppressed more than 6 db below peak envelope power (types 3A3A and 3A3J) will be authorized only on a developmental basis except for stations operating in the aeronautical fixed service. 3A3A, 3A3H, and 3A3J emissions will be authorized only below 25,000 kc/s.

(2) Maximum bandwidths for microwave stations on frequencies above 952 Mc/s are set forth in § 87.81.

(c) For other emissions, the emission designator may be determined from Part 2 of this chapter and the authorized bandwidth may be specified on the authorization. The authorization of 50 kc/s bandwidth for A3 emission on frequencies above 50 Mc/s is temporary and this fact should be considered in the design of VHF radio equipment for future use.

(d) An authorization to use radiotelephone emission will be construed to include use of tone signals or signaling devices whose sole function is to establish or maintain voice communications.

(e) Emissions other than, or bandwidths in excess of, those listed in paragraph (b) of this section, may be authorized upon a satisfactory showing of need therefor. An application requesting such special authorization shall fully describe the emission desired and the required bandwidth and state the purpose for which such operation is proposed.

§ 87.69 Bandwidth of emission.

(a) Occupied bandwith is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

(b) The authorized bandwidth is the maximum occupied bandwidth authorized to be used by a station.

§ 87.71 Emission limitations.

(a) The mean power of emission shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) When using transmissions other than single sideband (3A3A, 3A3H, 3A3J):

(i) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 decibels;

(ii) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 decibels.

(2) When using single sideband (3A3A, 3A3H or 3A3J) transmission:

(i) On any frequency removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth: at least 25 decibels.

(ii) On any frequency removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth: at least 35 decibels.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth:

(i) Aircraft stations below 30 Mc/s: 40 decibels,

(ii) Aircraft stations above 30 Mc/s and all ground stations: 43 plus 10 Log_{10} (mean output power in watts) decibels.

(b) When an emission outside of the authorized bandwidth results in harmful interference, the Commission may require appropriate technical changes in equipment to alleviate the interference.

§ 87.73 Modulation requirements.

(a) When double sideband full carrier amplitude modulation is used for telephony, the modulation percentage shall be sufficient to provide efficient communication and shall normally be maintained above 70 percent on peaks but shall not exceed 100 percent.

(b) When special types of emission are employed, the modulation requirements may be specified.

(c) In order to meet the requirements for type acceptance in the Aviation Services, a double sideband full carrier amplitude modulated radiotelephone transmitter with rated carrier power output exceeding 10 watts shall be capable of automatically preventing modulation in excess of 100 percent. In the event that operation of any licensed radiotelephone transmitter causes harmful interference to any authorized radio service because of excessive modulation, the Commission may require that the use of such transmitter be discontinued until it is rendered capable of automatically preventing modulation in excess of 100 percent.

(d) In order to meet the requirements for type acceptance in the Aviation Services, a single sideband transmitter shall be capable of operation in both of the following modes:

(1) With the carrier suppressed at least 26 db below peak envelope power.

(2) With the carrier transmitted at a level between 3 and 6 db below peak envelope power.

(e) In single sideband operation, the sideband on the higher frequency side of the carrier frequency shall be transmitted.

§ 87.75 Transmitter control requirements.

(a) Each transmitter shall be so installed and protected that it is not accessible to, or capable of operation by, persons other than those duly authorized by the licensee.

(b) Unless otherwise specifically authorized, each station shall be provided with a control point at the location of the transmitting equipment. Applications for additional control points shall specify the location of each proposed control point and any authorization which may be issued shall show the location of each such control point.

(c) A control point is a position which meets all of the following conditions:

(1) Such position must be under the control and supervision of the licensee;

(2) It is a position at which the monitoring facilities required by this section are installed and at which the transmitter can, without delay, be rendered inoperative;

(3) It is a position at which the required licensed radio operator, responsible for the actual operation of the transmitter, is stationed.

(d) At each control point the following facilities shall be installed:

(1) A device which will provide continuous visual indication when the transmitter is radiating or when the transmitter control circuits have been placed in a condition to produce radiation: *Provided, however,* That this requirement shall not apply to aircraft stations;

(2) Equipment to permit the operator to monitor, aurally, all transmissions originating at dispatch points under his supervision;

(3) Facilities which will permit the operator to disconnect any or all dispatch point circuits from the transmitter.

(e) A dispatch point is an operating position from which messages may be transmitted under the direct supervision of the licensed control point operator. Dispatch points may be installed without authorization from the Commission, and persons authorized by the station licensee to initiate messages from these points are not required to be licensed by the Commission.

§ 87.77 Acceptability of transmitters for licensing.

(a) From time to time the Commission publishes a revised list of type approved and type accepted equipment entitled, "Radio Equipment List, Part C". Copies of this list are available for inspection at the Commission's offices in Washington, D. C., and at each of its field offices.

(b) Except for transmitters used at (1) developmental stations, (2) flight test stations, for limited periods, where justified on the basis of good cause shown, and (3) Civil Air Patrol Stations, each transmitter utilized at a station authorized for operation after July 1, 1959, must be of a type which has been type accepted by the Commission for use in these services. Until January 1, 1965, types of equipment in use by a licensee prior to July 1, 1959, may continue to be used by the same licensee, his successors or assigns. These exceptions are provided on the express condition that the operation of stations using transmitting equipment not type accepted by the Commission shall not result in harmful interference due to the failure of such equipment to comply with the current technical standards of Subpart A of this part.

(c) Some radio equipment which is to be installed aboard air carrier aircraft must meet requirements of the Federal Communications Commission, and those requirements of the Civil Air Regulations which are applicable. The applicable Federal Aviation Agency requirements may be obtained from the Federal Aviation Agency, Washington, D.C., 20553.

§ 87.79 Type acceptance of equipment.

(a) A manufacturer of a type of transmitter intended for use in these services may request type acceptance for such transmitter by following the type acceptance procedure set forth in Part 2, Subpart F, of this chapter.

(b) Type acceptance for an individual transmitter may also be requested by an applicant for station authorization, in accordance with the type acceptance procedure set forth in Part 2, Subpart F, of this chapter. Such transmitter, if accepted, will not normally be included on the Commission's "Radio Equipment List, Part C", but will be individually enumerated on the station authorization.

(c) Additional rules with respect to type acceptance are set forth in Part 2, Subpart F, of this chapter. These rules include information with respect to withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based.

§ 87.81 Interim technical standards governing use of microwave frequencies.

The interim technical standards indicated in the table in this section shall govern, beginning July 20, 1961, the issuance of authorizations for private microwave systems using frequencies above 952 Mc/s. However, these standards shall not be applicable to transmitting equipment (including antennas) which

were authorized to be operated on these frequencies prior to July 20, 1961, or for which an authorization is issued based on an application filed with the Commission prior to July 20, 1961. Such licensees of equipment and systems not subject to these interim technical standards, including their successors or assigns in business, will be permitted to utilize such equipment provided such operation does not result in harmful interference to another station or system which is conforming to these technical standards. In case of such harmful interference, such non-conforming licensee will be required to take whatever corrective measures are necessary to alleviate the interference.

Frequency band	Power (watts) [1]	Tolerance (percent)	Bandwidth [2]	Beamwidth [3]
Mc/s				
952–960	30	0.0005	100 kc/s	20°
1850–1990	18	.02	8 Mc/s	10°
2110–2200	15	.02	(7)	10°
2450–2500 [4]	12	(5)	(5)	(5)
2500–2690 [8 9]	12	.02	4 Mc/s	10°
6525–6575 [9]	7	.02	25 Mc/s	7°
6575–6875	7	.02	10 Mc/s	5°
10,550–10,680 [6]	5	(5)	25 Mc/s	4°
12,200–12,700	5	.05	20 Mc/s	4°
Above 16,000	5	(5)	50 Mc/s	(5)

[1] Maximum rated power output of transmitter. Power in excess of that shown herein will be authorized only under exceptional circumstances based upon a factual showing of need. For pulsed systems average power shall be limited to the values shown, peak power shall not exceed five times this limit.

[2] Maximum bandwidth (necessary or occupied, whichever is greater) which will be authorized. Except for the band 2110–2200 Mc/s, consideration will be given, on a case-by-case basis, to requests for additional adjacent channels based upon a complete and specific factual showing of unique or unusual circumstances, apart from economic considerations, requiring such additional channels. In the band 952–960 Mc/s, bandwidths up to 500 kc/s may be authorized.

[3] Maximum beamwidth of major lobe between 0.5 power points in horizontal plane. Exceptions may be granted for stations in remote areas or until harmful interference is caused to other stations operating in accordance with these provisions.

[4] Subject to no protection from ISM equipment on 2450 Mc/s.

[5] To be specified in authorization.

[6] Limited to mobile operations and temporary service between fixed points.

[7] See Docket No. 14712.

[8] Existing stations holding a valid authorization to operate in the band 2690–2700 Mc/s as of December 1, 1961, may continue to so operate and shall not be required to afford protection to the radio astronomy service in this band.

[9] See Docket No. 14744.

Operating Requirements

§ 87.91 Notification of completion of station construction.

The following notification procedure shall be observed in those instances in which a construction permit is required by the Commission's rules and has been issued by the Commission:

(a) When construction has been completed in accordance with the terms and conditions of the construction permit, the Engineer in Charge of the local radio district shall be notified of the date on which the transmitter will first be energized in such manner as to produce radiation. Such notification shall be given in writing at least two days in advance and shall include the name of the permittee, station location, call sign (if any) and frequencies on which tests are to be conducted. FCC Form 456 may be used for this purpose. No acknowledgment from the radio district office is necessary before testing is begun.

(b) After testing, but on or before the date on which the station is first placed in regular operation, the permittee shall mail to the Federal Communications Commission, Washington, D.C., 20554, an application for station license on FCC Form 406. The station may thereafter be used as though licensed, pending Commission action on the license application.

§ 87.93 Routine tests.

The licensees of all classes of stations in the aviation services are authorized to make such routine tests as may be required for the proper maintenance of the stations provided that precautions are taken to avoid interference with any station.

§ 87.95 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each station at a fixed location shall be prominently displayed at the principal control point of the transmitter or transmitters.

(b) The current authorization for an aircraft radio station shall be posted prominently in the aircraft or shall be kept with the aircraft registration certificate. In the case of air carriers licensed by means of a single authorization for the operation of all fleet aircraft, the original authorization, or photocopy thereof, shall be posted prominently in the aircraft or shall be kept with the aircraft registration certificate.

(c) The current authorization for each land mobile station shall be retained as a permanent part of the station records, but need not be posted. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each land mobile transmitter: *Provided*, That, if the transmitter is not in view of the operating position, or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

§ 87.97 Posting operator licenses.

The original license of each station operator shall be conspicuously posted at the place he is on duty, or, in the case of mobile units either the license or verification card must be kept in his personal possession: *Provided, however*, That if the operator on duty holds a restricted radiotelephone operator permit of the card form (as distinguished from the diploma form) he shall not post that permit but shall keep it in his personal possession.

§ 87.99 Information required in station logs.

(a) All stations at fixed locations shall maintain logs showing hours of operation, frequencies used, stations with which communication was held, and hours of duty and signature of the operator(s) on duty.

(b) The licensee of any radio station which has an antenna structure requiring illumination shall make the following entries in the station record:

(1) The time the tower lights are turned on and off each day if manually controlled.

(2) The time the daily check of proper operation of the tower lights was made.

(3) In the event of any observed or otherwise known failure of a tower light:

(i) Nature of such failure.

(ii) Date and time the failure was observed, or otherwise noted.

(iii) Date, time and nature of the adjustments, repairs or replacements made.

(iv) Identification of the Flight Service Station or Office of the Federal Aviation Agency notified of the failure of any code or rotating beacon light not corrected within thirty minutes, and the date and time such notice was given.

(v) Date and time notice was given to the Flight Service Station or Office of the Federal Aviation Agency that the required illumination was resumed.

(4) Upon completion of the periodic inspection required at least once each three months:

(i) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators and alarm systems.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

§ 87.101 Station records in the aeronautical public service.

All stations licensed in the aeronautical public service shall keep a file of all record communications handled and all ground stations so licensed shall keep a record of radiotelephone contacts either in the form of telephone traffic tickets or as a separate list.

§ 87.103 Required retention period.

The logs in the Aviation Services may be destroyed after a period of 30 days except:

(a) That logs involving communications incident to a disaster or which include communications incident to, or involved in, an investigation by the Commission and concerning which the licensee has knowledge, shall be retained by the licensee until specifically authorized in writing by the Commission to destroy them.

(b) That logs incident to or involved in any claim or complaint of which the licensee has knowledge shall be retained by the licensee until such claim or complaint has been fully satisfied or until the same has been barred by statute limiting the time for the filing of suits upon such claims.

§ 87.105 Logs, by whom kept.

An entry or entries in the log of each station shall be signed or initialed by a person having actual knowledge of the facts recorded.

§ 87.107 Log form.

The logs shall be kept in an orderly manner, and in such detail that the data required are readily available. Key

letters or abbreviations may be used if proper meaning or explanation is set forth in the log or in a communication manual available at the station. Recordings may be used in lieu of written logs provided there is associated with each recording a statement indicating the station and period covered over the signature of a person having knowledge of the facts recorded.

§ 87.109 Correction of log.

No log or portion thereof shall be erased, obliterated, or willfully destroyed within the required retention period. Any necessary correction may be made only by the person originating the entry who shall indicate the erroneous portion, initial the correction made, and indicate the date of correction.

§ 87.111 Frequency measurements.

(a) Measurements of the operating frequencies of airborne transmitters may be required by the Commission in individual circumstances. The operating frequencies of all non-airborne transmitters authorized for operation in the Aviation Services shall be measured at the following times to assure compliance with the tolerances specified in these rules:

(1) When a transmitter is originally installed;

(2) When any change or adjustment is made in a transmitter which may affect an operating frequency or whenever there is reason to believe that an operating frequency has shifted beyond the applicable tolerance.

(b) A signed entry shall be made in the station's records indicating that each measured frequency is within the required tolerance. A statement that an automatic frequency monitor was in service during the period shall be deemed to meet the above requirement for any period.

(c) The determination required by paragraph (a) of this section may, at the option of the licensee, be made by any qualified engineering measurement service, in which case the required record entries shall show the name and address of the engineering measurement service and the name of the person making the measurements.

§ 87.113 Inspection and maintenance of tower marking and associated control equipment.

The licensee of any radio station which has an antenna structure required to be painted or illuminated pursuant to the provisions of section 303(q) of the Communications Act of 1934, as amended, and/or Part 17 of this chapter, shall operate and maintain the tower marking and associated control equipment in accordance with the following:

(a) The tower lights shall be observed at least once each 24 hours, either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or, alternatively, there shall be provided and properly maintained an automatic alarm system designed to detect any failure of the tower lights and to provide indication of such failure to the licensee.

(b) Any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within thirty minutes, regardless of the cause of such failure, shall be reported immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Agency. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(c) All automatic or mechanical control devices, indicators, and alarm systems associated with the tower lights shall be inspected at intervals not to exceed three months, to insure that such apparatus is functioning properly.

(d) All lighting shall be exhibited from sunset to sunrise unless otherwise specified in the instrument of station authorization.

(e) A sufficient supply of spare lamps shall be maintained for immediate replacement purposes at all times.

(f) All towers shall be cleaned or repainted as often as is necessary to maintain good visibility.

§ 87.115 Station identification.

(a) Transmissions without station identification, except as provided for in paragraphs (e) (4) and (f) of this section, or transmissions with false identification are prohibited.

(b) Except for specific provisions contained in paragraphs (e) and (f) of this section, a station shall be identified either by a call sign or other recognized means of identification. Such recognized means of identification may be one or more of the following necessary for complete identification: name of station, location of station, operating agency, official registration, flight identification number, characteristic signal, characteristic of emission, or other clearly distinguishing features readily recognized.

(c) Except as provided in paragraph (d) of this section and after communication has been established, continuous two-way communication may be conducted without further identification or call-up (if no mistake in identity is liable to occur) until the termination of the exchange of communication.

(d) In order that stations may be readily identified, each station shall transmit its identification as frequently as practicable during the course of transmissions, including those made for tests, adjustments or experiments. However, identification shall be transmitted at least hourly, preferably within the period from ten minutes before to ten minutes after the hour, unless to do so would cause unreasonable interruption of traffic.

(e) Stations of the classes specified shall employ the following identification:

(1) Aircraft stations shall use one or more of the following: radio station call letters, official aircraft registration number, or company flight identification provided adequate records are maintained to permit ready identification of individual aircraft.

NOTE: When use is made of the aircraft registration number, the full number must be given upon the initial call of each continuous series of communications. In other communications in each series, the aircraft station may use an abbreviated identification consisting of the name of the owner of the aircraft (company or individual) followed by the last two characters of the aircraft registration, or the type of aircraft followed by the last two characters of the aircraft registration if the practice, in either case, is initiated by the ground station operator.

(2) An aeronautical public service aircraft station may use the identification of the aircraft station with which it is associated, or an assigned telephone number or automatic signal provided that adequate records are maintained to permit ready identification of the aircraft station.

(3) A land station in the aviation services may use radio station call letters, its location, or the name of the city, area, or airdrome which it serves, together with such additional identification as may be required.

(4) Survival craft stations: When transmitting distress signals automatically, the requirements of identification need not apply. When transmitting distress or emergency signals manually, identification shall be accomplished, so far as practicable, by transmitting an appropriate reference associating the survival craft station with its parent aircraft. One or more of the following may be used: the radio station call sign, air carrier parent aircraft flight number or identification, aircraft registration, aircraft manufacturer, aircraft owner, or any other pertinent factor which might reasonably be expected to provide some means of identification. Transmissions other than distress or emergency signals, i.e., for equipment testing or adjustment, shall be identified by the call sign or by the official aircraft registration number of the parent aircraft followed by a single digit other than 0 or 1.

(f) Radio systems, where the transmission of specific identification is considered to be impracticable, are exempted from the provisions of this section; e.g., airborne weather radar, radio altimeter, air traffic control transponder, distance measuring equipment, collision avoidance equipment, racon, radiosonde, and radio relay.

§ 87.117 Availability for inspections.

All classes of stations in the Aviation Services and the maintenance records of said stations shall be made available for inspection upon request of an authorized representative of the Commission made to the licensee or to his representative.

§ 87.119 Notice of violations.

(a) Any licensee who appears to have violated any provision of the Communications Act or any provision of this chapter shall be served with a written notice calling the facts to his attention and requesting a statement concerning the matter. FCC Form 793 may be used for this purpose.

(b) Within 10 days from receipt of notice or such other period as may be specified, the licensee shall send a written answer, in duplicate, direct to the of-

fice of the Commission originating the official notice. If an answer cannot be sent nor an acknowledgment made within such 10-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay.

(c) The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. If the notice relates to violations that may be due to the physical or electrical characteristics of transmitting apparatus, the answer shall state fully what steps, if any, have been taken to prevent future violations, and, if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and the promised date of delivery. If the installation of such apparatus requires a construction permit, the file number of the application shall be given, or if a file number has not been assigned by the Commission, such identification shall be given as will permit ready identification of the application. If the notice of violation relates to lack of attention to or improper operation of the transmitter, the name and license number of the operator in charge shall be given.

§ 87.121 Movement of portable or mobile stations from one inspection district to another.

When portable or mobile ground stations in the aviation services are moved from one radio inspection district to another, for regular operation therein, the licensee shall notify the Commission's Engineers in Charge of the respective districts. These Engineers in Charge shall be notified prior to the move, if practicable, but, in any event, not later than 48 hours thereafter.

§ 87.123 Permissible communications.

All ground stations in the Aviation Services shall transmit only communications for the safe, expeditious, and economical operation of aircraft and the protection of life and property in the air: *Provided, however,* That aeronautical public service stations, aeronautical advisory stations, aeronautical multicom stations, and Civil Air Patrol land and mobile stations may communicate in accordance with the particular sections of this part which govern the operation of these classes of stations, and any station in the Aviation Services in Alaska, regardless of class in which licensed, may transmit messages concerning sickness, death, weather, ice conditions, or other matters relating to safety of life and property if:

(a) There is no established means of communication between the points in question;

(b) No charge is made for the communication service; and

(c) A copy of each message so transmitted is kept on file at the transmitting station in accordance with § 87.103.

§ 87.125 Interim operation pending renewal.

Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules, made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

§ 87.127 Discontinuance of operation.

The Commission and the Commission's Engineer in Charge of the district in which the station is located shall be notified upon the permanent discontinuance of any station in the Aviation Services except stations in aircraft licensed for other than aeronautical public service for hire.

§ 87.129 Suspension of operation.

If, for any reason, it is necessary to suspend the operation of any airdrome control or ground aeronautical navigational radio station, notification of such suspension shall be made to the nearest communications center of the Federal Aviation Agency. If possible, the notice shall forecast the time of resumption of service. In any event, the same Federal Aviation Agency center shall be again notified of resumption of service.

DEVELOPMENTAL OPERATION

§ 87.141 Eligibility.

An authorization for developmental operation in any of the services in this part will be issued only to those applicants who are eligible to operate stations in those services on a regular basis.

§ 87.143 Showing required.

(a) Except as provided in paragraph (b) of this section, each application for developmental operation shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the radio art, or is along lines not already investigated;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program as proposed; and

(6) The public interest, convenience or necessity will be served by the proposed operation.

(b) The showing under paragraph (a) of this section may not be required when an application is made for developmental operation solely for the reason that the frequency requested is restricted to such developmental use.

§ 87.145 Limitations on use.

(a) Stations used for developmental operation shall be constructed and used in such a manner as to conform with all of the technical and operating requirements of this part, unless deviation therefrom is specifically provided for in the station authorization.

(b) All developmental operation shall be subject to the condition that no harmful interference is caused to the operation of stations licensed on a regular basis under any part of this chapter.

§ 87.147 Frequencies available.

The frequency or frequencies assigned will be from those available for the service in which operation is proposed, except that in individual cases the Commission may, without rulemaking proceedings, authorize on a temporary basis only, the use of frequencies not in accordance with the Table of Frequency Allocations for projects of short duration or emergencies where the Commission finds that important or exceptional circumstances require such utilization: *Provided,* That such authorizations are not intended to develop a service to be operated on frequencies other than those allocated such service.

§ 87.149 Special provisions.

(a) The developmental program described in the application shall be substantially followed except as modified by the terms of an authorization which may be issued under this part.

(b) Where some phases of the developmental program are not covered by the provisions of this chapter, the authorization may specify supplemental or additional requirements or conditions in each case, as deemed necessary in the public interest, convenience, or necessity.

(c) From time to time, a station engaged in developmental work may be required, by modification of the instrument of authorization, to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 87.151 Change or cancellation of authorization without hearing.

Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the expressed understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

§ 87.153 Report of operation.

A report on the results of the developmental program shall be filed with and made a part of each application for renewal of authorization, or in cases where no renewal is requested, such report shall be filed within 60 days preceding the expiration of such authorization. In addition, interim reports may be required in certain instances. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information, and will not be publicly disclosed without permission of the applicant. The report or reports shall include comprehensive and detailed information on at least the following:

(a) The final objective;

(b) Results of operation to date;

(c) Analysis of the results obtained;

(d) Copies of any published reports;
(e) Need for continuation of the program; and
(f) Such other information as may be specified in the instrument of authorization.

CONELRAD

AUTHORITY NOTE: §§ 87.161 to 87.169 interpret or apply sec. 606, 48 Stat. 1104, as amended; 47 U.S.C. 606, E.O. 10312, 16 F.R. 12452; 3 CFR, 1951 Supp.

§ 87.161 Scope and objective.

(a) Sections 87.161 to 87.169 apply to all stations in the Aviation Services and are for the purpose of providing for the alerting and operation of radio stations in the Aviation Services during periods of air attack or imminent threat thereof.

(b) The aim of this plan is to minimize the navigational aid that may be obtained by an enemy from the signals of aviation radio stations, while simultaneously providing for continued radio service to the extent necessary for the safety or control of friendly aircraft.

§ 87.163 General.

All radio stations in the Aviation Services are required to provide for receiving the Radio Alert and to operate in accordance with §§ 87.161 to 87.169.

§ 87.165 Definitions.

(a) The term "CONELRAD" is a contraction of the words, "Control of Electromagnetic Radiation," and is the general term applied to the controlled operation of radio facilities under the authority of Executive Order 10312, dated December 10, 1951 (3 CFR, 1951 Supp.).

(b) Radio Alert is the term applied to the military warning that an air attack is probable or imminent, which automatically orders the immediate implementation of the controlled operations of all radio stations. The Radio Alert is distinct from the military or civil defense Warnings, Yellow, Red or White, but may be coincidental with such warnings.

§ 87.167 Alerting.

(a) All stations in the Aviation Services licensed by the Federal Communications Commission will be responsible for making provisions to receive the Radio Alert when such an alert is ordered by appropriate military authorities. The term "licensed by" includes all forms of authorizations under which a radio station is operated, including station licenses, STA's etc. The Radio Alert may be received by one or more of the following methods:

(1) Ground stations directly connected to and in continuous communication with a FAA Air Route Traffic Control Center (ARTCC) may receive the Alert over the ARTCC circuit.

(2) Ground stations not connected to an FAA circuit, must:

(i) Provide a connection to an accessible FAA communications circuit, or

(ii) Provide a broadcast receiver to obtain the Radio Alert from any broadcast station (standard, FM or TV), that can be heard, or

(iii) Provide a separate receiver to monitor another station in the Aviation Services which is in direct communication with an FAA Air Route Traffic Control Center, or

(iv) Provide any other suitable method which is approved by the FAA Regional Administrator and specifically authorized by the FCC.

(b) Ground stations in the Aviation Services when advised of a CONELRAD Radio Alert, are responsible for relaying the Alert to aircraft stations.

§ 87.169 Operation.

(a) During a period of CONELRAD Radio Alert, all ground stations in the Aviation Services will maintain radio silence, unless required by the appropriate FAA Air Route Traffic Control Center (ARTCC) to remain on the air for the purpose of air traffic control. Such operations will be in accordance with the CAA CONELRAD Plan dated May 1, 1953, and instructions issued by the appropriate ARTCC under the Defense/Commerce SCATER Plan dated May 7, 1957. Licensees of ground stations in the Aviation Services should contact the FAA ARTCC within whose flight advisory area the station is located, for the details of operation applicable to a specific station. When not required by the FAA for the purposes of security control of air traffic, all ground stations in the Aviation Services will promptly leave the air and maintain radio silence for the duration of a CONELRAD Radio Alert, except as specifically authorized by the appropriate ARTCC.

(b) During a period of CONELRAD Radio Alert, all aircraft radio stations in the Aviation Services will maintain radio silence, except for transmissions involving the national safety, or the safety of life and property in the air. Such operations will be in accordance with the CAA CONELRAD Plan dated May 1, 1953, and the instructions of the appropriate ARTCC within whose flight advisory area the aircraft may be located.

(c) Upon proclamation by the President that there exists a state of war involving the United States, and for the duration of such state of war, all licensees in the Aviation Services shall observe the following supplemental restrictions on station operations:

(1) *Domestic.* Air/ground communications within the continental United States shall be limited to those involving safety of flight; air/ground and aeronautical fixed communications on HF band frequencies shall be discontinued except where other facilities are unavailable or inoperative and then only where appropriate security measures are employed. Security measures shall include at least the following: (i) Transmit emergency traffic only, (ii) identify by means other than clear text, and (iii) make transmissions as brief as possible.

(2) *International.* Air/ground communications shall be limited to those involving safety of flight and such communications in the HF band shall be discontinued, except that international air carriers arriving or departing from U. S. gateway airports may use HF band frequencies when VHF and UHF radio are inoperative, not available or will not provide the range required; international aeronautical fixed communications may be conducted on HF band frequencies only when appropriate security measures are employed. Security measures shall include at least the following: (i) Transmit emergency traffic only, (ii) identify by means other than clear text, and (iii) make transmissions as brief as possible.

(3) *Weather transmission.* The HF band shall not be employed for transmission of clear text weather information except in emergencies; unscheduled weather reports and forecasts (not exceeding two hours ahead) may be transmitted in clear text only on VHF or higher frequencies; scheduled weather information may be transmitted in clear text only on frequency bands other than the HF band, and then only when the station involved is 200 miles or more from the nearest coast line.

(4) *Navigational aids.* To the extent that ground based navigational aids are used for communication purposes, such facilities shall be operated in accordance with the provisions of this paragraph.

(d) None of the CONELRAD provisions of this subpart shall be interpreted to preclude the operation of certain stations in the Aviation Services in connection with activities of local, State or Federal civil defense organizations, provided such operations are not in conflict with operations necessary for FAA air route traffic control, and such operations are specifically authorized by the Federal Communications Commission.

Subpart B—Airborne Stations

§ 87.181 Scope of service.

Communications by an aircraft station in the aeronautical mobile service shall be limited to the necessities of safe aircraft operation, except as otherwise specifically provided in this part. Normally, contacts with a ground station in the aviation services shall not be attempted unless the aircraft is within the area served by the station.

§ 87.183 Frequencies available.

The following frequencies are available to aircraft stations in the aeronautical mobile service:

(a) 410 kilocycles: International direction-finding frequency for use outside the continental United States.

(b) 457 kilocycles: Working frequency exclusively for aircraft on sea flights desiring an intermediate frequency.

(c) 500 kilocycles: International calling and distress frequency for ships and aircraft over the seas. Transmission on this frequency with the exception of urgent and safety messages and signals must cease twice each hour, for 3 minutes beginning at x:15 and x:45 o'clock GCT.

(d) 3281 kilocycles: This frequency may be assigned to lighter-than-air craft and to aeronautical stations serving lighter-than-air craft.

(e) 8364 kilocycles: Frequency for use by lifeboats, liferafts and other survival craft for search and rescue communications with stations of the maritime mobile service.

(f) 121.5 megacycles: This is a universal simplex emergency and distress

frequency and will not be assigned to aircraft unless other frequencies are assigned and available for use to accommodate the normal communication needs of the aircraft. This frequency may be used by radio stations aboard aircraft for emergency direction finding purposes; to establish air-ground communications in emergencies; and for search and rescue operations by aircraft not equipped to transmit on 121.6 Mc/s. In addition, this frequency may be used by aircraft and survival craft stations for radiobeacon purposes (Emission A2) and communications.

(g) 121.6 megacycles: This frequency may be used by aircraft for air-to-air communications and air-to-ground communications with aeronautical search and rescue mobile stations when engaged in search and rescue operations.

(h) 121.60, 121.65, 121.70, 121.75, 121.80, 121.85, 121.90, and 121.95 megacycles: Airport utility frequencies. The frequency 121.60 Mc/s may be used by aircraft radio stations for airport utility communications on the condition that no harmful interference is caused to search and rescue operations in the locale involved. In addition to their use for airport utility communications, these frequencies may be used for the control of airport lights by the transmission of brief keyed RF signals from aircraft on the condition that no harmful interference is caused to authorized voice communications.

(i) These frequencies are available for air traffic control operations:

Mc/s	Mc/s	Mc/s	Mc/s
118.00	120.05	123.95	126.00
118.05	120.10	124.00	126.05
118.10	120.15	124.05	126.10B
118.15	120.20	124.10	126.15B
118.20	120.25	124.15	126.20B
118.25	120.30	124.20	126.25B
118.30	120.35	124.25	126.30B
118.35	120.40	124.30	126.35
118.40	120.45	124.35	126.40
118.45	120.50	124.40	126.45
118.50	120.55	124.45	126.50
118.55	120.60	124.50	126.55
118.60	120.65	124.55	126.60
118.65	120.70	124.60	126.65
118.70	120.75	124.65	126.70C
118.75	120.80	124.70	126.75
118.80	120.85	124.75	126.80
118.85	120.90	124.80	126.85
118.90	120.95	124.85	126.90
118.95	121.00	124.90	126.95
119.00	121.05	124.95	127.00
119.05	121.10	125.00	127.05
119.10	121.15	125.05	127.10
119.15	121.20	125.10	127.15
119.20	121.25	125.15	127.20
119.25	121.30	125.20	127.25
119.30	121.35	125.25	127.30
119.35	121.40	125.30	127.35
119.40	121.65A	125.35	127.40
119.45	121.70A	125.40	127.45
119.50	121.75A	125.45	127.50
119.55	121.80A	125.50	127.55
119.60	121.85A	125.55	127.60
119.65	121.95A	125.60	127.65
119.70	123.60	125.65	127.70
119.75	123.65	125.70	127.75
119.80	123.70	125.75	127.80
119.85	123.75	125.80	127.85
119.90	123.80	125.85	127.90
119.95	123.85	125.90	127.95
120.00	123.90	125.95	128.00
128.05	132.45	133.65	134.85
128.10	132.50	133.70	134.90
128.15	132.55	133.75	134.95
128.20	132.60	133.80	135.00
128.25	132.65	133.85	135.05
128.30	132.70	133.90	135.10
128.35	132.75	133.95	135.15
128.40	132.80	134.00	135.20
128.45	132.85	134.05	135.25
128.50	132.90	134.10	135.30
128.55	132.95	134.15	135.35
128.60	133.00	134.20	135.40
128.65	133.05	134.25	135.45
128.70	133.10	134.30	135.50
128.75	133.15	134.35	135.55
128.80	133.20D	134.40	135.60
132.05	133.25	134.45	135.65
132.10	133.30	134.50	135.70
132.15	133.35	134.55	135.75
132.20	133.40	134.60	135.80
132.25	133.45	134.65	135.85
132.30	133.50	134.70	135.90
132.35	133.55	134.75	135.95
132.40	133.60	134.80	

A—Available on a secondary basis to its primary use as an airport utility frequency.

B—Available on a noninterference basis to government use of 126.18 Mc/s.

C—For communication with Flight Service Stations.

D—The frequency 133.20 Mc/s is available to aircraft for communication with USAF radar facilities for the purpose of obtaining weather advisory service.

(j) Miscellaneous maritime frequencies: Calling and working frequencies of ship stations may also be assigned to aircraft stations for the purpose of communicating with coastal stations, or ship stations, available for A1, A2, and A3 emission in conformity with Part 83 of this chapter, Stations on Shipboard in the Maritime Services, provided the Commission is satisfied in each case that undue interference will not be caused to the service of ship or coastal stations.

(k) Other frequencies which may be required for overseas and foreign operation may also be made available upon the showing that a need exists therefor.

(l) In addition to the frequencies specifically designated in this part, a licensee, when operating an aircraft station outside the United States as defined in the Communications Act of 1934, as amended, may use such frequencies as may be required to maintain communications by the authority having jurisdiction over the ground stations with which it is desired to maintain communication.

(m) 420–460 Mc/s: Frequency band available for aircraft radio altimeter functions. The aeronautical radio navigation service will not be permitted to use the band 420–460 Mc/s after February 15, 1968.

NOTE: Altimeters are not entitled to protection from harmful interference, and Government use of the band is increasing.

(n) 960–1215 Mc/s: The band 960–1215 Mc/s is for the use of airborne electronic aids to air navigation and directly associated ground-based facilities.

(o) 1300–1350 Mc/s: The use of the band 1300–1350 Mc/s by the aeronautical radionavigation service is restricted to ground-based radars, and, in the future, to associated airborne transponders which are actuated by radars operating in this same band.

(p) 1535–1660 Mc/s: The band 1535–1660 Mc/s is for the use of airborne electronic aids to air navigation and any directly associated ground-based facilities.

(q) 2700–2900 Mc/s: The use of the band 2700–2900 Mc/s by the aeronautical radionavigation service is restricted to ground-based radars and, in the future, to associated airborne transponders which are actuated by radars operating in this same band. Operation in this band may be subject to receiving some degree of interference from stations operating in the radiolocation service.

(r) 4200–4400 Mc/s: The band 4200–4400 Mc/s is reserved exclusively for radio altimeters until such time as international standardization of other aeronautical radionavigation systems or devices requires the discontinuance of radio altimeters in this band.

(s) 5000–5250 Mc/s: The band 5000–5250 Mc/s is for the use of airborne electronic aids to air navigation and any directly associated ground-based facilities.

(t) 5350–5470 Mc/s: The use of the band 5350–5470 Mc/s by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

(u) 8750–8850 Mc/s: The band 8750–8850 Mc/s is available for use by airborne doppler radars in the aeronautical radionavigation service only on the condition that they must accept any interference which may be experienced from stations in the radiolocation service in the band 8500–10,000 Mc/s.

(v) 9000–9200 Mc/s: The use of the band 9000–9200 Mc/s by the aeronautical radionavigation service is restricted to ground-based radars and, in the future, to associated airborne transponders which are actuated by radars operating in this same band. Operation in this band may be subject to receiving some degree of interference from stations operating in the radiolocation service.

(w) 9300–9500 Mc/s: The use of the band 9300–9500 Mc/s by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

(x) 13,250–13,400 Mc/s: The band 13,250–13,400 Mc/s is available for airborne doppler radar use.

(y) 14,000–14,400, 24,250–25,250, 31,800–33,400 Mc/s: These frequency bands are available for airborne radio-navigation devices.

(z) 15,400–15,700 Mc/s: The band 15,400–15,700 Mc/s is for the use of airborne electronic aids to air navigation and any directly associated ground-based facilities.

§ 87.185 Foreign aircraft stations operating within the U.S.

(a) Aircraft of member States of the ICAO may, in or over the United States, carry radio transmitting apparatus only if a license to install and operate such apparatus has been issued by the ap-

propriate authorities of the State in which the aircraft is registered. The use of radio transmitting apparatus in or over the United States shall be in accordance with the rules and regulations of this part.

(b) Radio transmitting apparatus on aircraft of member States of the ICAO referred to in paragraph (a) of this section may be operated only by members of the flight crew who are provided with a radio operator license of the proper class, issued or recognized by the appropriate authorities of the State in which the aircraft is registered.

§ 87.187 Operator requirements.

Radio stations aboard aircraft shall be operated only by persons holding the appropriate grade of commercial radio operator license or permit as prescribed by Part 13 of this chapter: *Provided, however,* That no operator license is required for flight personnel concerned with the operation of airborne radar sets, radio altimeters, transponders and other automatic radionavigation aids: *Provided further,* That such persons may not supervise or be responsible for the adjustment, maintenance or testing of such equipment while radiating radio energy.

AIR CARRIER AIRCRAFT

§ 87.195 Frequencies available.

The following frequencies are available to air carrier aircraft stations:

(a) The frequencies listed in § 87.183.

(b) The aeronautical frequencies listed under §§ 87.293 through 87.309 are also available to air carrier aircraft upon showing that agreements have been made with the licensees of appropriate ground stations.

(c) 3023.5 kilocycles is available to air carrier aircraft only where service on the appropriate very high frequency is not available or where service is suspended due to equipment failure.

PRIVATE AIRCRAFT

§ 87.201 Frequencies available.

The following frequencies, in addition to those listed in § 87.183, are available to private aircraft stations.

(a) 3023.5 kilocycles: Aircraft calling and working frequency for use by private aircraft.

(b) These frequencies are available to private aircraft for air traffic control operations:

122.00, 122.05, 122.10, 122.15, 122.20, 122.25, 122.30, 122.35, 122.40, 122.45, 122.50, 122.55, 122.60, 122.65, 122.70, 122.75, 122.85, 122.95, and 123.05 Mc/s.

(c) 122.8 megacycles, 6A3 emission: Private aircraft stations to aeronautical advisory stations and between private aircraft stations while in flight. Permissible communications are defined in § 87.257. In addition, brief keyed RF signals may be transmitted for the control of airport lights from private aircraft on the condition that no harmful interference is caused to authorized voice communications.

(d) 122.9 Mc/s, 6A3 emission: Private aircraft stations to aeronautical multicom stations and to Government stations in accordance with the scope of service set forth in § 87.277. Between private aircraft stations and between private aircraft stations and Government aircraft stations while in flight for communications pertaining to safety; agricultural, ranching and conservation activities; forest fire fighting; aerial application; aerial advertising; and parachute jumping.

(e) 123.0 megacycles, 6A3 emission: Private aircraft stations to aeronautical advisory stations only. Permissible communications are defined in § 87.257.

(f) The aeronautical frequencies listed under §§ 87.293 through 87.309 are also available to private aircraft upon showing that a need exists and that agreements have been made with the licensee of appropriate ground stations.

FLIGHT TEST AND FLYING SCHOOL

§ 87.211 Frequencies available.

Flight Test and Flying School frequencies are available for assignment to aircraft stations in accordance with Subparts G and H of this Part.

AERONAUTICAL PUBLIC SERVICE

§ 87.235 Frequencies available.

The frequencies available to ship telegraph and ship telephone stations are available to aeronautical public service aircraft stations for the handling of public correspondence in the same manner and to the same extent that they are available to ships of the United States and under restrictions hereinafter provided. These frequencies are assigned on the express conditions that no interference is caused to marine operations. The general mobile service, as proposed, may also be available for use aboard aircraft.

§ 87.237 Stations licensed for aeronautical public service.

Only those stations in the Aviation Services licensed for aeronautical public service may carry on public communication service. Coastal or ship stations licensed to carry on public communication service may provide such service to or from aeronautical public service aircraft stations. No aeronautical public service station shall carry on interstate or foreign public communication service for hire unless appropriate effective tariffs covering such service are on file with the Commission.

§ 87.239 Scope of service.

(a) All stations licensed in the aeronautical public service shall intercommunicate without discrimination with any other station similarly licensed, whenever necessary for the handling of traffic.

(b) Aeronautical public service stations shall, without discrimination and on reasonable demand, be made available for the use of all persons.

§ 87.241 Requirement for aeronautical public service station.

A license or other instrument of authorization may be issued for a station for public correspondence provided that a continuous effective listening watch is maintained on the frequency or frequencies used for the aviation safety service messages while public service messages are being handled; and that the installation and system of operation will permit instantaneous interruption of aeronautical public service communications to transmit or receive safety service messages.

§ 87.243 Priority of communications.

(a) All communications of stations in the aeronautical mobile service are essential to the safe operation of aircraft and shall have priority over public correspondence.

(b) The radio operator in charge of the aircraft station shall suspend operation of an aeronautical public service aircraft station when such operation will delay or interfere with messages pertaining to safety of life and property or when ordered to do so by the captain of the aircraft.

(c) The operation of an aeronautical public service station shall be suspended when it interferes with the radio communications of the safety service.

Subpart C—Aeronautical Advisory Stations

§ 87.251 Special eligibility requirements.

(a) An aeronautical advisory station using the frequency 122.8 Mc/s will be authorized only at a landing area not served by an airdrome control station.

(b) An aeronautical advisory station using the frequency 123.0 Mc/s will be authorized only at a landing area served by an airdrome control station.

(c) Only one aeronautical advisory station will be authorized at any landing area.

(d) Authorization to operate an aeronautical advisory station will be issued only to the owner of the landing area or to a person who has entered into a written contractual agreement with the owner of the landing area whereby the owner gives such person the exclusive and sole right to establish and maintain an aeronautical advisory station to serve the owner's landing area for a time certain. An authorization issued to a non-owner will be for a period of time not to exceed the time specified in the written agreement and is subject to the above-described contractual agreement remaining in force.

(e) An aeronautical advisory station and any control points must be located on the landing area to be served.

(f) Notwithstanding the provisions of § 87.75(e), dispatch points shall not be established at locations other than the landing area served by the station.

§ 87.253 Frequencies available.

122.8 and 123.0 megacycles, 6A3 emission: For communications with private aircraft stations.

§ 87.255 Power output.

The power output of aeronautical advisory stations shall not exceed 10 watts.

§ 87.257 Scope of service.

(a) At all times when an aeronautical advisory station is in operation, nonpublic service shall be provided to any private aircraft station upon request and without discrimination.

(b) Communications by an aeronautical advisory station shall be impartial with respect to information concerning similar available ground services.

(c) Aeronautical advisory stations shall not be used for air traffic control purposes.

(d) Communications on the frequency 122.8 Mc/s shall be limited to the necessities of safe and expeditious operation of private aircraft, pertaining to the conditions of runways, types of fuel available, wind conditions, weather information, dispatching or other necessary information: *Provided, however,* That on a secondary basis, communications may be transmitted which pertain to the efficient portal-to-portal transit of which the flight is a portion, such as requests for ground transportation and food or lodging required during transit.

(e) Communications on the frequency 123.0 Mc/s shall be limited to the necessities of safe and expeditious operation of private aircraft, pertaining to dispatching and other information concerned with regularity of flight: *Provided, however,* That on a secondary basis communications may be transmitted which pertain to the efficient portal-to-portal transit of which the flight is a portion, such as requests for ground transportation and food or lodging required during transit. The frequency 123.0 Mc/s is not available for civil defense communications.

(f) The frequency 122.8 Mc/s may be used, in addition to its normal purposes, for communications with private aircraft engaged in organized civil defense activities in time of enemy attack or immediately thereafter, and on a secondary basis for communications with private aircraft engaged in organized civil defense activities in preparation for anticipated enemy attack. When used for these purposes, aeronautical advisory stations may be moved from place to place or operated at unspecified locations, except at landing areas served by other aeronautical advisory stations or airdrome control stations, or both.

NOTE: "Civil defense" is defined, for this purpose, in accordance with section 3 (b) of the Federal Civil Defense Act of 1950, Public Law 920, 81st Congress as follows:

The term "civil defense" means all those activities and measures designed or undertaken (1) to minimize the effects upon the civilian population caused or which would be caused by an attack upon the United States, (2) to deal with the immediate emergency conditions which would be created by any such attack, and (3) to effectuate emergency repairs to, or the emergency restoration of, vital utilities and facilities destroyed or damaged by any such attack. Such term shall include, but shall not be limited to, (a) measures to be taken in preparation for anticipated attack (including the establishment of appropriate organizations, operational plans, and supporting agreements; the recruitment and training of personnel; the conduct of research; the procurement and stockpiling of necessary materials and supplies; the provision of suitable warning systems; the construction or preparation of shelters, shelter areas, and control centers; and when appropriate, the non-military evacuation of civil population), (b) measures to be taken during attack (including the enforcement of passive defense regulations prescribed by duly established military or civil authorities; the evacuation of personnel to shelter areas; the control of traffic and panic; and the control and use of lighting and civil communications); and (c) measures to be taken following attack (including activities for fire fighting; rescue, emergency medical, health and sanitation services; monitoring for specific hazards of special weapons; unexploded bomb reconnaissance; essential debris clearance; emergency welfare measures; and immediately essential emergency repair or restoration of damaged vital facilities).

(g) Notwithstanding the provisions of paragraph (d) of this section, aeronautical advisory stations authorized at landing areas where there is located a flight service station shall not transmit, during the hours of operation of such flight service station, information pertaining to the conditions of runways, wind conditions, and weather.

§ 87.259 Operator requirements.

(a) An aeronautical advisory station shall be operated, when transmitting during the normal rendition of service, by a person holding a commercial radio operator license or permit of any class.

(b) Aircraft radio stations using radiotelephony, when transmitting during the normal rendition of service, shall be operated by persons holding any class of commercial radio operator license or permit.

(c) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of a radio station, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license, either radiotelephone or radiotelegraph, who shall be responsible for the proper functioning of the station equipment.

Subpart D—Aeronautical Multicom Stations

§ 87.271 Frequency available.

122.9 Mc/s, 6A3 emission: This frequency is available on the condition that no harmful interference is caused to the aeronautical advisory service.

§ 87.273 Power output.

The power output of aeronautical multicom stations shall not exceed 10 watts.

§ 87.275 Eligibility.

An authorization for an aeronautical multicom station will be granted only to a person requiring communications within the scope of service for this class of station. A showing, satisfactory to the Commission, of the need for such communication shall accompany each application for license.

§ 87.277 Scope of service.

Communications pertaining to agricultural, ranching, and conservation activities; forest fire fighting; aerial application; aerial advertising; and parachute jumping are permitted. Such communications shall be limited to the directing of ground activities from the air, the directing of aerial activities from the ground, and air-to-air communications where such communications are otherwise not provided for in this part: *Provided, however,* That where advisory service is not authorized at a landing area and an applicant is unable to meet the special requirements for an aeronautical advisory station under § 87.251, the Commission, upon a proper showing by the applicant, and until such time as an aeronautical advisory service is established at the landing area on 122.8 or 123.0 Mc/s, may authorize service at such landing areas on the frequency 122.9 Mc/s in accordance with the following provisions:

(a) Shall not be used for air traffic control purposes;

(b) Shall be limited to the necessities of safe and expeditious operation of private aircraft, pertaining to the conditions of runways, types of fuel available, wind conditions, weather information, dispatching or other necessary information: *Provided, however,* That on a secondary basis, communications may be transmitted which pertain to the efficient portal-to-portal transit of which the flight is a portion, such as requests for ground transportation and food or lodging required during transit.

Subpart E—Aeronautical Enroute Stations

§ 87.291 Scope of service.

(a) Aeronautical enroute stations shall provide all necessary non-public service, HF and VHF, of the particular class authorized without discrimination to any aircraft station licensee who makes cooperative arrangements for the operation and maintenance of the aeronautical enroute stations which are to furnish such service and for shared liability in the operation of such stations. In case of distress, aeronautical enroute stations shall provide the above service without prior arrangements.

(b) Only one aeronautical enroute station in the Domestic Service will be authorized at any one location and only one aeronautical enroute station in the International Service will be authorized at any one location. For this purpose a "location" means an area which can be adequately served by the particular station.

§ 87.293 Frequencies available.

(a) 121.5 megacycles: This is a universal simplex emergency and distress frequency for air-ground communications and will not be assigned unless other frequencies are assigned and available for use to accommodate normal communications needs.

(b) Frequencies in the bands allocated to the aeronautical mobile (R) service in accordance with the provisions of the Extraordinary Administrative Radio Conference (Geneva 1951).

(c) Frequencies allocated to the aeronautical mobile (R) service in addition to those listed in §§ 87.295 through 87.307 may be assigned upon the showing that a need exists, and that such use would not result in harmful interference to other stations operating in accordance with the provisions of the EARC Agreement (Geneva, 1951).

(d) Applications for the use of frequencies allocated to the aeronautical mobile (R) service, not in accordance with §§ 87.295 through 87.307, shall be accompanied by a showing that a need exists and that such use would not result in harmful interference to other stations operating in accordance with the EARC Agreement (Geneva 1951).

(e) Frequencies for VHF aeronautical enroute operations. The VHF frequencies listed in §§ 87.295 through 87.301 and § 87.309 are available to aeronautical enroute stations upon a showing that the proposed operation is compatible with existing operations in the band.

(f) Regular use of high frequencies for aeronautical mobile (R) communications in the Domestic Service within the continental U.S. (excluding Alaska), will not be permitted after January 1, 1965.

NOTE: The Commission in Docket 14524 proposed the discontinuance of the use of HF for aeronautical mobile (R) communications in the Domestic Service within the continental U.S. (excluding Alaska). In view of the comments submitted in response to the Notice, it will be determined, prior to January 1, 1965, if a limited number of high frequencies should be retained for Domestic use, and if so, what frequencies. It should be noted that if certain frequencies are retained, their use will not be on a regular basis but will be available, on an emergency or backup basis.

§ 87.295 Continental U.S. (excluding Alaska).

Frequencies available for assignment to serve domestic routes in the continental U.S. (excluding Alaska), are as follows:

(a)

kc/s	kc/s	kc/s	kc/s
2854	3458.5	5634	6657
2896	3495.5	5656.5	6672
2903	4654.5	6529.5	8854
2910	4668.5	6537	8956
2924	4682.5	6544.5	10012
2938	5469	6559.5	10030
2945	5476.5	6574.5	10066
2959	5484	6589.5	10075
2966	5491.5	6604.5	10093
2994	5506.5	6619.5	11280.5
3001	5529	6627	11347
3015	5544	6634.5	11394.5
3418.5	5589	6642	
3432.5	5596.5	6649.5	

(b)

Mc/s	Mc/s	Mc/s	Mc/s
128.85	129.65	130.45	131.25
128.90	129.70	130.50	131.30
128.95	129.75	130.55	131.35
129.00	129.80	130.60	131.40
129.05	129.85	130.65	131.45
129.10	129.90	130.70	131.50
129.15	129.95	130.75	131.55
129.20	130.00	130.80	131.60
129.25	130.05	130.85	131.65
129.30	130.10	130.90	131.70
129.35	130.15	130.95	131.75
129.40	130.20	131.00	131.80
129.45	130.25	131.05	131.85
129.50	130.30	131.10	131.90
129.55	130.35	131.15	131.95
129.60	130.40	131.20	132.00

§ 87.297 Alaska.

(a) The following frequencies are available for assignment to aeronautical enroute stations in Alaska. The provisions of § 87.291(b) do not apply to stations operating on frequencies in accordance with this paragraph.

3411.5 kc/s 4668.5 kc/s

(b) The following frequencies are available for assignment to aeronautical en route stations in Alaska, only when serving scheduled certificated air carriers as defined by the Civil Aeronautics Board. In filing an application for the use of these frequencies, the applicant must show that in addition to complying with the provisions of § 87.291 the station will provide communications only along the routes served by the scheduled operations of such carriers. A copy of the contractual arrangement made with each of the air carriers to be served must be submitted with the application.

(1) *Alaska Aleutian chain and feeders.* The following frequencies are available for assignment:

2945 kc/s 6567 kc/s 11328 kc/s

(2) *Central Alaska chain and feeders (west of 141° west longitude).* The following frequencies are available for assignment:

2945 kc/s 5611.5 kc/s

(3) *Southeastern Alaska chain and feeders (east of 141° west longitude).* The following frequencies are available for assignment (power on the frequency 2910 kc/s in Alaska is limited to 325 watts; however, powers in excess of 325 watts may be authorized provided that an adequate showing is made that such additional power is required and that harmful interference will not be caused to any service or any station which in the discretion of the Commission may be entitled to protection):

2910 kc/s 6567 kc/s

(c) The following frequencies are shared with the Federal Aviation Agency and are available for licensing by the Commission subject to the provisions of paragraph (b) of this section at locations where an applicant justifies the need for service and the Government is not prepared to render this service (the frequencies 1674, 2912, 2946, 3082.5, 5037.5 and 5672.5 kc/s are available for assignment on an interim basis only until the frequencies listed in this paragraph are activated for Alaskan chain and feeder operations):

2931 kc/s 5544 kc/s

(d) The following frequencies are available for assignment to aeronautical enroute stations in Alaska subject to the provisions of paragraph (b) of this section.

Mc/s	Mc/s	Mc/s	Mc/s
129.1	129.7	130.3	130.9
129.3	129.9	130.5	
129.5	130.1	130.7	

§ 87.299 Hawaii.

Frequencies available for assignment to serve domestic routes in the State of Hawaii are as follows:

kc/s	Mc/s	Mc/s
3453.5	129.1	129.7
5559	129.3	129.9
6649.5	129.5	130.1
		130.3

§ 87.301 West Indies.

Frequencies available for assignment to serve domestic routes in U.S. possessions in the West Indies are as follows:

kc/s	Mc/s	Mc/s
2861	129.1	129.5
4689.5	129.3	129.7

§ 87.303 International high frequency service.

Frequencies available for assignment by the authority having jurisdiction over the respective aeronautical stations on the several Major World Air Route Areas (MWARAs) as defined in the EARC Agreement (Geneva 1951) are as follows:

(a) *Central East Pacific (CEP).*

kc/s	kc/s	kc/s	kc/s
3432.5	5604	8930.5	11318.5
3446.5	6612	10048	13304.5
3467.5	6679.5	10084	13334.5
3481.5	8879.5	11299.5	17926.5
5551.5			

(b) *Central West Pacific (CWP).*

kc/s	kc/s	kc/s	kc/s
2966	5536.5	13354.5	17906.5
5506.5	8862.5		

(c) *North Pacific (NP).*

kc/s	kc/s	kc/s	kc/s	kc/s
2987	5521.5	8939	13274.5	17906.5

(d) *South Pacific (SP).*

kc/s	kc/s	kc/s	kc/s	kc/s
2945	5641.5	8845.5	13344.5	17946.5

(e) *North Atlantic (NA).*

kc/s	kc/s	kc/s	kc/s
2868	5626.5	8888	13284.5
2931	5641.5	8913.5	13324.5
2945	5671.5	8947.5	13354.5
2987	5862.5	13264.5	17966.5
5611.5			

(f) *Europe (EU).*

kc/s	kc/s	kc/s	kc/s
2889	4654.5	6552	8930.5
2910	4689.5	6582	11299.5
3467.5	5551.5	8871	17906.5
3481.5			

(g) *North-South America—1 (NSAM–1).*

kc/s	kc/s	kc/s	kc/s
2889	6664.5	13314.5	17916.5
4696.5	8820		

(h) *North-South America—2 (NSAM–2).*

kc/s	kc/s	kc/s	kc/s
2910	5566.5	8845.5	11337.5
2966	5581.5	8871	13344.5
3404.5	6567	11290	17916.5

(i) *Far East—1 (FE–1).*

kc/s	kc/s	kc/s	kc/s
2987	8879.5	13324.5	17966.5
5671.5	8930.5		

(j) *Far East—2 (FE–2).*

kc/s	kc/s	kc/s	kc/s	kc/s
2868	5611.5	8871	13284.5	17966.5

(k) *South Atlantic (SA).*

kc/s	kc/s	kc/s	kc/s
2875	6612	8939	13274.5
3432.5	6679.5	10048	17946.5
6597	8879.5		

(l) *Middle East (ME).*

kc/s	kc/s	kc/s	kc/s
3404.5	5604	8845.5	13334.5
3446.5	6627	10021	17926.5

(m) *North-South Africa—1 (NSA–1).*

kc/s	kc/s	kc/s	kc/s	kc/s
3411.5	5521.5	8820	13304.5	17946.5

(n) *North-South Africa—2 (NSA–2).*

kc/s	kc/s	kc/s	kc/s	kc/s
2966	5506.5	8956	13334.5	17926.5

§ 87.305 Caribbean Area.

Frequencies available for assignment to serve international air routes in the Caribbean area.

kc/s	kc/s	kc/s	kc/s
2875	5566.5	8837	13294.5
2952	5619	8871	13344.5
2966	6537	10021	17936.5
5499			

§ 87.307 U.S.-Alaska, via Canada.

Frequencies available for assignment to serve the U.S.-Alaska, via Canada, air routes.

kc/s	kc/s	kc/s	kc/s
2973	5499	8871	11356.5

§ 87.309 International very high frequency service.

The frequencies listed in § 87.295(b) are available for use by aeronautical enroute stations serving international operations.

Subpart F—Aeronautical Metropolitan Stations

§ 87.321 Eligibility for station license.

Authorizations for Aeronautical Metropolitan Stations will be issued only to the licensee of the Aeronautical Enroute Station operating in the metropolitan area.

§ 87.323 Frequencies available.

The frequencies available for aeronautical enroute stations are available for assignment to aeronautical metropolitan stations.

§ 87.325 Points of communication.

Aeronautical Metropolitan Stations are authorized to communicate primarily with aircraft and are authorized secondarily to inter-communicate with other Aeronautical Metropolitan Stations within the same metropolitan area.

§ 87.327 Scope of service.

Aeronautical Metropolitan Stations shall transmit only communications for the safe, expeditious and economical operation of aircraft operating between a main air terminal of a metropolitan area and subordinate landing areas. Aeronautical Metropolitan Stations shall provide non-public service of the particular class authorized, without discrimination, to any aircraft station licensee who makes cooperative arrangements for the operation and maintenance of the Aeronautical Metropolitan Stations which are to furnish such service and for shared liability in the operation of the stations.

§ 87.329 Application for aeronautical metropolitan station authorization.

A single application may be submitted for any number of aeronautical metropolitan stations for the same licensee in a metropolitan area. The application shall specify the location of the station at the main air terminal, and the location of each station at subordinate landing areas.

Subpart G—Flight Test Stations

§ 87.331 Frequencies available.

(a) The frequencies 3281 kilocycles, 123.1, 123.2, 123.3, 123.4 and 123.5 megacycles are available for assignment to ground and aircraft flight test stations. (The frequencies 123.1, 123.3, and 123.5 megacycles are shared with flying school stations on a non-interference basis.) The frequencies 123.15, 123.25, 123.35, 123.45, and 123.55 megacycles are available for assignment only to aircraft manufacturers.

(b) The following frequencies are available to flight test stations for telemetering activities:

Mc/s	Mc/s	Mc/s	Mc/s
217.425	217.575	219.375	217.525
217.475	217.625	219.425	219.575
217.525	217.675	219.450	
217.550	219.325	219.475	

Until January 1, 1970, these frequencies may be authorized for use by non-Government telemetering mobile stations aboard aircraft and telemetering land stations, for telemetering to and from aircraft in flight, when an engineering study indicates that harmful interference will not be caused to stations operating in accordance with the Table of Frequency Allocations in Part 2 of this chapter.

(c) 1435–1535 Mc/s: The frequencies between 1435 and 1485 Mc/s will be assigned primarily for the flight testing of manned aircraft, or major components thereof; the frequencies between 1485 and 1535 Mc/s will be assigned primarily for the flight testing of unmanned aircraft and missiles, or major components thereof. Specifically included as permissible usage for aeronautical telemetering stations in the band 1435–1535 Mc/s is telemetry associated with launching and re-entry into the earth's atmosphere, as well as any incidental orbiting prior to re-entry, of manned or unmanned objects undergoing flight tests.

§ 87.333 Eligibility of licensee.

A flight test station license may be granted only for use by either;

(a) Manufacturers of aircraft or major aircraft components, or

(b) A parent corporation or its subsidiary if either corporation is a manufacturer of aircraft or major aircraft components.

§ 87.335 Cooperative use of facilities.

(a) Except as provided in paragraph (d) of this section, only one flight test station for operation on the ground will be licensed to serve an airdrome.

(b) Flight test stations for operation on the ground will be required to provide service without discrimination, but on a cooperative maintenance basis, to all eligible for a license for flight test station.

(c) Where licensees desire to conduct flight tests in adjacent airdrome control areas, or where radio interference may result from simultaneous operation of stations at nearby airdromes, they shall arrange for a satisfactory time division by mutual agreement. If such an agreement cannot be reached the Commission will determine and specify the time division upon request of either licensee.

(d) An application for an additional flight test station for operation on the ground at an airdrome where such a station is already authorized shall be accompanied by a factual showing of such factors as may have a bearing upon the particular case and shall include the following:

(1) That there has been coordination with the current licensee(s) of the flight test station(s) at the airdrome;

(2) The results of such coordination;

(3) That the additional station can be accommodated without undue degradation of the reliability of existing facilities; and,

(4) That there are valid reasons why use of the currently licensed facilities, on a shared basis, is not in the best interest of flight test communications.

§ 87.337 Scope of service.

The use of these stations will be restricted to the transmission of necessary information or instructions relating directly to tests of aircraft or components thereof.

Subpart H—Flying School Stations

§ 87.341 Frequencies available.

The frequencies 123.1, 123.3 and 123.5 megacycles are available for ground and aircraft flying school stations (shared with flight test stations on a noninterference basis).

§ 87.343 Eligibility of licensee.

A flying school station license will be granted only to flying schools and soaring societies.

§ 87.345 Limitations on instructional facilities.

Assignments will be limited to one station to an airdrome location for one or more flying schools.

§ 87.347 Coordinated use of instructional facilities.

Where more than one flying school operates from an airdrome location, coordinated use of a single instructional frequency shall be arranged, placed in the form of a signed agreement and filed with the Commission. In case of disagreement, the Commission will specify the arrangement to be followed.

§ 87.349 Scope of service.

Communications for instructional flying under the direction of a flying school station in the vicinity of an airdrome shall be transmitted only on the flying school frequency assigned to that station.

§ 87.351 Supervision by airdrome control operator.

At any airdrome at which an airdrome control station or control tower is in operation, the airdrome control operator must be given a remote microphone connection to the transmitter operating on the flying school frequency for the transmission of orders or instruction to students in flight.

§ 87.353 Power.

The power output of flying school stations shall not be more than 50 watts for land stations and not more than 10 watts for aircraft stations.

§ 87.355 Frequency assignments nonexclusive.

No frequency available to a station engaged in instructional flying will be assigned exclusively to any applicant. All stations in this service are required to coordinate operation so as to avoid interference and make the most effective use of assignments.

§ 87.357 Private service prohibited.

The use of flying school frequencies for other than instruction purposes and promotion of safety of life and property is prohibited.

Subpart I—Airdrome Control Stations

§ 87.401 Frequencies available.

In applying for an airdrome control radio station authorization, the applicant need not specify the proposed operating frequencies, inasmuch as the assigned frequencies are determined by the Commission after coordination with other agencies of government. The following frequencies are available to airdrome control stations.

(a)

Mc/s	Mc/s	Mc/s	Mc/s
118.00	121.25	126.35	132.85
118.05	121.30	126.40	132.90
118.10	121.35	126.45	132.95
118.15	121.40	126.50	133.00
118.20	121.65A	126.55	133.05
118.25	121.70A	126.60	133.10
118.30	121.75A	126.65	133.15
118.35	121.80A	126.75	133.20C
118.40	121.85A	126.80	133.25
118.45	121.95A	126.85	133.30
118.50	123.60	126.90	133.35
118.55	123.65	126.95	133.40
118.60	123.70	127.00	133.45
118.65	123.75	127.05	133.50
118.70	123.80	127.10	133.55
118.75	123.85	127.15	133.60
118.80	123.90	127.20	133.65
118.85	123.95	127.25	133.70
118.90	124.00	127.30	133.75
118.95	124.05	127.35	133.80
119.00	124.10	127.40	133.85
119.05	124.15	127.45	133.90
119.10	124.20	127.50	133.95
119.15	124.25	127.55	134.00
119.20	124.30	127.60	134.05
119.25	124.35	127.65	134.10
119.30	124.40	127.70	134.15
119.35	124.45	127.75	134.20
119.40	124.50	127.80	134.25
119.45	124.55	127.85	134.30
119.50	124.60	127.90	134.35
119.55	124.65	127.95	134.40
119.60	124.70	128.00	134.45
119.65	124.75	128.05	134.50
119.70	124.80	128.10	134.55
119.75	124.85	128.15	134.60
119.80	124.90	128.20	134.65
119.85	124.95	128.25	134.70
119.90	125.00	128.30	134.75
119.95	125.05	128.35	134.80
120.00	125.10	128.40	134.85
120.05	125.15	128.45	134.90
120.10	125.20	128.50	134.95
120.15	125.25	128.55	135.00
120.20	125.30	128.60	135.05
120.25	125.35	128.65	135.10
120.30	125.40	128.70	135.15
120.35	125.45	128.75	135.20
120.40	125.50	128.80	135.25
120.45	125.55	132.05	135.30
120.50	125.60	132.10	135.35
120.55	125.65	132.15	135.40
120.60	125.70	132.20	135.45
120.65	125.75	132.25	135.50
120.70	125.80	132.30	135.55
120.75	125.85	132.35	135.60
120.80	125.90	132.40	135.65
120.85	125.95	132.45	135.70
120.90	126.00	132.50	135.75
120.95	126.05	132.55	135.80
121.00	126.10B	132.60	135.85
121.05	126.15B	132.65	135.90
121.10	126.20B	132.70	135.95
121.15	126.25B	132.75	
121.20	126.30B	132.80	

A—Available on a secondary basis to its primary use as an airport utility frequency.

B—Available on a noninterference basis to government use of 126.18 Mc/s.

C—The frequency of 133.20 Mc/s is available to aircraft for communications with USAF radar facilities for the purpose of obtaining weather advisory service.

(b) 200–285, 325–405 kilocycles: Frequencies in these bands are available for assignment in addition to a very high frequency. Use must be supplemented by a service on one of the very high frequencies: *Provided, however,* That until further notice of the Commission, upon application therefor, the Commission may exempt any station from the very high frequency service requirement when it appears that in the preservation of life and property in the air such service is not required at that station.

(c) 121.60, 121.65, 121.70, 121.75, 121.80, 121.85, 121.90 and 121.95 megacycles: These airport utility frequencies are available to airdrome control stations for communications with ground vehicles and aircraft on the ground at airdromes. The antenna heights shall be restricted to the minimum necessary to achieve the required coverage. The frequency 121.60 Mc/s is available to airdrome control stations for airport utility communications on the condition that no harmful interference is caused to search and rescue communications during any period of search and rescue operations in the locale involved.

(d) 121.5 Mc/s: This frequency is a universal simplex channel for emergency and distress communications and service on this frequency shall be provided by all airdrome control stations: *Provided, however,* That upon application therefor the Commission may exempt any station from this requirement when a showing is made that such service is not required in the preservation of life and property in the air.

§ 87.403 Scope of service.

(a) Communications of an airdrome control station shall be limited to the necessities of safe and expeditious operation of aircraft using the airdrome facilities or operating within the airdrome control area and in all cases such stations shall be in a position to render, and shall render, all necessary airdrome control service.

(b) The licensee of an airdrome control station shall without discrimination provide service for any and all aircraft. Such licensee shall maintain a continuous listening watch during hours of operation on the following aircraft calling and working frequencies:

(1) *Very high frequencies.* (i) 122.5 Mc/s;

(ii) 121.5 Mc/s emergency frequency—upon application therefor the Commission may exempt any station from the emergency frequency watch requirement, when a showing is made that such service is not required in the preservation of life and property in the air;

(iii) Upon further notice a listening watch may be required on the frequencies 122.7 or 122.9 Mc/s.

(2) *High frequency.* 3023.5 kc/s. Upon application therefor, the Commission may exempt any station from the requirement to maintain listening watch on this frequency when a showing is made that such service is not required for the preservation of life and property in the air.

§ 87.405 Hours of operation.

The licensee shall render a communication service 24 hours a day: *Provided, however,* That upon application therefor the Commission may exempt any station from the requirements of this provision when it appears that, in the preservation of life and property in the air, the maintenance of a continuous watch by such station is not required.

§ 87.407 Airdrome facilities.

Only one airdrome control station will be licensed to operate at an airdrome.

§ 87.409 Interference.

The operation of airdrome control stations in adjacent airdrome areas shall be on a non-interference basis only. In case of radio interference between adjacent airdrome control stations, the Commission will specify for its licensees, the arrangements necessary to eliminate interference.

§ 87.411 Power.

(a) Airdrome control stations using frequencies below 400 kilocycles will not be licensed to use more than 15 watts power for type-A3 emission.

(b) The power of airdrome control stations operating on the frequencies specified in § 87.401(a) shall not exceed 50 watts.

Subpart J—Aeronautical Utility Mobile Stations

§ 87.431 Frequencies available.

The frequencies 121.60, 121.65, 121.70, 121.75, 121.80, 121.85, 121.90, and 121.95 megacycles are available for use by aeronautical utility mobile stations. The frequency 121.60 Mc/s is available to aeronautical utility mobile stations for airport utility communications on the condition that no harmful interference is caused to search and rescue communications during any period of search and rescue operations in the locale involved.

§ 87.433 Scope of service.

Communications by a utility station shall be limited to the necessities of ground traffic control at an airdrome and may be used for essential communications with the control towers, ground vehicles and aircraft on the ground.

§ 87.435 Power.

Power and antenna height shall be restricted to the minimum to achieve the required service.

§ 87.437 Supervision by airdrome control operator.

At any airdrome at which an airdrome control tower is in operation, transmission by the utility station shall be subject to the control of the airdrome control station and shall be discontinued immediately when so requested by the control station. The utility station shall guard the utility frequency during periods of operation.

Subpart K—Aeronautical Search and Rescue Mobile Stations

§ 87.441 Frequency available.

The frequency 121.6 megacycles is available for use by aeronautical search and rescue mobile stations.

§ 87.443 Scope of service.

Aeronautical search and rescue mobile stations shall be used only for communications with aircraft engaged in search and rescue operations.

Subpart L—Aeronautical Fixed Stations

§ 87.451 Eligibility.

Authorization to operate an aeronautical fixed station will be issued only to the licensee of an aeronautical en route station with which the aeronautical fixed station will be associated. Aeronautical fixed station authorizations will not be issued where land line facilities adequate for the service required are available.

§ 87.453 Scope of service.

Aeronautical fixed stations shall provide all necessary non-public point-to-point communications service pertaining to safety, regularity and economy of flight. Such stations shall transmit, without discrimination, messages originated by aircraft radio station licensees who have entered into equitable, cost sharing arrangements governing the operation and maintenance of such stations: *Provided, however,* That aeronautical fixed station licensees are required to transmit, without charge or discrimination, all necessary messages in time of public emergency which involve the safety of life and property.

§ 87.455 Assignment of frequencies.

(a) United States (excluding Alaska). Only those frequencies which are in accordance with § 2.106 of this chapter may be authorized for use by aeronautical fixed stations. The applicant shall request specific frequencies within such bands when making an application for an aeronautical fixed station. The availability for assignment of such frequencies will be determined in the Commission by study of the probabilities of interference to and from existing services assigned on the same or adjacent frequencies, and, if necessary, by appropriate coordination with other agencies. All new assignments of frequencies will be subject to such conditions as may be required to minimize the possibility of harmful interference to existing services.

(b) *Alaska.* In the authorization of frequencies for use by aeronautical fixed stations in Alaska, the following conditions, in addition to those in paragraph (a) of this section, shall apply:

(1) Except as provided in subparagraph (2) of this paragraph, frequencies will be authorized to aeronautical fixed stations in Alaska, only when such stations serve scheduled certificated air carriers as defined by the Civil Aeronautics Board. When filing applications for such frequencies, the applicant must show that the station will provide communications only along the routes served by the scheduled operations of such carriers. A copy of the contractual arrangements made with each of the air carriers to be served must be submitted with the application.

(2) The frequency 4645 kc/s is available for assignment to aeronautical fixed stations in Alaska. This frequency will only be authorized in conjunction with authorizations for use of the aeronautical enroute frequencies specified in § 87.297(a).

Subpart M—Operational Stations

§ 87.461 Service authorized.

Operational fixed stations in the aeronautical fixed service are authorized for link or control circuits or other aeronautical fixed operations.

§ 87.463 Frequencies available.

Operational fixed stations in the aeronautical fixed service will share the frequency bands allocated to operational fixed stations with other services as follows:

(a) The frequencies listed in this paragraph may be assigned under the conditions set forth in subparagraphs (1) through (6) of this paragraph. (Stations authorized to operate in the band 73–74.6 Mc/s as of December 1, 1961, may continue to operate in this band and are not required to afford protection to the radio astronomy service.)

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
72.02	72.42	72.82	75.62
72.06	72.46	72.86	75.66
72.10	72.50	72.90	75.70
72.14	72.54	72.94	75.74
72.18	72.58	72.98	75.78
72.22	72.62	75.42	75.82
72.26	72.66	75.46	75.86
72.30	72.70	75.50	75.90
72.34	72.74	75.54	75.94
72.38	72.78	75.58	75.98

(1) In any area in the continental United States (excluding Alaska), a maximum of four of the frequencies listed in this paragraph may be assigned to aeronautical operational fixed stations.

(2) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(3) The applicant agrees to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are found necessary within 90 days of the time knowledge of said interference is first brought to his attention by the Commission. If said interference is not cleared up within the 90-day period, operation of the fixed station will be discontinued.

(4) Vertical polarization is used.

(5) Whenever it is proposed to locate a 72–76 Mc/s fixed station less than 80, but more than 10 miles from the site of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which such channels are assigned but are not in operation, the fixed station shall be authorized only if there are fewer than 100 family dwelling units, as defined by the U.S. Bureau of Census, located within a circle centered at the location of the proposed fixed station (family dwelling units 70 or more miles distant from the TV antenna site are not to be counted), the radius of which shall be determined by use of the appropriate chart entitled, "Chart for Determining Radius From Fixed Station in 72–76 Mc/s Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would Be Destroyed"; two charts are provided, one for Channel 4 and one for Channel 5. The Commission may, however, in a particular case, authorize the location of a fixed station within a circle as determined above containing 100 or more family dwelling units upon a showing that:

(i) The proposed site is the only suitable location.

(ii) It is not feasible, technically or otherwise, to use other available frequencies.

(iii) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(iv) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by his operations.

(6) All applications seeking authority to operate with a separation of less than 10 miles will be returned without action.

(b) The frequencies listed in the table in this paragraph may be assigned for operational fixed microwave operation subject to the conditions set forth in paragraph (d) of this section and the limitations contained in the footnotes to the table.

Band (Mc/s)	
952–960 [1]	10550–10680
1850–1990	12200–12700
2110–2200	13200–13250 [3]
2450–2500 [2]	17700–19300 [2,3]
2500–2690	19400–19700 [3]
6575–6875	27525–31300 [3]
8400–8500 [3]	38600–40000 [3]

[1] Available for assignment in accordance with the frequency pairing plan as contained in paragraph (c) of this section.

[2] Subject to no protection from interference due to the operation of industrial, scientific, and medical devices in this band.

[3] Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(c) The frequencies between 952 and 960 Mc/s will be assigned as follows:

Paired frequencies Mc/s	
959.9—956.3 [1]	958.1—954.5
959.8—956.2 [1]	958.0—954.4
959.7—956.1	957.9—954.3
959.6—956.0	957.8—954.2
959.5—955.9	957.7—954.1
959.4—955.8	957.6—954.0
959.3—955.7	957.5—953.9
959.2—955.6	957.4—953.8
959.1—955.5	957.3—953.7
959.0—955.4	957.2—953.6
958.9—955.3	957.1—953.5
958.8—955.2	957.0—953.4
958.7—955.1	956.9—953.3
958.6—955.0	956.8—953.2
958.5—954.9	956.7—953.1
958.4—954.8	956.6—953.0
958.3—954.7	956.5—952.9 [1]
958.2—954.6	956.4—952.8 [1]

Unpaired frequencies Mc/s

952.4 [1] [2]	952.3 [1] [2]	952.2 [1] [2]	952.1 [1] [2]

[1] Available on developmental basis only for omni-directional operation, and for other than the control of traffic signals.

[2] The maximum rated power output of transmitters for omni-directional operations authorized to operate on this frequency is 100 watts.

(d) Operation on frequency pairs authorized prior to July 20, 1961, which are not in accordance with the plan of frequency pairing set forth in paragraph (c) of this section may continue provided interference is not caused to the operation of systems which are utilizing channels in accordance with that plan.

Subpart N—Radionavigation Land Stations

§ 87.501 Frequencies available.

In applying for a radionavigation land station authorization, the applicant need not specify the proposed operating frequencies, inasmuch as the assigned frequencies are determined by the Commission after coordination with other agencies of government.

(a) Localizer station with simultaneous radiotelephone channel. The frequencies:

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
108.1	109.1	110.1	111.1
108.3	109.3	110.3	111.3
108.5	109.5	110.5	111.5
108.7	109.7	110.7	111.7
108.9	109.9	110.9	111.9

(b) Glide path station: The band 328.6 to 335.4 megacycles.

(c) Aeronautical marker beacon station: 75 megacycles.

(d) Radio Range stations: 112.1 megacycles through 117.9 megacycles and the following frequencies in the 108–112 megacycles band:

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
108.2	109.2	110.2	111.2
108.4	109.4	110.4	111.4
108.6	109.6	110.6	111.6
108.8	109.8	110.8	111.8
109.0	110.0	111.0	112.0

(e) 90–110 kilocycles.

(f) Radiobeacon stations: 200–415 kilocycles.

(g) 1800–2000 kilocycles.

(h) (1) 960–1215 Mc/s: The band 960–1215 Mc/s is for the use of ground-based facilities which are directly associated with airborne electronic aids to air navigation.

(2) 1300–1350 Mc/s: The band 1300–1350 Mc/s is available to the aeronautical radionavigation service for ground-based radars.

(3) 1535–1660 Mc/s: The band 1535–1660 Mc/s is for the use of ground-based facilities which are directly associated with airborne electronic aids to air navigation.

(4) 2700–2900 Mc/s: Non-Government land-based radars in the aeronautical radionavigation service may be authorized in the band 2700–2900 Mc/s, subject to the conclusion of appropriate arrangements between the Commission and the Government agencies concerned, and upon special showing of the need for the service which the Government is not yet prepared to render.

(5) 5000–5250 Mc/s: The band 5000–5250 Mc/s is for the use of ground-based facilities which are directly associated with airborne electronic aids to air navigation.

(6) 9000–9200 Mc/s: The band 9000–9200 Mc/s is available to the aeronautical radionavigation service for ground-based radars. Operation in this band may be subject to receiving some degree of interference from stations operating in the radiolocation service.

(7) 14,000–14,400 Mc/s: The band 14,000–14,400 Mc/s is available for use in the aeronautical radionavigation service.

(8) 15,400–15,700 Mc/s: The band 15,400–15,700 Mc/s is for the use of ground-based facilities which are directly associated with airborne electronic aids to air navigation.

(9) 24,250–25,250, 31,800–33,400 Mc/s: In these bands, ground-based radionavigation aids are permitted where they operate in cooperation with airborne radionavigation devices.

§ 87.503 Scope of service.

Air navigation aid facilities are usually operated by the Federal Aviation Agency. However, the frequencies which these facilities employ are available for licensing by the Commission at those locations where an applicant justifies the need for such service and the Government is not prepared to render this service. Air navigation service will be authorized only where the applicant meets all requirements specified by the Federal Communications Commission after consultation with the Federal Aviation Agency.

§ 87.505 Unattended operation of domestic radiobeacon stations.

(a) Authority may be granted to operate, during the course of normal rendition of service, radiobeacon stations which are located within the United States, its territories or possessions without attendance of any person, in those cases where an adequate showing has been made to the Commission with respect to all of the following seven conditions:

(1) The transmitter is crystal controlled and specifically designed for radiobeacon service and capable of transmitting by self-actuating means;

(2) The emissions of the transmitter shall be continuously monitored by a licensed operator; or by means of a direct positive automatic monitor, supplemented by aural monitoring at suitable intervals;

(3) If as a result of aural monitoring, it is determined that a deviation from the terms of the station license has occurred, a properly authorized person will be dispatched immediately to the transmitter site and place the transmitter in an inoperative condition. If automatic monitoring is used, the monitor shall insure that the operation of the station is in accordance with the terms of the station license, or shall place the transmitter in an inoperative condition;

(4) The time, carefully estimated, required to dispatch a properly authorized person to the transmitter site and to place the transmitter in an inoperative condition;

(5) Inspection of the equipment shall be conducted at suitable intervals determined by the performance record of the equipment and maintenance experience, but in any event, an inspection shall be conducted at least every 60 days. A record of the results of an inspection shall be kept in the maintenance records of the station;

(6) The transmitter is so installed and protected that it is not accessible to, and may not be placed in operation by, other than duly authorized persons;

(7) The location of the transmitter is such that it is impracticable to require an operator to be on duty at the transmitter or other point at which the operation of the transmitter could be directly controlled.

(b) Authority for unattended operation shall be expressly stated in the station authorization before such operation may be commenced.

(c) In any case in which authority for unattended operation has been granted the Commission may at any time, for purposes of national defense, without the necessity of any hearing, cancel the authority or modify it in such a manner as to require the provision of adequate means to permit the station to be placed in an inoperative condition promptly whenever notice to that effect is given.

Subpart O—Civil Air Patrol Stations

§ 87.511 Eligibility for station license.

Authorizations for land and mobile stations of the Civil Air Patrol will be issued only to units or headquarters of the Civil Air Patrol. All applications will be supported by a confirming statement from the proper military authority.

§ 87.513 Frequencies available.

The following frequencies are available for assignment to Civil Air Patrol land and mobile stations within the United States, its territories and possessions, except as otherwise provided in this section.

(a) 2374 kc/s, A1, A2, A3 emission, 400 watts maximum power.

(b) 4467.5 kc/s, A1, A2, A3 emission, 400 watts maximum power. Assignment of this frequency is limited to stations in the District of Columbia and the following States:

Alabama.	New Jersey.
Connecticut.	New York.
Delaware.	North Carolina.
Florida.	Pennsylvania.
Georgia.	Rhode Island.
Maine.	South Carolina.
Maryland.	Tennessee.
Massachusetts.	Vermont.
Mississippi.	Virginia.
New Hampshire.	West Virginia.

(c) 4507.5 kc/s, A1, A2, A3 emission, 400 watts maximum power. This frequency is available for assignment to stations in all areas of the continental United States except Alaska and those listed in paragraph (b) of this section.

(d) 4585 kc/s, A1, A2, A3 emission, 400 watts maximum power.

(e) 4602.5 kc/s, A1, F1, A3, emission, 400 watts maximum power. Assignment of this frequency is limited to stations in the following States:

Colorado.	Montana.
Idaho.	Ohio.
Illinois.	Utah.
Indiana.	Wisconsin.
Kentucky.	Wyoming.
Michigan.	

(f) 4630 kc/s, A1, F1, A3 emission, 400 watts maximum power. Assignment of this frequency is limited to stations in the following States:

Arizona.	New Mexico.
Arkansas.	Oklahoma.
Louisiana.	Texas.

(g) 26.62 Mc/s, A3 emission, 5 watts maximum power. In the State of Hawaii, A1, A2, A3 emission and 250 watts maximum power is permissible.

(h) 143.91 Mc/s, A1, A2, A3 emission, 10 watts maximum power. Assignment of this frequency is limited to stations in the continental United States (excluding Alaska).

(i) 148.14 Mc/s, A2, A3 emission, 50 watts maximum power.

§ 87.515 Scope of service.

Land and mobile stations of the Civil Air Patrol may be used only for training, operational and emergency activities of the Civil Air Patrol.

(a) Civil Air Patrol land stations may communicate with other land stations and mobile stations of the Civil Air Patrol. Such stations may be moved from the authorized location for temporary operation in the same general area for short periods of time not to exceed 48 hours.

(b) Civil Air Patrol Mobile Stations may communicate with other mobile stations and land stations of the Civil Air Patrol.

§ 87.517 Operator requirements.

(a) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of a radio station, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license, either radiotelephone or radiotelegraph, who shall be responsible for the proper functioning of the station equipment: *Provided, however,* That only persons holding a first or second class commercial radiotelegraph operator license shall perform such functions at radiotelegraph stations transmitting by any type of the Morse Code.

(b) A station during the course of normal rendition of service when transmitting radiotelegraphy by any type of the Morse Code shall be operated by a person holding a commercial radiotelegraph operator license or permit of any class issued by the Commission, except that aircraft radio stations while employing radiotelegraphy may not be operated by holders of restricted radiotelegraph operator permits.

(c) Aircraft radio stations: Aircraft radio stations using radiotelephony shall be operated by persons holding any class of commercial radio operator license or permit.

(d) Ground radio stations: Each transmitter shall be operated in the manner prescribed in this paragraph:

(1) Except under the circumstances specified in paragraphs (a) and (b) of this section, and subject to the provisions of subparagraphs (4), (5), and (6) of this paragraph, an unlicensed person may operate a land mobile station during the course of normal rendition of service when transmitting on frequencies above 25 Mc/s after being authorized to do so by the station licensee.

(2) Except under the circumstances specified in paragraphs (a) and (b) of this section, and subject to the provisions of subparagraphs (4), (5), and (6) of this paragraph, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a land mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s: *Provided, however,* That an unlicensed person, after being authorized to do so by the station licensee, may operate such a land mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s while it is associated with and under the operational control of a base station of the same station licensee.

(3) Except under the circumstances specified in paragraphs (a) and (b) of this section, and subject to the provisions of subparagraphs (4), (5), and (6) of this paragraph, land stations shall be operated when transmitting during the course of normal rendition of service by a person holding a commercial radio operator license or permit of any class, which licensed operator may permit other persons to transmit or to communicate over the facilities of the station in accordance with the term of the station license: *Provided,* That the licensed operator shall remain in full control of and shall be fully responsible for the emission of that station and shall suspend the radiation of the transmitter immediately when there is a deviation from the terms of the station license: *And provided further,* That the person manipulating the telegraph key for the transmission by manual or semiautomatic means of telegraphy by any type of the Morse Code by such station shall hold a class of radiotelegraph operator's license which is valid for the operation of that station.

(4) The provisions of this paragraph authorizing certain unlicensed persons to operate certain stations when transmitting during the course of normal rendition of service, shall be applicable only to stations in the domestic service. For the purposes of this section, a station in the domestic service is one which is located within the United States, its territories or possessions and which, when communicating with other stations is in communication exclusively with one or more other United States stations which are also located in the United States, its territories or possessions; a station in the international service is one which is not in the domestic service as just defined.

(5) The provisions of this paragraph authorizing certain unlicensed persons to operate land mobile stations shall not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof) in accordance with the terms of the licenses of those stations.

(6) Notwithstanding any other provisions of this paragraph, unless the transmitter is so designed that none of the operations necessary to be performed during the course of normal rendition of service may cause off-frequency operation or result in any unauthorized radiation, such transmitter shall be operated by a person holding a first or second class commercial radio operator license (either radiotelephone or radiotelegraph as may be appropriate for the type of emission being used) issued by the Commission.

PART 89—PUBLIC SAFETY RADIO SERVICES

Subpart A—General Information

APPLICATIONS, AUTHORIZATIONS, AND NOTIFICATIONS

TECHNICAL STANDARDS

OPERATING REQUIREMENTS

AUTHORITY: §§ 89.1 to 89.559 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General Information

§ 89.1 Basis and purpose.

(a) The basis for this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. This part is issued pursuant to authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) This part is designed to provide a service of radio communication essential either to the discharge of non-Federal governmental functions or to the alleviation of an emergency endangering life or property.

§ 89.3 Definitions.

For the purpose of this part the following definitions shall be applicable. (For other definitions, refer to Part 2 of this chapter):

(a) Definitions of services:

Fire Radio Service. A public safety service of radio communication essential to official fire activities.

Fixed service. A service of radio communication between specified fixed points.

Forestry-Conservation Radio Service. A public safety service of radio communication essential to forestry-conservation activities.

Highway Maintenance Radio Service. A public safety service of radio communication essential to official highway activities.

Land mobile service. A mobile service between base stations and land mobile stations, or between land mobile stations.

Local Government Radio Service. A service of radio communication essential to official activities of states, possessions, and territories, including counties, towns, cities, and similar governmental subdivisions.

Mobile service. A service of radio communication between mobile and land stations, or between mobile stations.

Police Radio Service. A public safety service of radio communication essential to official police activities.

Public safety radio services. Any service of radiocommunication essential either to the discharge of non-Federal government functions or the alleviation of an emergency endangering life or property, the radio transmitting facilities of which are defined as fixed, land, mobile, or radiolocation stations.

Radiolocation. Radiodetermination used for purposes other than those of radionavigation. (For the purposes of this part, radiolocation will include speed measuring devices.)

Radio service. An administrative subdivision of the field of radio communication. In an engineering sense the subdivisions may be made according to the method of operation; as for example, mobile service and fixed service. In a regulatory sense, the subdivisions may be descriptive of particular groups of licensees; as for example, the groups and subgroups of persons licensed under this part.

Safety Service. A radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

Special Emergency Radio Service. A public safety service of radio communication essential to the alleviation of an emergency endangering life or property.

State Guard Radio Service. A public safety service of radio communication essential to official activities of state guards or comparable organizations of states, territories, possessions, or the District of Columbia.

(b) Definitions of stations:

Base station. A land station in the land mobile service carrying on a service with land mobile stations.

Control station. An operational fixed station, the transmissions of which are used to control, automatically, the emissions or operation of another radio station at a specified location.

Fixed station. A station in the fixed service.

Fixed relay station. An operational fixed station established for the automatic retransmission of radio communications received from either one or more fixed stations or from a combination of fixed and mobile stations and directed to a specified location.

Interzone station. A fixed station in the Police Radio Service using radiotelegraphy (A1 emission) for communication with zone stations within the zone and with interzone stations in other zones.

Land station. A station in the mobile service not intended to be used while in motion.

Mobile station. A station in the mobile service intended to be used while in motion or during halts at unspecified points.

Mobile relay station. A base station established for the automatic retransmission of mobile service communications which originate on the transmitting frequency of the mobile stations and which are retransmitted on the receiving frequency of the mobile stations.

Operational fixed station. A fixed station, not open to public correspondence, operated by and for the sole use of those agencies operating their own

radio communication facilities in the Public Safety, Industrial, Land Transportation, Marine, or Aviation Services.

Radiolocation mobile station. A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.

Repeater station. An operational fixed station established for the automatic retransmission of radio communications received from any station in the Mobile Service.

Zone station. A fixed station in the Police Radio Service using radiotelegraphy (A1 emission) for communication with other similar stations in the same zone and with an interzone station.

(c) Miscellaneous definitions:

Antenna structures. The term "antenna structure" includes the radiating system, its supporting structures, and any surmounting appurtenances.

Assigned frequency. The frequency appearing on a station authorization from which the carrier frequency may deviate by an amount not to exceed that permitted by the frequency tolerance.

Authorized bandwidth. The maximum width of the band of frequencies, as specified in the authorizations, to be occupied by an emission.

Bandwidth occupied by an emission. The width of the frequency band (normally specified in kilocycles) containing those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power.

Carrier frequency. The frequency of the carrier.

Harmful interference. Any emission, radiation or induction which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with this chapter.

Landing area. A landing area means any locality, either land or water, including airports and intermediate landing fields, which is used, or intended to be used, for the landing and take-off of aircraft whether or not facilities are provided for shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Station authorization. Any construction permit, license, or special temporary authorization issued by the Commission.

§ 89.5 Organization and applicability of rules.

The rules in this part are divided into 9 subparts of which Subparts A and C, inclusive, contain rules of a general nature which apply to every station authorized under this part. Subparts E to R, inclusive, are specific and apply only to the stations authorized under the particular subpart.

§ 89.7 General limitation on use.

The radio facilities authorized under this part shall not be used to carry program material of any kind for use in connection with radio broadcasting and shall not be used to render a communications common carrier service except for stations in the Special Emergency Radio Service while being used to bridge gaps in common carrier wire facilities.

§ 89.9 General citizenship restrictions.

A station license shall not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign government, if the Commission finds that the public interest will be served by refusal or revocation of such license.

§ 89.11 General restrictions on transfer and assignment of station authorization.

A station authorization; the frequencies authorized to be used by the grantee of such authorization; and the rights therein granted by such authorization shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, or indirectly by transfer of control of any corporation holding such authorization to any person, unless the Commission shall, after securing full information, decide that said transfer is in the public interest, and shall give its consent in writing. Requests for authority to assign or transfer control of a station authorization may be submitted in accordance with § 89.59 (b) or (d), whichever is applicable.

§ 89.13 Cooperative arrangements.

Arrangements may be made between two or more persons for the cooperative use of radio station facilities provided all persons sharing in the use of a station are eligible to hold licenses to operate the particular type of station shared. Such cooperative arrangements shall be governed by the following:

(a) *Agreements relating to control.* (1) A group of persons eligible for a license in the same public safety radio service may share the use of a base station or a base and mobile station licensed to one member of the group provided there is on file with the Commission, and maintained with the records of the station, a copy of the agreement under which such shared operation shall take place. Such agreement should provide that the licensee of the station shall be in control of the operation of the station and that all use of its facilities shall take place only under the direction and supervision of an employee of the licensee.

(2) Subscribers to such service may either obtain a separate license to cover the mobile transmitters which they use or the mobile transmitters may be included in the license of the base station from which service is rendered. In the latter case the coordinated service agreement should specifically cover use of such mobile units and indicate that the licensee would be in control of such units.

(b) *Contributions to operating costs.* Coordinated service may be rendered without cost to subscribers or contributions to capital and operating expenses may be accepted by the licensee. Such contributions must be on a cost-sharing basis and pro-rated on an equitable basis among all persons who are parties to the cooperative arrangement. Records which reflect the cost of the service and its non-profit, cost-sharing nature shall be maintained by the base station licensee and held available for inspection by a Commission representative.

(c) *Letter to accompany application.* Each application for a mobile station proposing to receive coordinated service shall be accompanied by a letter from the licensee of the base station concerned indicating that the proposed coordinated service will be rendered.

§ 89.15 Frequency coordination procedures.

(a) Except for applications in the Special Emergency Radio Service and applications requesting assignment of frequencies in the band 27.23–27.28 Mc/s, and frequencies above 458.950 Mc/s, each application requesting assignment of a frequency not previously authorized for use by the applicant shall be accompanied by information in the form required by either paragraph (b) or (c) of this section.

(b) (1) A statement that all existing licensees located within a radius of 75 miles of the proposed station and authorized to operate on frequencies within 30 kc/s of the requested frequency or frequencies have been notified of the applicant's intention to request assignment of the particular frequency; and

(2) A report based on a field study covering the area within a radius of 75 miles of the proposed station, indicating the probable interference to existing station authorized to operate within 30 kc/s of the requested frequency or frequencies.

(c) In lieu of the statement and report described in paragraph (b) of this section, the applicant may submit a statement from a Frequency Advisory Committee commenting upon the frequency or frequencies requested and giving the opinion of the Committee regarding the probable interference to existing stations. Where the requested frequency or frequencies are within 30 kc/s of a frequency assignable only after coordination and available to another radio service, the Committee's statement shall affirmatively show that coordination with a similar committee for the other

service has been accomplished; or in lieu thereof that all licensees in the other service within 75 miles of the requested frequency have been notified of the applicant's intention to request the particular frequency involved. Committee statements should, where feasible, also include comments regarding technical factors such as power, antenna height, and characteristics which may serve to mitigate any contemplated interference situation. The Frequency Advisory Committee must be so organized as to be representative of all persons who are eligible for radio facilities in the service concerned in the area the Committee purports to serve. The functions of Frequency Advisory Committees are purely advisory in character; their comments are not binding upon either the applicant or the Commission; and must not contain statements which would imply that Frequency Advisory Committees have any authority to grant or deny applications.

(d) In addition to the provisions of paragraph (a) of this section, in order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, or temporary fixed seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15′ N on the north 78°30′ W on the east, 37°30′ N on the south and 80°30′ W on the west shall, at the time of filing such application with the Commission simultaneously notify the Director, National Radio Astronomy Observatory, P.O. Box #2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 89.17 Civil defense.

A station licensed under this part may transmit communications necessary for the implementation of civil defense activities assigned such station by the local civil defense authorities during an actual or simulated emergency, including drills and tests: *Provided*, That such communications relate to the activity or activities which form the basis of the licensee's eligibility in the radio service in which authorized.

APPLICATIONS, AUTHORIZATIONS, AND NOTIFICATIONS

§ 89.51 Station authorization required.

No radio transmitter shall be operated in the Public Safety Radio Services except under and in accordance with a proper station authorization granted by the Federal Communications Commission.

§ 89.53 Procedure for obtaining a radio station authorization and for commencement of operation.

(a) Persons desiring to install and operate radio transmitting equipment should first submit an application for a radio station authorization in accordance with § 89.59 (a).

(b) When construction permit only has been issued for a base, fixed or mobile station and installation has been completed in accordance with the terms of the construction permit and the applicable rules of the Commission, the permittee shall proceed further as follows:

(1) Notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will first be tested in such manner as to produce radiation, giving name of the permittee, station location, call sign, and frequencies on which tests are to be conducted. This notification shall be made in writing at least two days in advance of the test date. FCC Form 456 may be used for this purpose. No reply from the radio district office is necessary before the tests are begun.

(2) After testing, but on or before the date the station is used for operational purposes, mail to the Commission in Washington, D.C., 20554, an application on FCC Form 400 or in the case of microwave station on FCC Form 402 for license or modification of license as appropriate in the particular case. The station may thereafter be used as though licensed, pending Commission action on the license application.

(c) When a construction permit and license for a new base, fixed or mobile station are issued simultaneously the licensee shall notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will be placed in operation, giving name of licensee, station location, call sign, and operating frequencies. This notification shall be made in writing on or before the day on which operation is commenced. FCC Form 456 may be used for this purpose.

(d) When a construction permit and modification of license for a base, fixed or mobile station are issued simultaneously, operation may be commenced without notification to the Engineer-in-Charge of the local radio district, except where operation on a new or different frequency results by reason of such modification, in which event the notification procedure set forth in paragraph (c) of this section must be observed.

§ 89.55 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Public Safety Radio Services are discussed in § 89.59, and may be obtained from the Washington, D.C., 20554, office of the Commission, or from any of its engineering field offices. Concerning matters where no standard form is applicable, the procedure outlined in § 89.61 should be followed.

(b) Any application for radio station authorization and all correspondence relating thereto shall be submitted to the Commission's office at Washington, D.C., 20554, directed to the attention of the Secretary. An application for commercial radio operator permit or license may be submitted to any of the Commission's engineering field offices, or to the Commission's Office at Washington, D.C., 20554.

(c) Unless otherwise specified, an application shall be filed at least sixty days prior to the date on which it is desired that Commission action thereon be completed. In particular, applications involving the installation of new equipment shall be filed at least sixty days prior to the contemplated installation.

(d) Failure on the part of the applicant to provide all the information required by the application form or to supply the necessary exhibits or supplementary statements may constitute a defect in the application.

(e) Applications involving operation at temporary locations:

(1) When one or more individual transmitters are intended to be operated as a base station or as a fixed station at unspecified or temporary locations for indeterminate periods, such transmitters may be considered to comprise a single station intended to be operated at temporary locations. An application for authority to operate a base station or a fixed station at temporary locations shall specify the general geographic area within which the operation will be confined. The area specified may be a city, a county or counties, or a state or states.

(2) When a base station or fixed station authorized to operate at temporary locations remains at a single location for more than one year, an application for modification of the station authorization to specify the permanent location shall be filed within thirty days after expiration of the one year period.

§ 89.57 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible

government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statments of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§89.59 Standard forms to be used.

(a) Except as provided in paragraph (h) of this section, a separate application shall be submitted on FCC Form 400 for the following:

(1) New station authorization for a base or fixed station.

(2) New station authorizations for any required number of mobile units (including hand-carried or pack-carried units) or any required number of units of a base station or fixed station to be operated at temporary locations in the same service.

NOTE: An application for mobile units may be combined with an application for a single base station in those cases where the mobile units will operate with that base station in a single radio communication system.

(3) License for any class of station upon completion of construction or installation in accordance with the terms and conditions set forth in the construction permit.

(4) Modification of combined construction permit and station license for changes outlined in § 89.75(a).

(5) Modification of construction permit.

(6) Modification of station license.

Any of the foregoing applications will, upon approval and authentication by the Commission, be returned to the applicant as a specifically designated type of authorization.

(b) When the holder of a station authorization desires to assign to another person the privilege to construct or use a radio station, he shall submit to the Commission a letter setting forth his desire to assign all right, title, and interest in and to such authorization, stating the call sign and location of station. This letter shall also include a statement that the assignor will submit his current station authorization for cancellation upon completion of the assignment. Enclosed with this letter shall be an application for Assignment of Authorization on FCC Form 400 prepared by and in the name of the person to whom the station is being assigned.

(c) [Reserved]

(d) A separate application shall be submitted on FCC Form 703 whenever it is proposed to change, as by transfer of stock-ownership, the control of a corporate permittee or licensee.

(e) An application not submitted on a standard form prescribed by the Commission is considered to be an informal application. Each informal application shall be submitted in duplicate, normally in letter form, and with the original properly signed. Each application shall be clear and complete within itself as to the facts presented and the action desired.

(f) FCC Form 456 "Notification of Completion of Radio Station Construction" may be used to advise the Engineer-in-Charge of the local district office that construction of the station is complete and that operational tests will begin.

(g) Application for renewal of station license shall be submitted on FCC Form 405–A. Unless otherwise directed by the Commission, each application for renewal of station license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

(h) Application for construction permit, license, modification or assignment thereof for an operational fixed station using frequencies above 952 Mc/s (a so-called microwave station) shall be submitted on FCC Form 402.

§ 89.61 Request for special temporary authority.

(a) In circumstances requiring immediate or temporary use of facilities, request may be made for special temporary authority to install and operate new equipment or to operate licensed equipment in a manner different than that authorized in the station license. Any such request may be in letter form, submitted in duplicate, and signed in accordance with § 89.57: *Provided,* That in cases of emergency involving danger to life or property or due to damage to equipment, such request may be made by telephone or telegraph under the condition that written request is submitted within 10 days from the date of such request. In the event that the Commission finds that such an emergency exists, temporary authorization may be granted for the duration of the emergency. Any such request shall be clear and complete within itself as to the action desired.

(b) Special temporary authority may also be requested for the purpose of conducting a field survey to determine necessary data in connection with the filing of formal applications for installation of a radio system under this part. In this case, the authority, if issued, will be for developmental operation only and the applicable sections of Subpart C shall also apply to the grant.

(c) Request for special temporary authority shall contain the following information:

(1) Name, address, and citizenship status of applicant.

(2) Need for special action, including a description of any emergency or damage to equipment.

(3) Type of operation to be conducted.

(4) Purpose of operation.

(5) Time and date of operation desired.

(6) Class of station and nature of service.

(7) Location of station.

(8) Equipment to be used, specifying manufacturer, model number and number of units.

(9) Frequency(s) desired.

(10) Plate power input to final radio frequency stage.

(11) Type of emission.

(12) Description of antenna to be used, including height.

(d) Except in emergencies involving safety of life or property or due to damage to equipment, request for special temporary authority shall be submitted to the Commission at least ten days prior to the date of proposed operation, or it must be accompanied by a statement of reasons for the delay in submitting such request.

§ 89.63 Supplementary information to be submitted with application.

Each application for station authorization shall be accompanied by such supplemental information listed below as may be required:

(a) Statement with respect to frequency selection and coordination:

(1) Any statements or showings, required by the applicable subpart of these rules, in connection with the use of the frequency requested.

(2) Evidence of frequency coordination as required by § 89.15.

(b) Statements justifying the need when more frequencies are desired than are normally assigned to a single applicant under the applicable subpart of this part.

(c) Statement describing the type of emission to be used if it cannot be described as "8A3," "20F3," or "40F3" pursuant to Subpart A of this part.

(d) Description of the antenna system, on FCC Form 401–A in triplicate in all cases when:

(1) The antenna structures proposed to be erected will exceed an overall height of 170 feet above ground level, except that where the antenna is mounted on top of an existing man-made structure, other than an antenna structure, and does not increase the overall height of such man-made structure by more than 20 feet, no Form 401–A need be filed; or

(2) The antenna structures proposed to be erected will exceed an overall height of one foot above the established air-

port (landing area) elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure, other than an antenna structure, or natural formation and does not increase the overall height of such man-made structure or natural formation by more than 20 feet, no Form 401–A need be filed.

(e) A functional system diagram and a detailed description of the manner in which the interrelated stations will operate when the station is, or will be, part of a system involving two or more stations at different fixed locations.

(f) Copies of all agreements and statements which may be required under § 89.13 if operation is desired in connection with any cooperative use of the proposed radio communication facilities.

(g) Statements required by the rules in this part in connection with developmental operations. See §§ 89.203, 89.205, 89.213.

(h) Description of any equipment, proposed to be used, which does not appear on the Commission's List of Equipment Acceptable for Licensing and designated for use in the Public Safety, Industrial and Land Transportation Radio Services.

(i) Any statements or other data required under special circumstances as set forth in the applicable subpart of this part, or required upon request by the Commission.

§ 89.65 Partial grant.

Where the Commission, without a hearing, grants an application in part, or with any privileges, terms, or conditions other than those requested, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which public announcement of such grant is made, or from its effective date if a later date is specified, file with the Commission a written request rejecting the grant as made. Upon receipt of such request, the Commission will vacate its original action and set the application for hearing in the same manner as other applications are set for hearing.

§ 89.67 Defective applications.

(a) Applications which are incomplete with respect to completeness of answers, supplementary statements, execution or other matters of a formal character shall be deemed to be defective and may be returned to the applicant with a brief statement as to such defects.

(b) Applications will also be deemed to be defective and may be returned to the applicant in the following cases:

(1) Statutory disqualification of applicant, e. g., aliens under section 310 of the Communications Act;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed.

(c) Applications which are not in accordance with the provisions of this chapter, or other requirements of the Commission will be considered defective and may be dismissed unless accompanied either by (1) a petition to amend any rule or regulation with which the application is in conflict, or (2) a request of the applicant for waiver of, or exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof. Applications may be dismissed, if the accompanying petition for waiver or amendment of rules does not set forth reasons which, sufficient if true, would justify a waiver or change of the rules.

(d) If an applicant is requested by the Commission to file any additional documents or information not included in the prescribed application form, failure to comply with such request will be deemed to render the application defective, and such application may be dismissed.

§ 89.69 Amendment or dismissal of applications.

(a) Any application may be amended upon request of the applicant as a matter of right prior to the time the application is granted or designated for hearing. Each amendment to an application shall be signed and submitted in the same manner and with the same number of copies as required for original application.

(b) Any application may, upon written request signed by the applicant or his attorney, be dismissed without prejudice as a matter of right prior to the time the application is granted or designated for hearing.

§ 89.71 Construction period.

(a) Each radio station construction permit issued by the Commission will specify the date of grant as the earliest date of commencement of construction and installation, and a maximum of eight months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission in any particular case.

(b) In cases where the station is not ready for operational use on or before the expiration date of the construction permit, application for extension of time to construct shall be filed on FCC Form 400, or on FCC Form 402, as appropriate.

§ 89.73 License term.

(a) For all stations in the Public Safety Radio Services, except those engaged in developmental operation, the license period shall be as follows:

(1) Each station license will be issued for a term of from one to five years from the effective date of grant, the term varying as may be necessary to permit the orderly scheduling of renewal applications.

(2) Each station license normally will be renewed, upon proper application, for a term of five years from the effective date of renewal.

(b) Authorization for stations engaged in developmental operation will be made upon a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 89.75 Changes in authorized stations.

Authority for certain changes in authorized stations must be obtained from the Commission before these changes are made, while other changes do not require prior Commission approval. The following paragraphs describe the conditions under which prior Commission approval is or is not necessary.

(a) Proposed changes which will result in operation inconsistent with any of the terms of the current authorization require that an application for modification of construction permit and/or license be submitted to the Commission and shall be submitted on FCC Form 400, or, in the case of microwave stations, on FCC Form 402, and shall be accompanied by exhibits and supplementary statements as required by § 89.63.

(b) [Reserved]

(c) Proposed changes which will not depart from any of the terms of the outstanding authorization for the station involved may be made without prior Commission approval. Included in such changes is the substitution of various makes of transmitting equipment at any station provided the particular equipment to be installed is included in the Commission's "List of Equipment Acceptable for Licensing" and designated for use in the Public Safety, Industrial, and Land Transportation Radio Services and provided the substitute equipment employs the same type of emission and does not exceed the power limitations as set forth in the station authorization.

§ 89.77 Discontinuance of station operation.

In case of discontinuance of operation for a period of one year or more of a base or fixed station in these services, or in case of discontinuance for a period of one year or more of operation of all transmitter units listed in the license for a mobile station in these services, the licensee shall forward the station license to the Washington, D.C., 20554, office of the Commission for cancellation. A copy of the request for cancellation of the license shall be forwarded to the Commission's Engineer in Charge of the district in which the station is located.

§ 89.79 International police radio communication.

Police radio licensees which are located in close proximity to the borders of the United States may be authorized to communicate internationally. Request for such authority shall be written and signed and submitted in duplicate. The request shall include information as to the station with which communication will be conducted, and the frequency, power, emission, etc., that will be used. If authorized, such international communication must be conducted in accordance with Article 5 of the Inter-American Radio Agreement, Washington, D.C., 1949 which reads as follows:

ARTICLE 5. *Police radio stations.* When the American countries authorize their police radio stations to exchange emergency information by radio with similar stations of

another country, the following rules shall be applied:

(a) Only police radio stations located close to the boundaries of contiguous countries shall be allowed to exchange this information.

(b) In general, only important police messages shall be handled, such as those which would lose their value because of slowness and time limitations if sent on other communication systems.

(c) Frequencies used for radiotelephone communications with mobile police units shall not be used for radiotelegraph communications.

(d) Radiotelephone communications shall be conducted only on frequencies assigned for radiotelephony.

(e) Radiotelegraph communications shall be conducted on the following frequencies:

2804 kc/s calling	5195 kc/s day calling
2808 kc/s working	5135 kc/s day working
2812 kc/s working	5140 kc/s day working

(f) The characteristics of police radio stations authorized to exchange information shall be notified to the International Telecommunication Union, Geneva, Switzerland.

(g) The abbreviations contained in Appendix 9 of the Atlantic City Radio Regulations shall be used to the greatest possible extent. Service indications are as follows: "P", priority, for messages that are to be sent immediately, regardless of the number of other messages on file. If no service indication is given, the messages are to be transmitted in the order of receipt.

(h) The message shall contain the preamble, address, text, and signature, as follows:

Preamble. The preamble of the message shall consist of the following: the serial number preceded by the letters "NR"; service indications, as appropriate; the group count according to standard cable count system; the letters "CK", followed by numerals indicating the number of words contained in the text of the message; office and country of origin (not abbreviations); day, month, and hour of filing;

Address. The address must be as complete as possible and shall include the name of the addressee with any supplementary particulars necessary for immediate delivery of the message;

Text. The text may be either in plain language or code;

Signature. The signature shall include the name and title of the person originating the message.

§ 89.81 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 89.83 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 89.83 Schedule of fees.

(a) *No fee services.* No fee is required for filing applications in the Police, Fire, Forestry-Conservation, Highway Maintenance, Local Government and State Guard Radio Services.

(b) *Fees in Special Emergency Radio Service.* (1) Except as provided in subparagraph (2) of this paragraph, applications filed on or after January 1, 1964, in the Special Emergency Radio Service under this part shall be accompanied by the fees prescribed below:

Applications for radio station authorizations for operational fixed radio stations for which frequencies above 952 Mc/s are requested (no fee is required for applications for license to cover construction permit)	$30
Applications for renewal of license only for which FCC Form 405–A is prescribed	4
All other applications for radio station authorizations	10

(2) Fees are not required for applications filed in the Special Emergency Radio Service in the following instances:

Applications filed by hospitals, disaster relief organizations, beach patrols, school buses, non-profit ambulance operators and rescue organizations.

Applications filed pursuant to § 89.61 of this chapter (informal requests for special temporary authority).

Applications filed by governmental entities.

Technical Standards

§ 89.101 Frequencies.

(a) Frequencies other than those shown in the applicable subpart of this part are not available for assignment except as provided in paragraphs (b), (d), (f), (h), and (j) of this section, and except that licensees holding a valid authorization on June 30, 1958, may, upon proper application, continue to be authorized for such operation, including expansion of existing systems, until such time as harmful interference is caused to the operation of any authorized station other than those licensed in the Public Safety Radio Services. All applicants for, and licensees of, stations in the services in this part shall cooperate in the selection and use of the designated frequencies to minimize interference and to make effective use of the frequencies assigned. Frequencies listed in this part will not be assigned exclusively to any one applicant. The use of any frequency at a given geographical location may be denied when in the judgment of the Commission its use in that location is not in the public interest; the use of any frequency may be restricted to one or more geographical areas.

(b) Frequencies assigned to government radio stations under Executive Order of the President may be authorized for use of stations in these services upon appropriate showing by the applicant that such assignment is necessary for inter-communication with government stations or required for coordination with activities of Federal Government, and where the Commission finds, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(c) Frequencies in the band 72–76 Mc/s may be authorized and used only in accordance with the criteria set forth below:

(1) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(2) The applicant agrees to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are found necessary within 90 days of the time knowledge of said interference is first brought to his attention by the Commission. If said interference is not cleared up within the 90-day period, operation of the fixed station will be discontinued.

(3) Vertical polarization is used.

(4) Whenever it is proposed to locate a 72–76 Mc/s fixed station less than 80, but more than 10 miles from the site of a TV transmitter operating on either channel 4 or 5, or from the post office of a community in which such channels are assigned but not in operation, the fixed station shall be authorized only if there are fewer than 100 family dwelling units (as defined by the U.S. Bureau of the Census), excluding units 70 or more miles distant from the TV antenna site, located within a circle centered at the location of the proposed fixed station. The radius shall be determined by use of the chart entitled, "Chart for Determining Radius From Fixed Station in 72–76 Mc/s Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would Be Destroyed;" two charts are available, one for channel 4, and one for channel 5. The Commission may, in a particular case, authorize the location of a fixed station within a circle, as determined under the above conditions, containing 100 or more family dwelling units upon a showing that:

(i) The proposed site is the only suitable location.

(ii) It is not feasible, technically or otherwise, to use other available frequencies.

(iii) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(iv) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by his operations.

(5) All applications seeking authority to operate with a separation of less than 10 miles will be returned without action.

(d) The frequencies 27.235, 27.245, 27.255, 27.265, and 27.275 Mc/s may be authorized to any eligible applicant in the Public Safety Radio Services subject to the following conditions and limitations:

(1) Notwithstanding the rule provisions relating to permissible communications, points of communication and emissions in the applicable subpart of this part, the frequencies 27.235, 27.245, 27.255, 27.265, and 27.275 Mc/s may be used to accomplish any radio communication requirement which is necessary to the licensee's activity: *Provided*, That all operations are otherwise in accordance with the rules in this chapter; that the bandwidth of emission does not exceed 8 kc/s; and that power is limited to no more than 30 watts input to the final radio frequency stage.

(2) The frequencies 27.235, 27.245, 27.255, 27.265, and 27.275 Mc/s are available for assignment in the Public Safety Radio Services for use on a shared basis with stations in other services. All fixed and mobile operations on these frequencies are subject to interference from the operation of industrial, scientific, and medical devices on the frequency 27.12 Mc/s.

(e) Frequencies below 25 megacycles listed in the various services of this part are the frequencies normally assigned to stations in those services under the indicated conditions and limitations. In individual cases it may be impracticable to authorize the normally assignable frequencies because of potential interference to existing frequency use in the area involved. In such cases substitute frequencies, which are in accordance with the Commission's table of frequency allocations and compatible with existing United States and foreign assignments made pursuant to outstanding international agreements, may be authorized even though such frequencies are not listed in this part.

(f) The frequency bands 153.7325 to 153.7475, 154.4525 to 154.460, and 159.4725 to 159.480 Mc/s may be authorized for developmental operation to any eligible applicant in the Public Safety Radio Services for narrow band systems only: *Provided*, That:

(1) The band of frequencies occupied by the emission is at all times confined within the band listed;

(2) The proposed station location is removed by at least 40 miles from the station location of each other station authorized to other than the applicant on the same or adjacent channels, at the time application is made; and

(3) The application is accompanied by a statement, under oath, that the licensees of all stations located within a radius of 75 miles of the proposed location and authorized to operate on the same or adjacent channels have concurred with such assignment, or is accompanied by a report based on a field study which indicates the probable interference to the operation of existing stations, together with a statement, under oath, that the licensees of all stations located within a radius of 75 miles of the proposed location and authorized to operate on the same or adjacent channels have been notified of applicant's intention to request the assignment.

(g) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 25–50 Mc/s must recognize that the band is shared with various services in other countries; that harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

(h) The following table indicates the bands of frequencies for microwave operation, the classes of stations to which they are normally available, and the specific assignment limitations which are developed in paragraph (i) of this section.

Frequency band	Class of station(s)	Limitations
Mc/s		
952–960	Operational fixed	5,6
1850–1990	do	6
2110–2200	do	6
2450–2500	Base, mobile, operational fixed, and radiolocation	2,4,6
2500–2690	Operational fixed	6
6425–6575	Base and mobile	6
6575–6875	Operational fixed	6
8400–8500	Base and mobile and operational fixed	1
10,500–10,550	Radiolocation	3,6
10,550–10,680	Base and mobile and operational fixed	6
11,700–12,200	Base and mobile	1
12,200–12,700	Operational fixed	6
13,200–13,250	Base and mobile and operational fixed	1
17,700–19,300	do	1,2
19,400–19,700	do	1
27,525–31,300	do	1
38,600–40,000	do	1

(i) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (h) of this section:

(1) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(2) Subject to no protection from interference due to the operation of industrial, scientific, and medical devices in this band.

(3) The band 10,500–10,550 Mc/s is restricted to systems using type A0 emission with a power not to exceed 40 watts into the antenna.

(4) Land radiopositioning stations and mobile radiopositioning stations, including speed measuring devices, may be authorized to use frequencies in the band 2450–2500 Mc/s on the condition that harmful interference will not be caused to the fixed and mobile services.

(5) Available for assignment in accordance with the frequency pairing plan as contained in paragraph (j) of this section.

(6) Stations authorized to operate on those frequencies above 952 Mc/s, which are not restricted to assignment for developmental operation only, shall be constructed and used in such a manner as to conform with all technical and operating requirements of Subpart A of this Part, unless deviation therefrom is specifically provided for in the station authorization.

(j) The frequencies between 952 and 960 Mc/s will be assigned as follows:

Paired frequencies

959.9—956.3 [1]	958.1—954.5
959.8—956.2 [1]	958.0—954.4
959.7—956.1	957.9—954.3
959.6—956.0	957.8—954.2
959.5—955.9	957.7—954.1
959.4—955.8	957.6—954.0
959.3—955.7	957.5—953.9
959.2—955.6	957.4—953.8
959.1—955.5	957.3—953.7
959.0—955.4	957.2—953.6
958.9—955.3	957.1—953.5
958.8—955.2	957.0—953.4
958.7—955.1	956.9—953.3
958.6—955.0	956.8—953.2
958.5—954.9	956.7—953.1
958.4—954.8	956.6—953.0
958.3—954.7	956.5—952.9 [1]
958.2—954.6	956.4—952.8 [1]

Unpaired frequencies

952.7 [2 3]	952.4 [1 3]	952.1 [1 3]
952.6 [2 3]	952.3 [1 3]	
952.5 [2 3]	952.2 [1 3]	

[1] Available on a developmental basis only for omnidirectional operation, and for other than the control of traffic signals.

[2] Available for assignment only for omnidirectional usage to control traffic signals.

[3] The maximum rated power output of transmitters for omnidirectional operations authorized to operate on this frequency is 100 watts.

(k) Operation on frequency pairs authorized prior to July 20, 1961, which are not in accordance with the above plan of frequency pairing may continue provided interference is not caused to the operation of systems which are utilizing channels in accordance with that plan.

(l) The frequency bands 31.99 to 32.00 Mc/s, 33.00 to 33.01 Mc/s, 33.99 to 34.00 Mc/s, 37.99 to 38.00 Mc/s, 39.00 to 39.01 Mc/s, 39.99 to 40.00 Mc/s, and 42.00 to 42.01 Mc/s may be authorized for developmental operation to any eligible applicant in the Public Safety Radio Services.

§ 89.103 Frequency stability.

(a) A permittee or licensee in these services shall maintain the carrier frequency of each authorized transmitter within the following percentage of the assigned frequency:

Frequency range	All fixed and base stations	All mobile stations	
		Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*	*Percent*
Below 25	0.01	0.01	0.02
25 to 50	.002	.002	.005
50 to 1000	.0005	.0005	.005
Above 1000	(1)	(1)	(1)

[1] To be specified in the station authorization.

(b) For the purpose of determining the frequency tolerance applicable to a particular transmitter in accordance with the foregoing provisions of this section, the power of a transmitter shall be the maximum rated plate power input to its final radio frequency stage, as specified by the manufacturer.

§ 89.105 Types of emission.

(a) Except as provided in paragraphs (c) and (d) of this section, stations in these services will be authorized to use only A3 or F3 emission for radiotelephony. The authorization to use A3 or F3 emission is construed to include the

use of tone signals or signaling devices the function of which is limited to establishing or maintaining voice communications or to actuating emergency warning devices used solely for the purpose of advising the general public or emergency personnel of an impending emergency situation.

(b) The use of F3 emission in these services will be authorized only on frequencies above 30 Mc/s.

(c) Zone and interzone stations will be authorized to use only A1 emission.

(d) Other types of emission not described in paragraphs (a) or (c) of this section may be authorized upon a satisfactory showing of need therefor. An application requesting such authorization shall fully describe the emission desired, shall indicate the bandwidth required for satisfactory communication, and shall state the purpose for which such emission is required. For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2 of this chapter.

§ 89.107 Emission limitations.

(a) Each authorization issued to a station operating in these services will show, as the prefix to the emission classification, a figure specifying the maximum authorized bandwidth in kilocycles to be occupied by the emission. The specified band shall contain those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power. Any radiation in excess of the limits specified in paragraph (c) of this section is considered to be an unauthorized emission.

(b) The maximum authorized bandwidth of emission corresponding to the types of emission specified in § 89.105 (a) and (c), and the maximum authorized frequency deviation in the case of frequency or phase modulated emission, shall be as follows:

(1) For all type A3 emissions, the maximum authorized bandwidth shall be 8 kc/s.

(2) For all F3 emission, the maximum authorized bandwidth and maximum authorized frequency deviation shall be as follows:

Frequency band (Mc/s)	Authorized bandwidth (kc/s)	Frequency deviation (kc/s)
25 to 50	[1] 20	[1] 5
50 to 100	40	15
150 to 450	[1] 20	[1] 5
450 to 1000	40	15

[1] Transmitters operating with three watts or less plate power input to the final radio frequency stage may operate with an authorized bandwidth of 40 kc/s and a deviation of ±15 kc/s until not later than October 31, 1963: *Provided*, That harmful interference is not caused by such wide-band operation to any station of another licensee which is utilizing radio equipment meeting the narrow-band technical standards.

(3) For all type A1 emissions, the maximum authorized bandwidth shall be 0.25 kc/s.

(c) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidths: At least 25 decibels;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10 Log_{10} (mean output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

(d) When an unauthorized emission results in harmful interference, the Commission may, in its discretion, require appropriate technical changes in equipment to alleviate the interference.

§ 89.109 Modulation requirements.

(a) The maximum audio frequency required for satisfactory radiotelephone intelligibility in these services is considered to be 3000 cycles per second; in any transmitter the over-all frequency response of the audio and modulating circuits nevertheless shall correspond approximately with that required thereby.

(b) When amplitude modulation is used for telephony, the modulation percentage shall be sufficient to provide efficient communication and normally shall be maintained above 70 percent on peaks, but shall not exceed 100 percent on negative peaks.

(c) Each transmitter first authorized or installed after July 1, 1950, shall be provided with a device which automatically will prevent modulation in excess of that specified in this subpart which may be caused by greater than normal audio level: *Provided, however*, That this requirement shall not be applicable to transmitters authorized to operate as mobile stations with a maximum plate power input to the final radio frequency stage of 3 watts or less.

§ 89.111 Power and antenna height.

(a) The power which may be used by a station in these services shall be no more than the minimum required for satisfactory technical operation commensurate with the size of the area to be served and local conditions which affect radio transmission and reception. In cases of harmful interference, the Commission may order a change in power or antenna height, or both.

(b) Except where the maximum power that may be used on a particular frequency is specifically designated in connection with the use of such frequency, plate power input to the final radio frequency stage in excess of the following tabulation will not be authorized:

Frequency range:	*Maximum plate power input to the final radio frequency stage (watts)*
1.6 to 3 Mc/s	2,000
3 to 25 Mc/s	1,000
25 to 100 Mc/s	500
100 to 460 Mc/s	600
Above 460 Mc/s	[1]

[1] To be specified in the station authorization.

(c) The plate power input to the final r. f. stage under actual operation shall not exceed by more than 10 percent the plate power input shown in the Radio Equipment List, Part C, for transmitters included in this list, or the manufacturer's rated plate power input for the particular transmitter specifically listed on the authorization.

§ 89.113 Transmitter control requirements.

(a) Each transmitter shall be so installed and protected that it is not accessible to or capable of operation by persons other than those duly authorized by the licensee.

(b) A control point is an operating position which meets all of the following conditions:

(1) The position must be under the control and supervision of the licensee;

(2) It is a position at which the monitoring facilities required by this section are installed; and

(3) It is a position at which a person immediately responsible for the operation of the transmitter is stationed.

(c) Each station which is not authorized for unattended operation shall be provided with a control point, the location of which will be specified in the license. Unattended stations may be provided with a control point if authorized by the Commission. In urban areas the location will be specified "same as transmitter" unless the control point is at a street address different from that of the transmitter. In rural areas the location will be specified "same as transmitter" unless the control point is more than 500 feet from the transmitter, in which case the approximate location will be specified in distance and direction from the transmitter in terms of feet and geographical quadrant, respectively. It will be assumed that the location of the control point is the same as the location of the transmitter unless the application includes a request for a different location described in appropriate terms as indicated in this paragraph. Authority must be obtained from the Commission for the installation of additional control points.

(d) A dispatch point is any position from which messages may be transmitted under the supervision of the person at a control point who is responsible for the operation of the transmitter. Dispatch points may be installed without authorization.

(e) At each control point, the following facilities shall be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating; or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to produce radiation: *Provided however*, That the provisions of this subparagraph shall not apply to hand-carried or pack-carried transmitters or to transmitters installed on motorcycles.

(2) Equipment to permit the person responsible for the operation of the transmitter to aurally monitor all transmissions originating at dispatch points under his supervision;

(3) Facilities which will permit the person responsible for the operation of the transmitter either to disconnect the

dispatch point circuits from the transmitter or to render the transmitter inoperative from any dispatch point under his supervision; and

(4) Facilities which will permit the person responsible for the operation of the transmitter to turn the transmitter carrier on and off at will.

§ 89.115 Transmitter measurements.

(a) The licensee of each station shall employ a suitable procedure to determine that the carrier frequency of each transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of 3 watts, is maintained within the tolerance prescribed in this part. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the carrier frequency or the stability thereof;

(3) At intervals not to exceed one year, for transmitters employing crystal-controlled oscillators;

(4) At intervals not to exceed one month, for transmitters not employing crystal-controlled oscillators.

(b) The licensee of each station shall employ a suitable procedure to determine that the plate power input to the final radio frequency stage of each base station or fixed station transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of 3 watts, does not exceed the maximum figure specified on the current station authorization. Where the transmitter is so constructed that a direct measurement of plate current in the final radio frequency stage is not practicable, the plate input power may be determined from a measurement of the cathode current in the final radio frequency stage. When the plate input to the final radio frequency stage is determined from a measurement of the cathode current, the required entry shall indicate clearly the quantities that were measured, the measured values thereof, and the method of determining the plate power input from the measured values. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may increase the transmitter power input;

(3) At intervals not to exceed one year.

(c) The licensee of each station shall employ a suitable procedure to determine that the modulation of each transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of 3 watts, does not exceed the limits specified in this part. This determination shall be made and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the modulation characteristics;

(3) At intervals not to exceed one year.

(d) The determinations required by paragraphs (a), (b) and (c) of this section may, at the option of the licensee, be made by any qualified engineering measurement service, in which case, the required record entries shall show the name and address of the engineering measurement service as well as the name of the person making the measurements.

(e) In the case of mobile transmitters, the determinations required by paragraphs (a) and (c) of this section may be made at a test or service bench; provided, the measurements are made under load conditions equivalent to actual operating conditions, and provided further, that after installation the transmitter is given a routine check to determine that it is capable of being satisfactorily received by an appropriate receiver.

§ 89.117 Acceptability of transmitters for licensing.

(a) From time to time the Commission will publish a list of equipment entitled "Radio Equipment List, Part C, List of Equipment Acceptable for Licensing." Copies of this list are available for inspection at the Commission's Offices in Washington, D. C., and at each of its field offices. This list will include type approved and type accepted equipment and equipment which was included in this list on May 16, 1955. Such equipment will continue to be included on the list unless it is removed therefrom by Commission action.

(b) Except for transmitters used at developmental stations, each transmitter utilized by a station authorized for operation under this part must be of a type which is included on the Commission's current "List of Equipment Acceptable for Licensing" and designated for use in this service or be of a type which has been type accepted by the Commission for use in this service. Until January 1, 1965, however, equipment presently in use may continue to be used by the licensee, his successors, or assigns in business provided the operation of such equipment does not result in harmful interference due to the failure of such equipment to comply with the current technical standards of the rules.

(c) All equipment sought to be utilized under a license authorizing the use of frequencies in the bands 952 to 960, 1850 to 1990, 2110 to 2200, 2450 to 2500, 2500 to 2690, 6425 to 6575, 6575 to 6875, 10500 to 10680 and 12200 to 12700 Mc/s shall be type accepted if specified in an application filed after July 20, 1962, except that equipment authorized to be used prior thereto is permitted to continue to be used provided such operation does not result in harmful interference to other stations or systems which are conforming to the interim technical standards.

§ 89.119 Type acceptance of equipment.

(a) Any manufacturer of a transmitter to be built for use in this service may request "type acceptance" for such transmitter following the type acceptance procedure set forth in Part 2 of this chapter.

(b) Type acceptance for an individual transmitter may also be requested by an applicant for a station authorization by following the type acceptance procedures set forth in Part 2 of this chapter. Such transmitters, if accepted, will not normally be included on the Commission's "Radio Equipment List, Part C, List of Equipment Acceptable for Licensing" but will be individually enumerated on the station authorization.

(c) Additional rules with respect to type aceptance are set forth in Part 2 of this chapter. These rules include information with respect to withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based.

§ 89.121 Interim technical standards governing use of microwave frequencies.

The interim technical standards indicated in the table in this section shall govern, beginning July 20, 1961, the issuance of authorizations for private microwave systems using the frequency bands above 952 Mc listed in the table. However, these standards shall not be applicable to transmitting equipment (including antennas) which were authorized to be operated on these frequencies prior to July 20, 1961, or for which an authorization is issued based on an application filed with the Commission prior to July 20, 1961. Such licensees of equipment and systems not subject to these interim technical standards, including their successors or assigns in business, will be permitted to utilize such equipment provided such operation does not result in harmful interference to another station or system which is conforming to these technical standards. In case of such harmful interference, such non-conforming licensee will be required to take whatever corrective measures are necessary to alleviate the interference.

Frequency band	Power (watts)[1]	Tolerance (percent)	Bandwidth [2]	Beamwidth [3]
Mc/s				
952–960	30	0.0005	100 kc/s	20°
1850–1990	18	.02	8 Mc/s	10°
2110–2200	15	.02	[7]	10°
2450–2500 [4]	12	[5]	[5]	[5]
2500–2700 [8]	12	.02	4 Mc/s	10°
6525–6575 [8]	7	.02	25 Mc/s	7°
6575–6875	7	.02	10 Mc/s	5°
10,550–10,700 [6]	5	[5]	25 Mc/s	4°
12,200–12,700	5	.05	20 Mc/s	4°
Above 16,000	5	[5]	50 Mc/s	[5]

[1] Maximum rated power output of transmitter. Power in excess of that shown herein will be authorized only under exceptional circumstances based upon a factual showing of need. For pulsed systems average power shall be limited to the values shown, peak power shall not exceed five times this limit.

[2] Maximum bandwidth (necessary or occupied, whichever is greater) which will be authorized. Except for the band 2110–2200 Mc/s, consideration will be given, on a case-by-case basis, to requests for additional adjacent channels based upon a complete and specific factual showing of unique or unusual circumstances, apart from economic considerations, requiring such additional channels. In the band 952–960 Mc/s, bandwidths up to 500 kc/s may be authorized.

[3] Maximum beamwidth of major lobe between 0.5 power points in horizontal plane. Exceptions may be granted for stations in remote areas or until harmful interference is caused to other stations operating in accordance with these provisions.

[4] Subject to no protection from ISM equipment on 2450 Mc/s.

[5] To be specified in the station authorization.

[6] Limited to mobile operations and temporary service between fixed points.

[7] See Docket No. 14712.

[8] See Docket No. 14744.

OPERATING REQUIREMENTS

§ 89.151 Operating procedure.

(a) All communications, regardless of their nature, shall be restricted to the minimum practical transmission time.

(b) Continuous radiation of an unmodulated carrier is prohibited except when required for test purposes.

(c) Zone and interzone stations shall employ the standard operating procedure prescribed by the Commission. Copies of such procedure are available for distribution to persons having a legitimate need therefor. Requests for copies should be addressed to the Secretary, Federal Communications Commission, Washington, D.C., 20554.

(d) The Commission expects each licensee to take reasonable precautions to prevent unnecessary interference. If harmful interference develops, the Commission may require any or all stations to monitor the transmitting frequency prior to transmission.

(e) Tests may be conducted by any licensed station as required for proper station and system maintenance, but such tests shall be kept to a minimum and precautions shall be taken to avoid interference to other stations.

§ 89.153 Station identification.

(a) Except as provided in paragraph (b) of this section, the required identification for stations in these services shall be the assigned call signal.

(b) In lieu of meeting the requirements of paragraph (a) of this section, mobile units in the Police, Fire, Forestry-Conservation, Highway Maintenance, and Local Government Radio Services operating above 30 Mc/s may identify by means of an identifier other than the assigned call signal: *Provided,* That such identifier contain, as a minimum, the name of the governmental subdivision under which the unit is licensed; that the identifier is not composed of letters or letters and digits arranged in a manner which could be confused with an assigned radio station call signal: *And provided further,* That the licensee notifies, in writing, the Engineer in Charge of the District in which the unit operates concerning the specific identifiers being used by the mobile units.

(c) Nothing in this section shall be construed as prohibiting the transmission of additional station or unit identifiers which may be necessary for systems operation: *Provided, however,* Such additional identifiers shall not be composed of letters or letters and digits arranged in a manner which could be confused with an assigned radio station call signal.

(d) Except as indicated in paragraphs (e), (f), and (g) of this section, each station in these services shall transmit the required identification at the end of each transmission or exchange of transmissions, or once each thirty minutes of the operating period, as the licensee may prefer.

(e) A mobile station authorized to the licensee of the associated base station and which transmits only on the transmitting frequency of the associated base station is not required to transmit any identification.

(f) Except as indicated in paragraph (e) of this section, a mobile station shall transmit an identification at the end of each transmission or exchange of transmissions, or once each thirty minutes of the operating period, as the licensee may prefer. Where election is made to transmit the identification at thirty-minute intervals, a single mobile unit in each general geographic area may be assigned the responsibility for such transmission and thereby eliminate any necessity for every unit of the mobile station to transmit the identification. For the purpose of this paragraph the term "each general geographic area" means an area not smaller than a single city or county and not larger than a single district of a State where the district is administratively established for the service in which the radio system operates.

(g) A station which is transmitting for telemetering purposes or for the actuation of devices, or which is retransmitting by self-actuating means a radio signal received from another radio station or stations, will be considered for exemption from the requirements of paragraph (d) of this section in specific instances, upon request.

§ 89.155 Suspension of transmission required.

The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization until such deviation is corrected, except for transmissions concerning the immediate safety of life or property, in which case the transmissions shall be suspended as soon as the emergency is terminated.

§ 89.157 Mobile installations in vehicles not under the continuous control of the licensee.

A mobile radio station licensed in these services may not be installed or maintained in a vehicle, aircraft, or vessel, which is not at all times controlled exclusively by the licensee, unless precautions have been taken to eliminate effectively the possibility of the licensed transmitter being operated during the period that the vehicle, aircraft, or vessel is not under the control of the licensee.

§ 89.159 Emergency operation of mobile stations at fixed locations.

During an emergency requiring a local communication center, any authorized mobile transmitter may be operated temporarily as a base station at a fixed location for a period not to exceed ten days. If operation for a longer period is required, such operation must be specifically authorized.

§ 89.161 Communication with other stations.

In those cases which require cooperation or coordination of activities, stations in the Public Safety Radio Services may communicate with stations in other services and with U.S. Government stations.

§ 89.163 Operator requirements.

(a) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of a radio station, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, who shall be responsible for the proper functioning of the station equipment: *Provided, however,* That only persons holding a radiotelegraph first- or second-class operator license shall perform such functions at radiotelegraph stations transmitting by any type of the Morse Code.

(b) Except under the circumstances specified in paragraph (a) of this section, only a person holding a commercial radiotelegraph operator license or permit of any class issued by the Commission shall operate a station during the course of normal rendition of service when transmitting radiotelegraphy by any type of the Morse Code.

(c) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, an unlicensed person, after being authorized by the station licensee to do so, may operate from a control point a mobile, base, or fixed station, or from a dispatch point a base or fixed station, during the course of normal rendition of service when transmitting on frequencies above 25 Mc/s.

(d) Except under the circumstances specified in paragraph (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s: *Provided, however,* That an unlicensed person, after being authorized to do so by the station licensee, may operate such a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s while it is associated with and under the operational control of a base station of the same station licensee.

(e) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, base stations and fixed stations shall be operated in accordance with the following when transmitting during the course of normal rendition of service on frequencies below 25 Mc/s:

(1) From a control point, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a base station or fixed station.

(2) From a dispatch point, an unlicensed person may operate a base station or fixed station after being authorized to do so by the station licensee: *Provided, however,* That such operation shall be under the direct supervision and respon-

sibility of a person who (i) holds a commercial radio operator license or permit of any class issued by the Commission and who (ii) is on duty at a control point meeting the requirements of Subpart C of this part.

(f) Except under the circumstances specified in paragraph (a) of this section, and except as limited by paragraphs (g) and (h) of this section, no person, whether or not a licensed operator, is required to be in attendance at a station when transmitting during the course of normal rendition of service and when either:

(1) Transmitting for telemetering purposes or

(2) Retransmitting by self-actuating means a radio signal received from another radio station or stations.

(g) The provisions of this section authorizing certain unlicensed persons to operate certain stations, or authorizing unattended operation of stations in certain circumstances, shall not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof) in accordance with the terms of the licenses of those stations.

(h) Notwithstanding any other provisions of this section, unless the transmitter is so designed that none of the operations necessary to be performed during the course of normal rendition of service may cause off-frequency operation or result in any unauthorized radiation, and unless the transmitter is so installed that all controls which may cause improper operation or radiation are not readily accessible to the person operating the transmitter, such transmitter shall be operated by a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph as may be appropriate for the type of emission being used, issued by the Commission.

§ 89.165 Posting of operator license.

(a) The original license of each base or fixed station operator, other than an operator exclusively performing service and maintenance duties, shall be posted or kept immediately available at the place where he is on duty as an operator: *Provided, however,* That if an operator who is on duty holds a restricted radiotelephone operator permit of the card form (as distinguished from such document of the diploma form) or holds a valid license verification card (FCC Form 758–F) attesting to the existence of any other valid commercial radio operator license, he may have such permit or verification card, as the case may be, in his personal possession.

(b) Whenever a licensed operator is required for a mobile station, the original license of each such operator, other than an operator exclusively performing service and maintenance duties, shall be kept in his personal possession whenever he performs the duties of an operator at such station: *Provided,* That in lieu of an original license of the diploma form (as distinguished from such document of the card form) he may have in his personal possession a valid verification card attesting to its existence.

(c) The original license of every station operator who exclusively performs service and maintenance duties at that station shall be posted at the transmitter involved whenever the transmitter is in actual operation while service or maintenance work is being performed by him or under his immediate supervision and responsibility: *Provided,* That in lieu of posting his license, he may have on his person either his license or a valid verification card.

§ 89.167 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each mobile station and each base or fixed station authorized to be operated at temporary locations shall be retained as a permanent part of the station records, but need not be posted. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed readily visible for inspection, to each of such transmitters: *Provided,* That, if the transmitter is not in view of the operating position or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

(b) The current authorization for each base or fixed station at a fixed location shall be posted at the principal control point of the station, and a photocopy of such authorization shall be posted at all other control points listed on the authorization. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each transmitter operated at a fixed location, when such transmitter is not in view of, or is not readily accessible to, the operator at the principal control point.

§ 89.169 Inspection of stations.

All stations and records of stations in these services shall be made available for inspection at any time while the station is in operation or shall be made available for inspection upon reasonable request of an authorized representative of the Commission.

§ 89.171 Inspection and maintenance of tower marking and associated control equipment.

The licensee of any radio station which has an antenna structure required to be painted or illuminated pursuant to the provisions of section 303 (q) of the Communications Act of 1934, as amended, and/or Part 17 of this chapter shall comply with the provisions of this section in the operation and maintenance of such tower marking as follows:

(a) Shall make an observation of the tower lights at least once each 24 hours either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or alternatively,

(b) Shall provide and properly maintain an automatic alarm system designed to detect any failure of such lights and to provide indication of such failure to the licensee.

(c) Shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Agency any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within thirty minutes, regardless of the cause of such failure. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(d) Shall inspect at intervals not to exceed three months all automatic or mechanical control devices, indicators and alarm systems associated with the tower lighting to insure that such apparatus is functioning properly.

(e) Shall exhibit all lighting from sunset to sunrise unless otherwise specified.

(f) Shall maintain a supply of spare bulbs sufficient for immediate replacement purposes at all times.

(g) Shall clean and repaint all towers as often as necessary to maintain good visibility.

§ 89.173 Answers to a notice of violation.

Any licensee receiving official notice of a violation of the terms of the Communications Act of 1934, as amended, any legislative act or treaty to which the United States is a party, or the rules and regulations of the Federal Communications Commission, shall, within 10 days from such receipt or such other period as may be specified, send a written answer to the office of the Commission originating the official notice. If an answer cannot be sent, or an acknowledgment made within such period, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. The reply shall set forth the steps taken to prevent a recurrence of improper operation.

§ 89.175 Contents of station records.

Each licensee of a station in these services shall maintain records in accordance with the following:

(a) For all stations, the results and dates of the transmitter measurements required by these rules and the name of the person or persons making the measurements.

(b) For all stations, when service or maintenance duties are performed, the responsible operator shall sign and date an entry in the station record giving:

(1) Pertinent details of all duties performed by him or under his supervision;

(2) His name and address, and

(3) The class, serial number and expiration date of his license: *Provided,* That the information called for by sub-

paragraphs (2) and (3) of this paragraph so long as it remains the same, need be entered only once in the station record at any station where the responsible operator is regularly employed on a full time basis and at which his license is properly posted.

(c) For all base and fixed stations except such stations which are authorized to be operated at temporary locations or for unattended operation, the name or names of persons responsible for the operation of the transmitting equipment each day, together with the period of their duty. Each such person shall sign, not initial, the record both when coming on and when going off duty.

(d) [Reserved]

(e) For stations whose antenna or antenna supporting structure is required to be illuminated, a record in accordance with the following:

(1) The time the tower lights are turned on and off each day if manually controlled.

(2) The time the daily check of proper operation of the tower lights was made.

(3) In the event of any observed or otherwise known failure of a tower light:

(i) Nature of such failure.

(ii) Date and time the failure was observed, or otherwise noted.

(iii) Date, time and nature of the adjustments, repairs, or replacements that were made.

(iv) Identification of the Flight Service Station (FAA) notified of the failure of any code or rotating beacon light or top light not corrected within thirty minutes, and the date and time such notice was given.

(v) Date and time notice was given to the Flight Service Station (FAA) that the required illumination was resumed.

(4) Upon the completion of the periodic inspection required at least once each three months:

(i) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators and alarm systems.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

§ 89.177 Form of station records.

(a) The records shall be kept in an orderly manner and in such detail that the data required are readily available. Key letters or abbreviations may be used if proper meaning or explanation is set forth in the record.

(b) Each entry in the records shall be signed by a person qualified to do so having actual knowledge of the facts to be recorded.

(c) No record or portion thereof shall be erased, obliterated, or willfully destroyed within the required retention period. Any necessary correction may be made only by the persons originating the entry who shall strike out the erroneous portion, initial the correction made and indicate the date of the correction.

§ 89.179 Retention of station records.

Records required to be kept by this part shall be retained by the licensee for a period of at least one year.

Subpart B—[Reserved]

Subpart C—Developmental Operation

§ 89.201 Eligibility.

An authorization for developmental operation in any of the services under this part will be issued only to those persons who are eligible to operate stations in such service on a regular basis.

§ 89.203 Showing required.

(a) Except as provided in paragraph (b) of this section, each application for developmental operation shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the radio art, or is along lines not already investigated;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program as proposed; and

(6) The public interest, convenience, or necessity will be served by the proposed operation.

(b) The provisions of paragraph (a) of this section do not apply when an application is made for developmental operation solely for the reason that the frequency requested is restricted to such developmental use.

§ 89.205 Limitations on use.

Stations used for developmental operation shall be constructed and used in such a manner as to conform with all of the technical and operating requirements of Subpart A of this part, unless deviation therefrom is specifically provided for in the station authorization.

§ 89.207 Frequencies available for assignment.

Stations engaged in developmental operation may be authorized to use a frequency, or frequencies, available for the service in which they propose to operate. The number of channels assigned will depend upon the specific requirements of the developmental program itself, and the number of frequencies available in the particular area where the station will be operated.

§ 89.209 Interference.

All developmental operation shall be subject to the condition that no harmful interference is caused to the operation of stations licensed on a regular basis under any part of this chapter.

§ 89.211 Special provisions.

(a) The developmental program as described by the applicant in the application for authorization shall be substantially followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions in each case, as deemed necessary in the public interest, convenience, or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 89.213 Change or cancellation of authorization without hearing.

Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

§ 89.215 Report of operation.

A report on the results of the developmental program shall be filed with and made a part of each application for renewal of authorization, or in cases where no renewal is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information, and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on the following:

(a) The final objective.

(b) Results of operation to date.

(c) Analysis of the results obtained.

(d) Copies of any published reports.

(e) Need for continuation of the program.

(f) Number of hours of operation on each frequency.

Subpart D—[Reserved]

Subpart E—Local Government Radio Service

§ 89.251 Eligibility.

Authorizations for stations in the local Government Radio Service will be issued only to territories, possessions, states, other governmental subdivisions including counties, cities, towns and similar governmental entities.

NOTE: For clarification of eligibility in the Local Government Radio Service, see announcement (FCC 60-1139), 25 F.R. 9179, Sept. 24, 1960, which reads in part:

• • • The Commission announces that for the purpose of determining eligibility in the Local Government Radio Service the phrases "other governmental subdivisions" and "similar governmental entities" will be strictly construed. Such entities as villages, boroughs and the like will be regarded as eligible while school districts, park authorities and others with similarly limited governmental powers and responsibilities will not be eligible. It should be noted that in

most cases, these quasi-governmental entities may obtain authorizations through their parent entity or may apply in the Business or Citizens Radio Service. Should the frequency situation improve, the Commission will then reconsider this position.

§ 89.253 Permissible communications.

Stations in the Local Government Radio Service are authorized to transmit communications essential to official activities of the licensee.

§ 89.255 Points of communication.

(a) Local government base stations are authorized to intercommunicate with local government mobile stations. Local government mobile stations are authorized to intercommunicate with local government base stations and other local government mobile stations.

(b) Local government base and mobile stations are also authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided*, That no harmful interference will be caused to the base-mobile operations of any authorized station.

(c) Local government fixed stations are authorized to intercommunicate with other fixed stations in the Public Safety Radio Services and to transmit to receivers at fixed locations.

§ 89.257 Station limitations.

(a) Mobile relay stations in the Local Government Radio Service will be authorized only on frequencies above 150 Mc/s which are, pursuant to the provisions of § 89.259(f), available for base or mobile stations. Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall be so designed and installed that:

(1) Normally it will be activated only by means of the coded signal or signals or such other means as will effectively prevent its activation by undesired signals;

(2) It will be deactivated automatically when its associated receivers are not receiving the signal on the frequency or frequencies which normally activate it; and

(3) It will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time delay or clock device which will deactivate the station not more than three minutes after its activation.

(b) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned the mobile service frequency assigned to the associated mobile station. Use of the mobile service frequency by such control station is subject to the condition that harmful interference not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(c) Voice, tone, or impulse signalling, for the purposes enumerated in sub-paragraph (1) of this paragraph, may be used, on a secondary basis, to the extent provided in this Subpart on the mobile service frequencies above 25 Mc/s in the Local Government Radio Service, provided a showing is made that such operations will not cause harmful interference to the primary operations of any co-channel licensee, and subject to the condition that harmful interference is not caused to the primary operations of any licensee. All such secondary signalling shall be subject to the following limitations:

(1) Secondary voice, tone or impulse signalling may be used only for the following purposes:

(i) Automatic indication of equipment malfunction;

(ii) Actuation of a device to indicate the presence of an intruder or fire on property under the protection of the licensee.

(2) Any one alarm or warning shall be limited to not more than five transmissions, not to exceed six seconds each.

(3) The bandwidth shall not exceed that authorized to the licensee for its primary operations on the frequency concerned.

(4) Frequency loading resulting from the use of secondary voice, tone or impulse signalling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile service system.

(5) A mobile service frequency may not be used exclusively for secondary voice, tone or impulse signalling.

(6) The plate power input to the final radio frequency stage shall not exceed 50 watts.

(7) Only A1, A2, A3, F1, F2, or F3 emissions will be authorized.

(8) Automatic means shall be provided to de-activate the transmitted in the event the carrier remains on for a period in excess of three minutes.

§ 89.259 Frequencies available to the Local Government Radio Service.

(a) The frequencies or bands of frequencies listed in this section are available for assignment to stations in the Local Government Radio Service subject to the conditions and limitations of this section.

(b) The frequencies shown in paragraph (f) of this section as being available for assignment to mobile stations only may be authorized for use by base stations only after coordination with affected licensees in the area and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(c) The amount of separation between assignable frequencies listed in paragraph (f) of this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discretion of the Commission.

(d) Normally, no more than two frequencies will be assigned unless a request therefor is adequately supported by a satisfactory showing of need, provided that request for operation on the frequency 39.06 Mc/s will be approved upon satisfactory showing of a need even though the licensee already has been assigned two other frequencies or provided that an applicant who obtains authorization to operate on the frequency 39.06 Mc/s shall still be allowed to request and obtain two other frequency assignments in this service.

(e) Control and repeater stations, except as provided for by § 89.257(b), in the Local Government Radio Service will be authorized only on frequencies allocated to operational fixed stations.

(f) The following tabulation indicates the frequencies or bands of frequencies, class of stations to which they are normally available, and the specific assignment limitations, which are developed in paragraph (g) of this section:

Frequency or band	Class of station(s)	Limitations
Mc/s		
37.10	Base and mobile	8
37.18	do	8
37.26	do	8
39.06	Mobile	6, 8, 9
39.10	Base and mobile	8
39.18	do	8
39.50	do	8
39.58	do	8
39.82	do	8
39.90	do	8
39.98	do	8
45.08	do	
45.12	do	
45.16	do	
45.20	do	
45.24	do	
45.28	do	
45.32	do	
45.36	do	
45.40	do	
45.44	do	
45.48	do	
45.52	do	
45.56	do	
45.60	do	
45.64	do	
45.52	do	
46.54	do	
46.56	do	
46.58	do	
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
153.755	Mobile	5
153.785	do	5
153.800	do	5
153.815	do	5
153.845	do	5
153.860	do	5
153.875	do	5
153.905	do	5
153.920	do	5
153.935	do	5
153.965	do	5
153.980	do	5
153.995	do	5
154.025	Base and mobile	5
154.040	do	5
154.055	do	5
154.085	do	5
154.100	do	5
154.115	do	5
154.965	do	
154.980	do	
154.995	do	
155.025	do	
155.040	do	
155.055	do	
155.085	do	
155.100	do	
155.115	do	
155.145	do	
155.715	do	
155.745	do	
155.760	do	
155.775	do	
155.805	do	
155.820	do	
155.835	do	5
155.865	do	5
155.880	do	5
155.895	do	5
155.925	do	5
155.940	do	5
155.955	do	5
155.985	Mobile	5
156.000	do	5
156.015	do	5
158.745	Base and mobile	
158.760	do	
158.775	do	
158.805	do	
158.820	do	
158.835	do	

Frequency or band	Class of station(s)	Limitations
Mc/s		
158.865	Mobile	5
158.880	do	5
158.895	do	5
158.925	do	5
158.940	do	5
158.955	do	5
453.050	Base and mobile	
453.100	do	
453.150	do	
453.200	do	
453.250	do	
453.300	do	
453.350	do	
453.400	do	
453.450	do	
453.500	do	
453.550	do	
453.600	do	
453.650	do	
453.700	do	
453.750	do	
453.800	do	
453.850	do	
453.900	do	
453.950	do	
458.050	Mobile	
458.100	do	
458.150	do	
458.200	do	
458.250	do	
458.300	do	
458.350	do	
458.400	do	
458.450	do	
458.500	do	
458.550	do	
458.600	do	
458.650	do	
458.700	do	
458.750	do	
458.800	do	
458.850	do	
458.900	do	
458.950	do	
(For frequencies 952 Mc/s and above, see § 89.101.)		

(g) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (f) of this section:

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of § 89.101(c).

(4) [Reserved]

(5) The power which may be used for operation on these frequencies may not exceed 180 watts plate input power to the final radio frequency stage and the antenna height may not exceed 50 feet above ground level at the antenna location.

(6) Available for assignment: *Provided,* That the maximum plate input power to the final radio frequency stage of any transmitter authorized to operate on this frequency shall not exceed 3 watts.

(7) [Reserved]

(8) This frequency is shared with the Police Radio Service.

(9) Applicants for this frequency need not demonstrate compliance with the provisions of § 89.15.

(h) Frequencies offset by 7.5 kc/s or less from those in the 152 to 162 Mc/s band listed in paragraph (f) of this section may be assigned for developmental operation upon an adequate showing of the need for such irregular assignment together with an acceptable engineering report indicating that harmful interference to the operation of existing stations will not be caused.

Subpart F—[Reserved]

Subpart G—Police Radio Service

§ 89.301 Eligibility.

(a) Authorizations for stations in the Police Radio Service will be issued only to states, territories, possessions and other governmental subdivisions including counties, cities, towns and similar governmental entities.

(b) The eligibility set forth in paragraph (a) of this section includes governmental institutions in those cases where such institution is authorized by law to provide its own police protection.

§ 89.303 Permissible communications.

(a) Stations in the Police Radio Service are authorized to transmit communications essential to official police activities of the licensee.

§ 89.305 Points of communications.

(a) Police base stations are authorized to intercommunicate with police mobile stations. Police mobile stations are authorized to intercommunicate with police base stations and other police mobile stations.

(b) Police base and mobile stations are also authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided,* That no harmful interference will be caused to the base-mobile operations of any authorized station.

(c) Police fixed stations are authorized to intercommunicate with other fixed stations in the Public Safety Radio Services and to transmit to receivers at fixed locations.

(d) Police zone and interzone stations are authorized to intercommunicate in accordance with the operating procedure prescribed by the Commission. Copies of such procedure are available for distribution to persons having a legitimate need therefor. Requests for copies should be addressed to the Secretary, Federal Communications Commission, Washington, D.C., 20554.

§ 89.307 Station limitations.

(a) Mobile relay stations in the Police Radio Service will be authorized only on frequencies above 150 Mc/s which are, pursuant to the provisions of § 89.309(g), available for base or mobile stations. Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall be so designed and installed that:

(1) Normally it will be activated only by means of the coded signal or signals or such other means as will effectively prevent its activation by undesired signals;

(2) It will be deactivated automatically when its associated receivers are not receiving the signal on the frequency or frequencies which normally activate it; and

(3) It will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time delay or clock device which will deactivate the station not more than three minutes after its activation.

(b) Subject to the provisions of § 89.157, communication units of a licensed police mobile station may be installed in any vehicle which in an emergency would require cooperation or coordination with police activities. This provision includes fire department vehicles, ambulances, emergency units of public utilities, lifeguard emergency units and rural school buses.

(c) Authorizations for interzone stations in the Police Radio Service will not be issued for more than one station within a zone. A zone is normally considered to be a single state. Any request for the rezoning of any state for the purpose of providing more than one interzone station shall be accompanied by a showing of need based either upon the volume of traffic or upon the necessity for more expeditious handling of traffic. In either event such a request shall be accompanied by comments thereon from all zone stations affected.

(d) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned the mobile service frequency assigned to the associated mobile station. Use of the mobile service frequency by such control station is subject to the condition that harmful interference not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(e) Voice, tone, or impulse signalling, for the purposes enumerated in subparagraph (1) of this paragraph, may be used, on a secondary basis, to the extent provided in this Subpart on the mobile service frequencies above 25 Mc/s in the Police Radio Service, provided a showing is made that such operations will not cause harmful interference to the primary operations of any co-channel licensee, and subject to the condition that harmful interference is not caused to the primary operations of any licensee. All such secondary signalling shall be subject to the following limitations:

(1) Secondary voice, tone or impulse signalling may be used only for the following purposes:

(i) Automatic indication of equipment malfunction;

(ii) Actuation of a device to indicate the presence of an intruder on property under the protection of the licensee.

(2) Any one alarm or warning shall be limited to not more than five transmissions, not to exceed six seconds each.

(3) The bandwidth shall not exceed that authorized to the licensee for its primary operations on the frequency concerned.

(4) Frequency loading resulting from the use of secondary voice, tone or impulse signalling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile service system.

(5) A mobile service frequency may not be used exclusively for secondary voice, tone or impulse signalling.

(6) The plate power input to the final radio frequency stage shall not exceed 50 watts.

(7) Only A1, A2, A3, F1, F2, or F3 emissions will be authorized.

(8) Automatic means shall be provided to de-activate the transmitter in the event the carrier remains on for a period in excess of three minutes.

§ 89.309 Frequencies available to the Police Radio Service.

(a) The frequencies or bands of frequencies listed herein are available for assignment to stations in the Police Radio Service subject to the conditions and limitations of this section.

(b) The frequencies listed in this section for mobile stations may be authorized for use at base stations only after coordination with other licensees in the area is effected and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(c) Normally only one base and one mobile station frequency will be assigned to a licensee for mobile service operations. Additional frequencies may be assigned provided the request therefor is adequately supported by a satisfactory showing of need.

(d) The amount of separation between assignable frequencies listed in this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discretion of the Commission.

(e) In addition to the frequencies assigned for mobile service operation, one base station frequency above 152 Mc/s may be assigned as a common frequency to all licensees in a particular area to permit intersystem communication between base stations or mobile stations or both. This frequency use will not be authorized in any area where all available frequencies are required for independent systems.

(f) Control and repeater stations, except as provided for by § 89.307(d), in the Police Radio Service may be authorized on a temporary basis to operate on frequencies available for base and mobile stations above 152 Mc/s, provided an adequate showing is made why such operations cannot be conducted on frequencies allocated to the Operational Fixed Service. Such operation on base or mobile frequencies will not be authorized initially nor renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to the Mobile Service, or if the particular frequency is required for mobile service operations in the area concerned.

(g) The following tabulation indicates the frequency or bands of frequencies, the class of station(s) to which they are normally available and the specific assignment limitations, which are developed in paragraph (h) of this section.

Frequency or band	Class of station(s)	Limitations
kc/s		
1610	Base and mobile	6, 7, 13
1618	do	6, 7, 13
1626	do	6, 7, 13
1634	do	6, 7, 13
1642	do	6, 7, 13
1650	do	7, 13
1658	do	7, 13
1666	do	7, 13
1674	do	7, 13
1682	do	7, 13
1690	do	6, 7, 13
1698	do	6, 7, 13
1706	do	6, 7, 13
1714	do	7, 13
1722	do	7, 13
1730	do	7, 13
2326	do	6, 7
2366	do	6, 7
2382	do	7
2390	do	6, 7
2406	do	7
2414	do	7
2422	do	7
2430	do	7
2442	do	7
2450	do	7
2458	do	7
2466	do	7
2474	do	7
2482	do	7
2490	do	7, 13
2804	Zone and interzone	9
2808	do	9
2812	do	9
5135	do	9, 15
5140	do	9
5195	do	9, 10
7480	do	9, 11, 14
7805	do	9, 11
7935	do	9, 11
Mc/s		
37.02	Mobile	
37.04	Base and mobile	
37.06	do	
37.08	do	
37.10	do	18
37.12	do	
37.14	do	
37.16	do	
37.18	do	18
37.20	do	
37.22	do	
37.24	do	
37.26	do	18
37.28	do	
37.30	do	
37.32	do	
37.34	Mobile	
37.36	Base and mobile	
37.38	Mobile	
37.40	Base and mobile	
37.42	Mobile	
39.02	Base and mobile	
39.04	do	
39.06	do	17, 18
39.08	do	
39.10	do	18
39.12	do	
39.14	do	
39.16	do	
39.18	do	18
39.20	do	
39.22	do	
39.24	do	
39.26	Mobile	
39.28	Base and mobile	
39.30	Mobile	
39.32	Base and mobile	
39.34	Mobile	
39.36	Base and mobile	
39.38	Mobile	
39.40	Base and mobile	
39.42	do	
39.44	do	
39.46	do	16, 21
39.48	do	
39.50	do	18
39.52	do	
39.54	do	
39.56	do	
39.58	do	18
39.60	do	
39.62	do	
39.64	do	
39.66	Mobile	
39.68	Base and mobile	
39.70	Mobile	
39.72	Base and mobile	
39.74	Mobile	
39.76	Base and mobile	
39.78	Mobile	
39.80	Base and mobile	
39.82	do	18
39.84	do	
39.86	do	
39.88	Base and mobile	
39.90	do	18
39.92	do	
39.94	do	
39.96	do	
39.98	do	18
42.02	do	
42.04	do	7, 8, 13
42.06	do	7, 8, 13
42.08	do	7, 8, 13
42.10	do	7, 8, 13
42.12	do	7, 8, 13
42.14	do	7, 8, 13
42.16	do	7, 8, 13
42.18	Mobile	7, 8
42.20	do	7, 8
42.22	do	7, 8
42.24	do	7, 8
42.26	do	7, 8
42.28	do	7, 8
42.30	do	7, 8
42.32	Base and mobile	7, 8, 13
42.34	do	7, 8, 13
42.36	do	7, 8, 13
42.38	do	7, 8, 13
42.40	do	7, 8, 13
42.42	do	7, 8, 13
42.44	do	7, 8, 13
42.46	do	7, 8, 13
42.48	do	7, 8, 13
42.50	do	7, 8, 13
42.52	do	7, 8, 13
42.54	do	7, 8, 13
42.56	do	7, 8, 13
42.58	do	7, 8, 13
42.60	do	7, 8, 13
42.62	do	7, 8, 13
42.64	do	7, 8, 13
42.66	Mobile	7, 8
42.68	do	7, 8
42.70	do	7, 8
42.72	do	7, 8
42.74	do	7, 8
42.76	do	7, 8
42.78	do	7, 8
42.80	Base and mobile	7, 8, 13
42.82	do	7, 8, 13
42.84	do	7, 8, 13
42.86	do	7, 8, 13
42.88	do	7, 8, 13
42.90	do	7, 8, 13
42.92	do	7, 8, 13
42.94	do	7, 8, 13
44.62	do	7, 8, 13
44.66	do	7, 8, 13
44.70	do	7, 8, 13
44.74	do	7, 8, 13
44.78	Mobile	7, 8
44.82	do	7, 8
44.86	do	7, 8
44.90	do	7, 8
44.94	Base and mobile	7, 8, 13
44.98	do	7, 8, 13
45.02	do	7, 8, 13
45.06	do	7, 8, 13
45.10	do	
45.14	do	
45.18	do	
45.22	do	
45.26	Mobile	
45.30	do	
45.34	do	
45.38	do	
45.42	Base and mobile	
45.46	do	
45.50	do	
45.54	do	
45.58	do	
45.62	do	
45.66	do	
45.70	do	
45.74	Mobile	
45.78	do	
45.82	do	
45.86	Base and mobile	16
45.90	do	
45.94	do	
45.98	do	
46.02	do	
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
154.650	Mobile	
154.665	Base and mobile	8
154.680	do	8
154.695	do	8
154.710	Mobile	
154.725	Base and mobile	
154.740	do	
154.755	do	
154.770	Mobile	
154.785	Base and mobile	
154.800	do	
154.815	do	
154.830	Mobile	
154.845	Base and mobile	
154.860	do	

Frequency or band	Class of station(s)	Limitations
Mc/s		
154.875	Base and mobile	
154.890	Mobile	
154.905	Base and mobile	8
154.920	do	8
154.935	do	8
154.950	Mobile	
155.01	Base and mobile	
155.07	do	
155.13	do	
155.19	do	
155.25	do	
155.31	do	
155.79	do	
155.85	Mobile	
155.91	do	
155.97	do	
155.370	Base and mobile	
155.415	do	
155.430	do	
155.445	do	8
155.460	do	8
155.475	do	8
155.490	do	
155.505	do	8
155.520	do	
155.535	do	
155.550	do	
155.565	do	
155.580	do	
155.595	do	
155.610	do	
155.625	do	
155.640	do	
155.655	do	
155.670	do	
155.685	do	
155.700	do	
155.730	do	
156.03	Mobile	
156.09	do	
156.15	do	
156.210	Base and mobile	
158.730	do	
158.790	do	
158.850	do	
158.910	Mobile	
158.970	do	
159.030	do	
159.090	Base and mobile	
159.150	do	
159.210	do	
453.050	do	
453.100	do	
453.150	do	
453.200	do	
453.250	do	
453.300	do	
453.350	do	
453.400	do	
453.450	do	
453.500	do	
453.550	do	
453.600	do	
453.650	do	
453.700	do	
453.750	do	
453.800	do	
453.850	do	
453.900	do	
453.950	do	
458.050	Mobile	
458.100	do	
458.150	do	
458.200	do	
458.250	do	
458.300	do	
458.350	do	
458.400	do	
458.450	do	
458.500	do	
458.550	do	
458.600	do	
458.650	do	
458.700	do	
458.750	do	
458.800	do	
458.850	do	
458.900	do	
458.950	do	
(For frequencies 952 Mc/s and above, see § 89.101.)		

(h) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (g) of this section:

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s, and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of § 89.101(c).

(4) [Reserved]

(5) [Reserved]

(6) The use of this frequency is subject to the condition that no harmful interference will be caused to the service of any Canadian station.

(7) This frequency is available for assignment only in accordance with a geographical assignment plan.

(8) This frequency is reserved primarily for assignment to state police licensees. Assignment to other police licensees will be made only where the frequency is required for coordinated operation with the state police system to which the frequency is assigned. Any request for such assignment must be supported by a statement from the state police system concerned indicating that the assignment is necessary for coordination of police activities.

(9) This frequency is available for assignment to zone and interzone stations in the Police Radio Service for use with type A1 emission only and a maximum plate input power of 1000 watts to the final radio frequency stage of the transmitter.

(10) This frequency is authorized for use as a calling frequency; however, the transmission of operating signals or a single short radio telegram is permissible provided no harmful interference will be caused to any calling signals.

(11) This frequency may be used only during that period of time between 2 hours after local sunrise and 2 hours before local sunset.

(12) [Reserved]

(13) Subject to the restrictions contained in § 89.111(a), base stations operating on this frequency and rendering service to state police mobile units may be authorized to use a maximum plate input power to the final radio frequency stage in excess of the maximum indicated in § 89.111(b), but not in excess of 10,000 watts: *Provided,* That such operation will cause no harmful interference to the service of other stations.

(14) This frequency may be assigned to fixed stations in the Police Radio Service in Alaska for point to point radiotelephone communication, using type A3 emission and a maximum plate input power of 1000 watts to the final radio frequency stage of the transmitter.

(15) This frequency may be assigned to fixed stations in the Police Radio Service in Alaska for point-to-point radiotelephone communications, using type A3 emission with a maximum plate input power of 1,000 watts to the final radio frequency stage of the transmitter, subject to the condition that no harmful interference is caused to the service of any police station employing type A1 emission on this frequency including any operations conducted in accordance with outstanding regional agreements and further subject to the condition that no harmful interference is caused to the service of any station, which in the discretion of the Commission may have priority on the frequency with which interference results.

(16) This frequency is reserved for assignment to stations in the Police Radio Service for intersystem operations only: *Provided, however,* That licensees holding a valid authorization to use this frequency for local base or mobile operations as of June 1, 1956, may continue to be authorized for such use.

(17) The maximum plate input power to the final radio frequency stage of any transmitter authorized to operate on this frequency, after June 1, 1956, shall not exceed three watts. Licensees holding a valid authorization as of June 1, 1956, for base or mobile station operation on this frequency, with a power in excess of three watts, may continue to be authorized for such operation without regard to this power limitation.

(18) This frequency is shared with the Local Government Radio Service.

(i) Frequencies offset by 7.5 kc/s or less from those in the 152 to 162 Mc/s band listed in paragraph (g) of this section may be assigned for developmental operation upon an adequate showing of the need for such irregular assignment together with an acceptable engineering report indicating that harmful interference to the operation of existing stations will not be caused.

Subparts H and I—[Reserved]

Subpart J—Fire Radio Service

§ 89.351 Eligibility.

(a) Authorizations for stations in the Fire Radio Service will be issued only to states, territories, possessions and other governmental subdivisions including counties, cities, towns and similar governmental entities, and persons or organizations charged with specific fire protection activities.

(b) Applications from persons or organizations other than governmental subdivisions must be accompanied by a statement from the governmental subdivision having legal jurisdiction over the area to be served, supporting the request.

§ 89.353 Permissible communications.

Stations in the Fire Radio Service are authorized to transmit communications essential to official fire activities of the licensee.

§ 89.355 Points of communication.

(a) Fire base stations are authorized to intercommunicate with fire mobile stations. Fire mobile stations are authorized to intercommunicate with fire base stations and other fire mobile stations.

(b) Fire base and mobile stations are also authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided,* That no harmful interference will be caused to the base-mobile operations of any authorized station.

(c) Fire fixed stations are authorized to intercommunicate with other fixed stations in the Public Safety Radio Services and to transmit to receivers at fixed locations.

§ 89.357 Station limitations.

(a) Mobile relay stations in the Fire Radio Service will be authorized only on frequencies above 150 Mc/s which are, pursuant to the provisions of § 89.359(f),

available for base or mobile stations. Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall be so designed and installed that:

(1) Normally it will be activated only by means of the coded signal or signals or such other means as will effectively prevent its activation by undesired signals;

(2) It will be deactivated automatically when its associated receivers are not receiving the signal on the frequency or frequencies which normally activate it; and

(3) It will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time delay or clock device which will deactivate the station not more than three minutes after its activation.

(b) Subject to the provisions of § 89.157, communication units of a licensed fire mobile station may be installed in emergency vehicles, other than fire department vehicles, which may be alerted during a fire emergency. This provision includes emergency units of public utilities and water departments.

(c) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned the mobile service frequency assigned to the associated mobile station. Use of the mobile service frequency by such control station is subject to the condition that harmful interference not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(d) Voice, tone, or impulse signalling, for the purposes enumerated in subparagraph (1) of this paragraph, may be used, on a secondary basis, to the extent provided in this Subpart on the mobile service frequencies above 25 Mc/s in the Fire Radio Service, provided a showing is made that such operations will not cause harmful interference to the primary operations of any co-channel licensee, and subject to the condition that harmful interference is not caused to the primary operations of any licensee. All such secondary signalling shall be subject to the following limitations:

(1) Secondary voice, tone or impulse signalling may be used only for the following purposes:

(i) Automatic indication of equipment malfunction;

(ii) Actuation of a device to indicate the presence of a fire on property under the protection of the licensee.

(2) Any one alarm or warning shall be limited to not more than five transmissions, not to exceed 6 seconds each.

(3) The bandwidth shall not exceed that authorized to the licensee for its primary operations on the frequency concerned.

(4) Frequency loading resulting from the use of secondary voice, tone or impulse signalling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile service system.

(5) A mobile service frequency may not be used exclusively for secondary voice, tone or impulse signalling.

(6) The plate power input to the final radio frequency stage shall not exceed 50 watts.

(7) Only A1, A2, A3, F1, F2, or F3 emissions will be authorized.

(8) Automatic means shall be provided to de-activate the transmitter in the event the carrier remains on for a period in excess of 3 minutes.

§ 89.359 Frequencies available to the Fire Radio Service.

(a) The frequencies or bands of frequencies listed in this section are available for assignment to stations in the Fire Radio Service subject to the conditions and limitations of this section.

(b) The frequencies listed in this section for mobile stations may be authorized for use at base stations only after coordination with other licensees in the area is effected and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(c) Normally no more than two frequencies will be assigned to a licensee for mobile service operations. Additional frequencies may be assigned provided the request therefor is adequately supported by a satisfactory showing of need. One such need specifically contemplated herein is for the assignment of an additional frequency or frequencies for common intra-county, intra-fire district, or intra-state fire coordination operations; the frequency or frequencies requested must be in accord with an approved frequency utilization plan, for the area involved, on file with the Commission.

(d) The amount of separation between assignable frequencies listed in this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discretion of the Commission.

(e) Control and repeater stations, except as provided for by § 89.357(c), in the Fire Radio Service may be authorized on a temporary basis to operate on frequencies available for base and mobile stations above 152 Mc/s, provided an adequate showing is made why such operation cannot be conducted on frequencies allocated to the Operational Fixed Service. Such operation on base or mobile frequencies will not be authorized initially nor renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to the Mobile Service or if the particular frequency is required for mobile service operations in the area concerned.

(f) The following tabulation indicates the frequency or bands of frequencies, the class of station(s) to which they are normally available, and the specific assignment limitations, which are developed in paragraph (g) of this section:

Frequency or band	Class of station(s)	Limitations
kc/s		
1630	Base and mobile	
Mc/s		
33.42	Mobile and fixed	6
33.44	Base and mobile	
33.46	Mobile	
33.48	Base and mobile	
33.50	Mobile	
33.52	Base and mobile	
33.54	Mobile	
33.56	Base and mobile	
33.58	Mobile	
33.60	Base and mobile	
33.62	Mobile	
33.64	Base and mobile	
33.66	Mobile	
33.68	Base and mobile	
33.70	do	
33.72	do	
33.74	do	
33.76	do	
33.78	do	
33.80	do	
33.82	do	
33.84	do	
33.86	do	
33.88	Base and mobile	
33.90	do	
33.92	do	
33.94	do	
33.96	do	
33.98	do	
45.88	do	13
46.06	do	
46.08	do	
46.10	do	
46.12	do	
46.14	do	
46.16	do	
46.18	do	
46.20	do	
46.22	Mobile	
46.24	do	
46.26	do	
46.28	do	
46.30	Mobile and fixed	6
46.32	Mobile	
46.34	do	
46.36	Base and mobile	
46.38	do	
46.40	do	
46.42	do	
46.44	do	
46.46	do	
46.48	do	
46.50	do	
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
153.77	Mobile	
153.83	Mobile and fixed	6
153.890	Mobile	
153.950	do	
154.010	Mobile	
154.070	do	8
154.130	Base and mobile	8
154.145	do	8
154.160	do	8
154.175	do	8
154.190	do	8
154.205	do	8
154.220	do	8
154.235	do	8
154.250	do	8
154.265	do	8, 13
154.280	do	8, 13
154.295	do	8, 13
154.310	do	8
154.325	do	8
154.340	do	8
154.355	do	8
154.370	do	8
154.385	do	8
154.400	do	8
154.415	do	8
154.430	do	8
154.445	do	8
166.250	do	5
170.150	do	5
453.050	do	
453.100	do	
453.150	do	
453.200	do	
453.250	do	
453.300	do	
453.350	do	
453.400	do	
453.450	do	
453.500	do	
453.550	do	
453.600	do	
453.650	do	
453.700	do	
453.750	do	
453.800	do	
453.850	do	
453.900	do	
453.950	do	
458.050	Mobile	
458.100	do	

Frequency or band	Class of station(s)	Limitations
Mc/s		
458.150	Mobile	
458.200	do	
458.250	do	
458.300	do	
458.350	do	
458.400	do	
458.450	do	
458.500	do	
458.550	do	
458.600	do	
458.650	do	
458.700	do	
458.750	do	
458.800	do	
458.850	do	
458.900	do	
458.950	do	
(For frequencies 952 Mc/s and above, see § 89.101.)		

(g) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (f) of this section:

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s, and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of § 89.101(c).

(4) [Reserved]

(5) This frequency may be assigned to stations in the Fire Radio Service, only at points within 150 miles of New York, N. Y.

(6) The maximum plate power input to the final radio frequency stage of any transmitter authorized to operate on this frequency shall not exceed 3 watts.

(7) [Reserved]

(8) This frequency is not available for assignment to stations in the Fire Radio Service at any location in Puerto Rico or the Virgin Islands.

(9) [Reserved]

(10) [Reserved]

(11) [Reserved]

(12) [Reserved]

(13) This frequency is reserved for assignment to stations in the Fire Radio Service for inter-system operations only and these operations must be primarily base-mobile communications.

(h) Frequencies offset by 7.5 kc/s or less from those in the 152 to 162 Mc/s band listed in paragraph (f) of this section may be assigned for developmental operation upon an adequate showing of the need for such irregular assignment together with an acceptable engineering report indicating that harmful interference to the operation of existing stations will not be caused.

Subpart K—[Reserved]

Subpart L—Highway Maintenance Radio Service

§ 89.401 Eligibility.

Authorizations for stations in the Highway Maintenance Radio Service will be issued only to states, territories, possessions, and other governmental subdivisions including counties, cities, towns and similar governmental entities.

§ 89.403 Permissible communications.

Stations in the Highway Maintenance Radio Service are authorized to transmit communications essential to official highway activities of the licensee.

§ 89.405 Points of communication.

(a) Highway maintenance base stations are authorized to intercommunicate with highway maintenance mobile stations. Highway maintenance mobile stations are authorized to intercommunicate with highway maintenance base stations and other highway maintenance mobile stations.

(b) Highway maintenance base and mobile stations are also authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided,* That no harmful interference will be caused to the base-mobile operations of any authorized station.

(c) Highway Maintenance fixed stations are authorized to intercommunicate with other fixed stations in the Public Safety Radio Services and to transmit to receivers at fixed locations.

§ 89.407 Station limitations.

(a) Mobile relay stations in the Highway Maintenance Radio Service will be authorized only on frequencies above 150 Mc/s which are, pursuant to the provisions of § 89.409(e), available for base or mobile stations. Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall be so designed and installed that:

(1) Normally it will be activated only by means of the coded signal or signals or such other means as will effectively prevent its activation by undesired signals;

(2) It will be deactivated automatically when its asociated receivers are not receiving the signal on the frequency or frequencies which normally activate it; and

(3) It will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time delay or clock device which will deactivate the station not more than three minutes after its activation.

(b) Subject to the provisions of § 89.157, communication units of a licensed highway maintenance mobile station may be installed in vehicles of contractors or other persons having a direct responsibility for official highway activities.

(c) Each operator of a station in the Highway Maintenance Radio Service when employing a frequency shared with the Special Emergency Radio Service and designated by limitation note 6 in § 89.409(e) shall listen on the licensed frequency of the station prior to transmitting and shall not transmit until it has been reasonably determined that harmful interference will not be caused to any authorized communication in progress on the frequency.

(d) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned the mobile service frequency assigned to the associated mobile station. Use of the mobile service frequency by such control station is subject to the condition that harmful interference not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

§ 89.409 Frequencies available to the Highway Maintenance Radio Service.

(a) The frequencies or bands of frequencies listed in this section are available for assignment to stations in the Highway Maintenance Radio Service subject to the conditions and limitations of this section.

(b) The amount of separation between assignable frequencies listed in this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discretion of the Commission.

(c) Normally, not more than two frequencies will be assigned to a licensee for mobile service operations. Additional frequencies may be assigned provided the request therefor is adequately supported by a satisfactory showing of need.

(d) Control and repeater stations, except as provided for by § 89.407(d), in the Highway Maintenance Radio Service may be authorized on a temporary basis to operate on frequencies available for base and mobile stations above 150.8 Mc/s, provided an adequate showing is made why such operation cannot be conducted on frequencies allocated to the Operational Fixed Service. Such operation on base or mobile frequencies will not be authorized initially nor renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to the mobile service or if the particular frequency is required for mobile service operations in the area concerned.

(e) The following tabulation indicates the frequency or bands of frequencies, the class of station(s) to which they are normally available, and the specific assignment limitations, which are developed in paragraph (f) of this section:

Frequency or band	Class of station(s)	Limitations
Mc/s		
33.02	Base and mobile	8
33.06	do	8
33.10	do	8
37.90	do	8
37.92	do	
37.94	do	8
37.96	do	
37.98	do	8
45.68	do	
45.72	do	
45.76	do	
45.80	do	
45.84	do	
46.86	do	7,8
46.90	do	7,8
46.94	do	7,8
46.98	do	7,8
47.02	do	7,8
47.04	do	7,8
47.06	do	7,8
47.08	do	7,8
47.10	do	7,8
47.12	do	7,8

Frequency or band	Class of station(s)	Limitations
47.14	Base and mobile	7,8
47.16	do	7,8
47.18	do	7,8
47.20	do	7,8
47.22	do	7,8
47.24	do	7,8
47.26	do	7,8
47.28	do	7,8
47.30	do	7,8
47.32	do	7,8
47.34	do	7,8
47.36	do	7,8
47.38	do	7,8
47.40	do	7,8
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
150.995	Base and mobile	
151.010	do	
151.025	do	
151.040	do	
151.055	do	
151.070	do	
151.085	do	
151.100	do	
151.115	do	
151.130	do	
156.045	Mobile	
156.060	do	
156.075	do	
156.105	Base and mobile	
156.120	do	
156.135	do	
156.165	do	10
156.180	do	10
156.195	do	10
156.225	do	10
156.240	do	10
157.050	do	9
157.110	do	9
158.985	Mobile	10
159.000	do	10
159.015	do	10
159.045	do	10
159.060	do	10
159.075	do	10
159.105	Base and mobile	10
159.120	do	10
159.135	do	10
159.165	do	10
159.180	do	
159.195	do	
453.050	do	
453.100	do	
453.150	do	
453.200	do	
453.250	do	
453.300	do	
453.350	do	
453.400	do	
453.450	do	
453.500	do	
453.550	do	
453.600	do	
453.650	do	
453.700	do	
453.750	do	
453.800	do	
453.850	do	
453.900	do	
453.950	do	
458.050	Mobile	
458.100	do	
458.150	do	
458.200	do	
458.250	do	
458.300	do	
458.350	do	
458.400	do	
458.450	do	
458.500	do	
458.550	do	
458.600	do	
458.650	do	
458.700	do	
458.750	do	
458.800	do	
458.850	do	
458.900	do	
458.950	do	
(For frequencies 952 Mc/s and above, see § 89.101.)		

(f) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (e) of this section:

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s, and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of § 89.101(c).

(4) [Reserved]

(5) [Reserved]

(6) This frequency is shared with the Special Emergency Radio Service.

(7) This frequency will be assigned only in accordance with a geographical assignment plan.

(8) This frequency is reserved primarily for assignment to Highway Maintenance systems operated by states. The use of this frequency by other Highway Maintenance licensees will be authorized only where such use is necessary to coordinate activities with the particular state to which the frequency is assigned. Any request for such use must be supported by a statement from the state concerned.

(9) This frequency will not be assigned to stations in the Highway Maintenance Radio Service after April 28, 1952. Highway Maintenance stations licensed to use this frequency prior to April 28, 1952, may continue such use provided that no harmful interference is caused to any government or non-government radio operation.

(10) This frequency is reserved for assignment for use in highway maintenance systems operated by licensees other than states.

(g) The frequencies shown in paragraph (e) of this section as being available for assignment to mobile stations only may be authorized for use by base stations only after coordination with affected licensees in the area and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(h) Frequencies offset by 7.5 kc/s or less from those in the 152 to 162 Mc/s band listed in paragraph (e) of this section may be assigned for developmental operation upon an adequate showing of the need for such irregular assignment together with an acceptable engineering report indicating that harmful interference to the operation of existing stations will not be caused.

Subpart M—[Reserved]

Subpart N—Forestry-Conservation Radio Service

§ 89.451 Eligibility.

(a) Authorizations for stations in the Forestry-Conservation Radio Service will be issued only to states, territories, possessions and other governmental subdivisions including counties, cities, towns and similar governmental entities and persons or organizations charged with specific forestry-conservation activities.

(b) Applications from persons or organizations other than governmental subdivisions must be accompanied by a statement from the governmental subdivision having legal jurisdiction over the area to be served, supporting the request.

§ 89.453 Permissible communications.

Stations in the Forestry-Conservation Radio Service are authorized to transmit communications essential to official forestry-conservation activities of the licensee.

§ 89.455 Points of communication.

(a) Forestry-conservation base stations are authorized to intercommunicate with forestry-conservation mobile stations. Forestry-conservation mobile stations are authorized to intercommunicate with forestry-conservation base stations and other forestry-conservation mobile stations.

(b) Forestry-conservation base and mobile stations are also authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided*, That no harmful interference will be caused to the base-mobile operations of any authorized station.

(c) Forestry-Conservation fixed stations are authorized to intercommunicate with other fixed stations in the Public Safety Radio Services and to transmit to receivers at fixed locations.

§ 89.457 Station limitations.

(a) Mobile relay stations in the Forestry-Conservation Radio Service will be authorized only on frequencies above 150 Mc/s which are, pursuant to the provisions of § 89.459(d), available for base or mobile stations. Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall be so designed and installed that:

(1) Normally it will be activated only by means of the coded signal or signals or such other means as will effectively prevent its activation by undesired signals;

(2) It will be deactivated automatically when its associated receivers are not receiving the signal on the frequency or frequencies which normally activate it; and

(3) It will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time delay or clock device which will deactivate the station not more than three minutes after its activation.

(b) Subject to the provisions of § 89.157 communications units of a licensed forestry-conservation mobile station may be installed in vehicles of forestry cooperators, or other persons having a direct responsibility in the prevention, detection and suppresion of forest fires.

(c) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned the mobile service frequency assigned to the associated mobile station. Use of the mobile service frequency by such control station is subject to the condition that harmful interference not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

§ 89.459 Frequencies available to the Forestry-Conservation Radio Service.

(a) The frequencies or bands of frequencies listed in this section are avail-

able for assignment to stations in the Forestry-Conservation Radio Service subject to the conditions and limitations of this section.

(b) The amount of separation between assignable frequencies listed in this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discretion of the Commission.

(c) Control and repeater stations, except as provided for by §89.457(c), in the Forestry-Conservation Radio Service may be authorized on a temporary basis to operate on frequencies available for base and mobile stations above 150.8 Mc/s, provided an adequate showing is made why such operation cannot be conducted on frequencies allocated to the Operational Fixed Service. Such operation on base or mobile frequencies will not be authorized initially nor renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to the Mobile Service or if the particular frequency is required for mobile service operations in the area concerned.

(d) The following tabulation indicates the frequency or bands of frequencies, the class of stations to which they are normally available, and the specific assignment limitations, which are developed in paragraph (e) of this section:

Frequency or band	Class of station(s)	Limitations
kc/s		
2212	Base and mobile	6
2226	do	6
2236	do	6
2244	do	6
Mc/s		
30.86	do	11
30.90	do	11
30.94	do	11
30.98	do	11
31.02	do	11
31.06	do	7, 9, 10, 11
31.10	do	7, 9, 10, 11
31.14	do	7, 9, 10, 11
31.18	do	7, 9, 10
31.22	do	7, 9, 10
31.26	do	7, 9, 10
31.30	do	7, 9, 10
31.34	do	7, 9, 10
31.38	do	7, 9, 10
31.42	do	7, 9, 10
31.46	do	7, 9, 10
31.50	do	7, 9, 10
31.54	do	7, 9, 10
31.58	do	7, 9, 10
31.62	do	7, 9, 10
31.66	do	7, 9, 10
31.70	do	7, 9, 10
31.74	do	7, 9, 10
31.78	do	7, 9, 10
31.82	do	7, 9, 10
31.86	do	7, 9, 10
31.90	do	7, 9, 10
31.94	do	7, 9, 11
31.98	do	7, 9, 00
44.64	do	
44.68	do	
44.72	do	
44.76	do	
44.80	do	
44.84	do	
44.88	do	
44.92	do	
44.96	do	
45.00	do	
45.04	do	
46.62	do	
46.66	do	
46.70	do	
46.74	do	
46.78	do	
46.82	do	
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
151.145	Base and mobile	
151.160	Base and mobile	
151.175	do	
151.190	do	
151.205	do	
151.220	do	
151.235	do	
151.250	do	
151.265	do	
151.280	do	
151.295	do	
151.310	do	
151.325	do	
151.340	do	
151.355	do	
151.370	do	
151.385	do	
151.400	do	
151.415	do	
151.430	do	
151.445	do	
151.460	do	
151.475	do	
159.225	do	
159.240	do	
159.255	do	
159.270	do	
159.285	do	
159.300	do	
159.315	do	
159.330	do	
159.345	do	
159.360	do	
159.375	do	
159.390	do	
159.405	do	
159.420	do	
159.435	do	
159.450	do	
159.465	do	
170.425	do	8, 10, 14
170.475	do	8, 10, 13
170.575	do	8, 10, 14
171.425	do	8, 10, 13
171.475	do	10, 14, 15
171.575	do	8, 10, 13
172.225	do	8, 10, 14
172.275	do	10, 13, 15
172.375	do	8, 10, 14
453.050	do	
453.100	do	
453.150	do	
453.200	do	
453.250	do	
453.300	do	
453.350	do	
453.400	do	
453.450	do	
453.500	do	
453.550	do	
453.600	do	
453.650	do	
453.700	do	
453.750	do	
453.800	do	
453.850	do	
453.900	do	
453.950	do	
458.050	Mobile	
458.100	do	
458.150	do	
458.200	do	
458.250	do	
458.300	do	
458.350	do	
458.400	do	
458.450	do	
458.500	do	
458.550	do	
458.600	do	
458.650	do	
458.700	do	
458.750	do	
458.800	do	
458.850	do	
458.900	do	
458.950	do	
(For frequencies 952 Mc/s and above, see §89.101.)		

(e) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (d) of this section:

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s, and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of §89.101(c).

(4) [Reserved]

(5) [Reserved]

(6) The use of this frequency is subject to the condition that no harmful interference will be caused to the service of any Canadian station.

(7) This frequency is available for assignment only in accordance with a geographical assignment plan.

(8) This frequency will be assigned only to licensees directly responsible for the prevention, detection, and suppression of forest fires, subject to the condition that no harmful interference will be caused to the service of any U. S. Government station.

(9) This frequency may be used for conservation activities upon the condition that no harmful interference will be caused to the service of any station using the frequency for forest fire prevention, detection and suppression.

(10) This frequency is reserved primarily for assignment to state licensees. Assignments to other licensees will be made only where the frequency is required for coordinated operation with the state system to which the frequency is assigned. Any request for such assignment must be supported by a statement from the state system concerned, indicating that the assignment is necessary for coordination of activities.

(11) This frequency is shared with the Motor Carrier Radio Service.

(12) [Reserved]

(13) This frequency will be assigned for use only in areas east of the Mississippi River.

(14) This frequency will be assigned for use only in areas west of the Mississippi River.

(15) In addition to agencies responsible for forest fire prevention, detection and suppression, this frequency may be assigned to conservation agencies which do not have forest fire responsibilities: *Provided*, That such assignment is necessary to permit mobile relay operation by such agencies: *And provided*, That such operation will cause no harmful interference to any U. S. Government station.

(f) The frequencies shown in paragraph (d) of this section as being available for assignment to mobile stations only may be authorized for use by base stations only after coordination with affected licensees in the area and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(g) Frequencies offset by 7.5 kc/s or less from those in the 152 to 162 Mc/s band listed in paragraph (d) of this section may be assigned for developmental operation upon an adequate showing of the need for such irregular assignment together with an acceptable engineering report indicating that harmful interference to the operation of existing stations will not be caused.

Subpart O—[Reserved]

Subpart P—Special Emergency Radio Service

§ 89.501 Availability of service.

Special Emergency Radio Service is available only to the extent and for the

purposes described in succeeding sections of this subpart. The eligibility requirements, classes of stations available to each eligible group, permissible communications in accordance with eligibility, and other applicable conditions of use are set forth as separate sections of this subpart.

§ 89.503 Hospitals.

(a) *Eligibility.* Institutions or establishments offering services, facilities, and beds for use beyond 24 hours in rendering medical treatment.

(b) *Eligibility showing.* The initial application from a hospital shall be accompanied by a statement describing the radio communication facilities desired, the area to be served, the proposed method of operation and the number and classes of stations required. The statement shall also demonstrate that the applicant meets the eligibility requirements of paragraph (a) of this section.

(c) *Class and number of stations available.* Each eligible hospital will normally be authorized only one base station and a number of mobile units, excluding mobile units of the hand or pack carried type, not in excess of vehicles actually engaged in rendering an efficient hospital service.

(d) *Permissible communications.* Except for test transmissions as permitted by § 89.151(e), stations licensed to hospitals may be used only for the transmission of messages necessary for the rendition of an efficient hospital service.

§ 89.505 Ambulance operators and rescue organizations.

(a) *Eligibility.* Persons or organizations operating an emergency ambulance service or rescue squad are eligible in this service.

(b) *Eligibility showing.* The initial application from a person or organization operating an ambulance service or rescue squad shall be accompanied by a statement describing the radio communication facilities desired and indicating how they would be used to enhance the safety of human life in the service being rendered. The statements also shall indicate the number of vehicles actually engaged in the emergency operation.

(c) *Class and number of stations available.* Each ambulance operator or rescue squad normally may be authorized to operate not more than one base station and a number of mobile units, excluding mobile units of the hand or pack carried type, not in excess of the number of vehicles actually engaged in the emergency operation. Mobile units of the hand carried or pack carried type may be authorized to an extent not to exceed two such units for each radio equipped ambulance or rescue squad vehicle. Additional base stations or mobile units will be authorized only in exceptional circumstances when the applicant can show a specific need therefor.

(d) *Permissible communications.* Except for test transmissions as permitted by § 89.151(e), stations licensed to ambulance operators or rescue squads may be used only for the transmission of messages pertaining to the safety of life or property and urgent messages necessary for the rendition of an efficient ambulance or emergency rescue service.

§ 89.507 Physicians and veterinarians.

(a) *Eligibility.* Physicians and veterinarians are eligible in this service. As used in this part, the term "physician" or "veterinarian" shall be construed to mean individual physicians or veterinarians or schools of medicine, including schools of veterinary medicine.

(b) *Eligibility showing.* The initial application from a physician or veterinarian shall be accompanied by a statement in sufficient detail to permit a ready determination of the applicant's eligibility. Any subsequent application may refer to information previously filed if there has been no change in the status of the applicant's eligibility. In the event changes have occurred which affect the original eligibility statements, a new showing must accompany the application.

(c) *Class and number of stations available.* Each physician or veterinarian normally may be authorized to operate not more than one base station and two mobile units. Additional base stations or mobile units will be authorized only in exceptional circumstances when the applicant can show a specific need therefor.

(d) *Permissible communications.* Except for test transmissions as permitted by § 89.151(e), stations licensed to physicians or veterinarians may be used only for the transmission of messages pertaining to the safety of life or property and urgent messages relating to the medical duties of the licensee.

§ 89.509 Disaster relief organizations.

(a) *Eligibility.* Organizations established for disaster relief purposes and which have an emergency communications plan involving the use of radio are eligible in this service.

(b) *Eligibility showing.* The initial application from a disaster relief organization shall be accompanied by a copy of the charter or other authority under which the organization was established and a copy of the communications plan with a full explanation as to how the requested radio facilities would be used under such plan and integrated into any other communication facilities which normally would be available to assist in the alleviation of the emergency condition.

(c) *Class and number of stations available.* Disaster relief organizations may be authorized to operate an unlimited number of base, mobile and fixed stations.

(d) *Permissible communications.* Except for transmissions which are necessary for drills and tests as permitted by § 89.151(e), stations licensed to disaster relief organizations may be used only for the transmission of communications relating to the safety of life or property, the establishment and maintenance of temporary relief facilities, and the alleviation of the emergency situation during periods of actual or impending emergency, or disaster, and until substantially normal conditions are restored.

§ 89.511 School buses.

(a) *Eligibility.* Persons or organizations operating school buses having regular routes into rural areas are eligible in this service.

(b) *Eligibility showing.* The initial application from a person or organization operating a school bus service shall be accompanied by a statement describing the radio communication facilities desired. The statement shall also indicate the school or schools being served and describe the area in which the service is operated. If the applicant is not a government sub-division the statement shall indicate the authority under which the school buses are being operated and the tenure of any contractual agreement in effect.

(c) *Class and number of stations available.* Each school bus operator normally may be authorized to operate not more than one base station and a number of mobile units not in excess of the total of the number of buses and maintenance vehicles regularly engaged in the school bus operation. Additional base stations or mobile units will be authorized only in exceptional circumstances when the applicant can show a specific need therefor.

(d) *Permissible communications.* Except for test transmissions as permitted by §89.151(e), stations licensed to school bus operators may be used only for the transmission of messages pertaining to the safety of life or property or urgent messages relating to buses which have become inoperative on regular runs.

§ 89.513 Beach patrols.

(a) *Eligibility.* Persons or organizations operating beach patrols having responsibility for life-saving activities are eligible in this service.

(b) *Eligibility showing.* The initial application from a person or organization operating a beach patrol shall be accompanied by a statement describing the radio communication facilities desired and the area served by the beach patrol. The statement shall also clearly indicate the proposed method of operation and the number and classes of stations required.

(c) *Class and number of stations available.* Eligibles in this category will be authorized to operate base, mobile, and fixed stations in the stated area served by the beach patrol. The number of such stations requested shall be fully justified in the eligibility showing.

(d) *Permissible communications.* Except for test transmissions as permitted by § 89.151(e), stations licensed to persons or organizations operating beach patrols may be used only for the transmission of messages pertaining to the safety of life or property.

§ 89.515 Establishments in isolated areas.

(a) *Eligibility.* Persons or organizations maintaining establishments in isolated areas where public communication facilities are not available and where the use of radio is the only feasible means of establishing communication with a center of population, or other point from

which emergency assistance might be obtained if needed, are eligible in this service.

(b) *Eligibility showing.* The initial application requesting a station authorization for an establishment in an isolated area shall be accompanied by a statement describing the radio communication facilities desired, the applicant's need therefor, and the proposed method of operation, including the location, class of station and name of licensee of the station with which communication is requested. The statement shall also describe the status of public communication facilities in the area of the applicant's establishment and indicate the results of any attempts the applicant may have made to obtain public communication service. In the event radio communications service is to be furnished the proposed station by another station which is not licensed to the applicant, a statement shall be submitted from the licensee of the station involved indicating that the proposed service will be rendered.

(c) *Class and number of stations available.* Persons or organizations in this category may be authorized to operate not more than one fixed station at any isolated establishment and in addition not more than one fixed station in a center of population.

(d) *Permissible communications.* Except for test transmissions as permitted by §89.151(e), stations licensed for use at establishments in isolated areas may be used only during an actual or impending emergency endangering life, health or property for the transmission of essential communications arising from the emergency. The transmission of routine or non-emergency communications is strictly prohibited.

(e) *Communication service rendered and received.* (1) The licensee of a fixed station at an establishment in an isolated area shall make the communication facilities of such station available at no charge to any person desiring the transmission of any communication permitted by paragraph (d) of this section.

(2) For the purpose of providing the communications link desired the licensee of a fixed station at an establishment in an isolated area either may be the licensee of a similar station at another location or may obtain communication service under a mutual agreement from the licensee of any station in the Public Safety Radio Services or any other station which is authorized to communicate with the special emergency fixed station.

§ 89.517 Communication standby facilities.

(a) *Eligibility.* Persons or organizations operating communication circuits are eligible for standby radio facilities in this service; *Provided,* That the applicant can qualify under either of the following conditions:

(1) The applicant is a communications common carrier.

(2) The applicant is a person or organization operating communications circuits which normally carry essential communications of such a nature that any disruption thereof will endanger life or public property.

(b) *Eligibility showing.* The initial application from an eligible in this category proposing to operate a radio standby facility for other normal communication circuits shall be accompanied by a statement describing the radio communication facilities desired and the proposed method of operation. When appropriate, the statement shall include a description of the messages normally being carried and explain how a disruption thereof will endanger life or public property.

(c) *Class and number of stations available.* Eligibles in this category may be authorized to operate an unlimited number of fixed stations as standby radio facilities. Any such fixed station may be licensed for operation either at a specified location or at any temporary location within a specified area. In the latter case the area of desired operation must be specified by the applicant.

(d) *Permissible communications.* Except for test transmission as permitted by §89.151(e), stations licensed for communication circuit standby facilities may be used only during periods when the normal circuits are inoperative due to circumstances beyond the control of the user. During such periods the radio facilities may be used to transmit any communication which would normally be carried by the regular circuits.

§ 89.519 Emergency repair of public communications facilities.

(a) *Eligibility.* Communications common carriers are eligible in this service for radio facilities to be used in effecting expeditious repairs to interruptions of public communications facilities where such interruptions have resulted in disabling intercity circuits or service to a multiplicity of subscribers in a general area.

(b) *Eligibility showing.* The initial application from a communications common carrier under the provisions of this section shall be accompanied by a statement describing the radio communication facilities desired and the proposed method of use under such emergency conditions as the applicant expects to arise. The statement shall also clearly indicate the number and classes of stations required in the proposed operation.

(c) *Class and number of stations available.* Eligibles in this category may be authorized to operate base, mobile and fixed stations. The number of such stations requested shall be fully justified in the eligibility showing.

(d) *Permissible communications.* Except for test transmissions as permitted by § 89.151(e), stations authorized under the eligibility provisions of this section may be used only, when no other means of communication is readily available, for the transmission of messages relating to the safety of life and property and messages which are necessary for the efficient restoration of the public communication facilities which have been disrupted.

§ 89.521 Points of communication.

(a) Special emergency base stations are primarily authorized to intercommunicate with special emergency mobile stations. Special emergency mobile stations are primarily authorized to intercommunicate with base and other special emergency mobile stations.

(b) Special emergency base and mobile stations are secondarily authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided,* That no harmful interference will be caused to the service of any station transmitting to a point of communication for which that station is primarily authorized.

(c) Special emergency fixed stations are authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations. Such stations are also authorized to intercommunicate with any other station which is authorized to communicate with the special emergency fixed station.

§ 89.523 Station limitations.

(a) [Reserved]

(b) Except for fixed stations operating on frequencies assigned under the provisions of limitation note 9 of § 89.525(f), each operator of a station in the Special Emergency Radio Service shall listen on the licensed frequency of the station prior to transmitting and shall not transmit until it has been reasonably determined that harmful interference will not be caused to any authorized communication in progress on the frequency.

(c) Where a radio station authorization in the Special Emergency Radio Service is held by a person or organization engaging in activities beyond the scope of those indicated in the eligibility provisions of this service the operation of such station shall be strictly confined to those activities on which the eligibility was established except for messages relating to the safety of life.

§ 89.525 Frequencies available to the Special Emergency Radio Service.

(a) The frequencies or bands of frequencies listed herein are available for assignment to stations in the Special Emergency Radio Service subject to the conditions and limitations of this section.

(b) The amount of separation between assignable frequencies listed in this section does not necessarily indicate the amount of frequency separation required for systems operation; accordingly, grants of adjacent channel assignments in all bands shall be in the discredition of the Commission.

(c) The operation of mobile systems in the Special Emergency Radio Service will be restricted to the use of only one frequency: *Provided,* That an additional frequency may be authorized when mobile relay stations are authorized pursuant to paragraph (h) of this section.

(d) Frequencies indicated normally for base and mobile stations in the Special Emergency Radio Service will be authorized to fixed stations also subject to the condition that harmful interference will not be caused to the mobile service.

(e) The following tabulation indicates the frequency or bands of frequencies, the class of station(s) to which they are normally available, and the specific as-

signment limitations, which are developed in paragraph (f) of this section:

Frequency or band	Class of station(s)	Limitations
kc/s		
2000 to 3000	Fixed	9
2726	Base and mobile	10
3201	do	
Mc/s		
33.02	Base and mobile	6
33.04	do	
33.06	do	6
33.08	do	
33.10	do	6
37.90	do	6
37.94	do	6
37.96	do	6
45.92	do	15
45.96	do	15
46.00	do	15
46.04	do	15
47.42	do	7
47.46	do	
47.50	do	
47.54	do	
47.58	do	
47.62	do	
47.66	do	
72.02 to 74.58	Operational fixed	3
75.42 to 75.98	do	3
155.160	Base and mobile	15
155.175	do	16
155.205	do	16
155.220	do	15
155.235	do	16
155.265	do	16
155.280	do	15
155.295	do	16
155.325	do	16, 17
155.340	do	15, 17
155.355	do	16, 17
155.385	do	16, 17
158.400	do	15, 17
(For frequencies 952 Mc/s and above, see § 10.101.)		

(f) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (e) of this section.

(1) [Reserved]

(2) [Reserved]

(3) Assignable frequencies spaced by 40 kc/s beginning with the frequencies 72.02 and 75.42 Mc/s, and ending with the frequencies 74.58 and 75.98 Mc/s, respectively, are available on a shared basis with other services only in accordance with the provisions of § 89.101(c).

(4) [Reserved]

(5) [Reserved]

(6) This frequency is shared with the Highway Maintenance Radio Service.

(7) This frequency is reserved for assignment only to National organizations established for disaster relief purposes.

(8) [Reserved]

(9) Appropriate frequencies in the band 2000–3000 kilocycles which are designated in Part 83 of this chapter as available to Public Ship Stations for telephone communication with Public Coast Stations may be assigned on a secondary basis to special emergency fixed stations for communication with Public Coast Stations only, provided such stations are located in the United States and the following conditions are met:

(i) That such fixed station is established pursuant to the eligibility provisions of § 89.515 and that the isolated area involved is an island or other location not more than 300 statute miles removed from the desired point of communication and isolated from that point by water.

(ii) That evidence is submitted showing that an arrangement has been made with the coast station licensee for the handling of emergency communications permitted by § 81.302(b) of this chapter and § 89.515(d).

(iii) That operation of the special emergency fixed station shall at no time conflict with any provision of Part 83 of this chapter and further, that such operation in general shall conform to the practices employed by Public Ship Stations for radiotelephone communication with the same Public Coast Station.

(10) This frequency is shared with the State Guard Radio Service.

(11) [Reserved]

(12) [Reserved]

(13) [Reserved]

(14) [Reserved]

(15) Available for assignment: *Provided*, That until further order of the Commission, application is accompanied by a written and signed statement that licensees of all stations, excluding Special Emergency stations, located within a radius of 75 miles of the proposed location and authorized to operate on a frequency 30 kc/s or less removed have concurred with such assignment, or is accompanied by an acceptable engineering report indicating that harmful interference to the operation of such existing stations will not be caused.

(16) Available for developmental operation: *Provided*, That

(i) The proposed station location is removed by at least 40 miles from the station location of each other station, not including those authorized to other Special Emergency licensees, which is authorized to operate on frequencies 30 kc/s or less removed; and

(ii) The application is accompanied by a written and signed statement that the licensees of all stations, excluding Special Emergency licensees, located within a radius of 75 miles of the proposed location and authorized to operate on a frequency 30 kc/s or less removed have concurred with such assignment or is accompanied by an acceptable engineering report indicating that harmful interference to the operation of existing stations, excluding Special Emergency stations, will not be caused, together with a written statement that the licensees of all stations, excluding Special Emergency stations, located within a radius of 75 miles of the proposed station and authorized to operate on frequencies 30 kc/s or less removed have been notified of the applicant's intention to request the assignment.

(17) Available for assignment only to hospitals eligible under § 89.503 and to those ambulances which submit a showing that they render coordination and cooperation with a hospital authorized on this frequency.

(g) The frequencies shown in paragraph (e) of this section as being available for assignment to mobile stations only may be authorized for use by base stations only after coordination with affected licensees in the area and subject to the condition that no harmful interference will be caused to the service of any mobile station using the particular frequency. Evidence of the required coordination shall be submitted with any request for such use.

(h) Mobile relay stations in the Special Emergency Radio Service will be authorized only on frequencies above 952 Mc/s and only where:

(1) a special emergency radio system cannot function satisfactorily without communication between mobile units over a distance in excess of that which can be obtained by direct car-to-car communication; or

(2) an integrated system of radio communication is desirable between two or more licensees in the Special Emergency Radio Service and where, by use of a mobile relay station, the integrated system results in an actual reduction in the number of frequencies required in the area as compared to the number of frequencies which would be required if the same number of licensees operate separate systems.

Subpart Q—[Reserved]

Subpart R—State Guard Radio Service

§ 89.551 Eligibility.

(a) Authorizations for stations in the State Guard Radio Service will be issued only to the official state guard or comparable organization of a state, territory, possession, or the District of Columbia and only where such organization has been duly created by law and is completely subject to the control of the Governor, or highest official of the creating governmental entity.

(b) To facilitate a determination of eligibility, the first application from each organization for a new station in the State Guard Radio Service shall be accompanied by a statement citing the statute, executive order, or other legal authority under which the guard was created and definitely indicating whether or not the guard is under the absolute authority of the Governor or highest official of the governmental entity.

§ 89.553 Permissible communications.

(a) Stations in the State Guard Radio Service are primarily authorized to transmit emergency communications directly relating to public safety and the protection of life and property.

(b) Stations in the State Guard Radio Service are secondarily authorized to transmit essential nonemergency communications necessary for training and maintaining an efficient organization: *Provided*, That all communications authorized by this paragraph shall be kept to an absolute minimum and shall cause no harmful interference to stations in other services or to other stations in the State Guard Radio Service when such stations are transmitting communications authorized by paragraph (a) of this section.

(c) The transmission of nonessential communications is strictly prohibited.

§ 89.555 Points of communication.

(a) State guard base, mobile and fixed stations are primarily authorized to intercommunicate with all other state guard stations authorized to the same licensee.

(b) State guard base, mobile and fixed stations are secondarily authorized to intercommunicate with other stations in the Public Safety Radio Services and to transmit to receivers at fixed locations: *Provided*, That no harmful interference will be caused to the service of any station transmitting to a point of communication for which that station is primarily authorized.

§ 89.557 Station limitations.

(a) Mobile relay stations will not be authorized in the State Guard Radio Service.

(b) Each operator of a station in the State Guard Radio Service shall listen on the licensed frequency of the station prior to transmitting and shall not transmit until it has been reasonably determined that harmful interference will not be caused to any authorized communication in progress on the frequency.

§ 89.559 Frequencies available to the State Guard Radio Service.

(a) The frequency 2726 kilocycles is available for assignment to base and mobile stations in the State Guard Radio Service for use on a shared basis with stations in the Special Emergency Radio Service.

(b) In instances where circumstances in a particular state appear to warrant the use of a second frequency in the band 2505–3500 kilocycles and where a frequency can be made available through appropriate arrangements, with Government agencies if necessary, for restricted area use on a shared basis with other assignments such additional frequency may be assigned. The maximum power input, emission and hours of operation authorized for use on any frequency assigned under the provisions of this paragraph will be determined on the basis of the technical conditions involved in using the selected frequency in the particular area.

(c) The frequencies indicated in paragraphs (a) and (b) of this section will also be assigned to fixed stations in the State Guard Radio Service subject to the condition that harmful interference will not be caused to the mobile service.

PART 91—INDUSTRIAL RADIO SERVICES

NOTE 1: See Commission Order (FCC 61–764 adopted June 21, 1961, effective July 20, 1961, in Docket 14029), 26 F.R. 5798, June 29, 1961, providing for licensing of Private Microwave Systems on a Regular Basis on certain bands above 952 Mc/s and providing type acceptance for such systems.

NOTE 2: See Commission Order (FCC 61–952 adopted July 26, 1961, effective September 1, 1961, in Docket 13953) 26 F.R. 6849, Aug. 1, 1961, providing for frequency pairing in the 952–960 Mc/s band and making certain other channels in the 952–960 Mc/s band available for omni-directional operations.

Subpart A—General Information

Subpart B—Applications, Authorizations, and Notifications

Subpart C—Technical Standards

Subpart D—Station Operating Requirements

Subpart E—Developmental Operation

Subpart F—Power Radio Service

Subpart G—Petroleum Radio Service

Subpart H—Forest Products Radio Service

Subpart I—Motion Picture Radio Service

Subpart J—Relay Press Radio Service

Subpart K—Special Industrial Radio Service

Subpart L—Business Radio Service

Subpart M—Industrial Radiolocation Service

Subpart N—[Reserved]

Subpart O—Manufacturers Radio Service

Subpart P—Telephone Maintenance Radio Service

AUTHORITY: §§ 91.1 to 91.754 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General Information

§ 91.1 Basis and purpose.

(a) The basis for the rules following in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of the rules in this part is to prescribe the manner in which parts of the radio spectrum may be made available for radio communication and

control facilities to various industrial enterprises which, for safety purposes or other necessity, require radio transmitting facilities in order to function efficiently.

§ 91.2 General limitations on use.

The radio facilities authorized under this part shall not be used to render a communications common carrier service or to carry program material of any kind for use in connection with radio broadcasting.

§ 91.3 Definitions.

For the purpose of this part, the following definitions shall be applicable. For other definitions, refer to Part 2 of this chapter, Frequency Allocations and Treaty Matters; General Rules and Regulations.

Antenna structures. The term "antenna structures" includes the radiating system, its supporting structures and any surmounting appurtenances.

Assigned frequency. The frequency appearing on a station authorization, from which the carrier frequency may deviate by an amount not to exceed that permitted by the frequency tolerance.

Authorized bandwidth. The frequency band, specified in kilocycles and centered on the carrier frequency containing those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power.

Base station. See Land Station, this section.

Carrier frequency. The frequency of the carrier.

Control station. An Operational Fixed Station, the transmissions of which are used to control automatically the emissions or operation of another radio station at a specified location.

Duplex operation. Operating method in which transmission is possible simultaneously in both directions.

Fixed relay station. An Operational Fixed Station in the fixed service, established to receive radio signals directed to it from any source and to retransmit them automatically on a fixed service frequency for reception at one or more fixed points.

Fixed service. A service of radiocommunication between specified fixed points.

Harmful interference. Any emission, radiation or induction which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with this chapter.

Industrial, scientific, and medical equipment (ISM). Devices which use radio waves for industrial, scientific, medical, or any other purposes including the transfer of energy by radio and which are neither used nor intended to be used for radiocommunication.

Landing area. A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used, or approved for use for the landing and take-off of aircraft whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo. Aeronautical facilities not in existence at the time of filing of an application for radio facilities will be given consideration only when proposed airport construction or improvement plans are on file with the Federal Aviation Agency as of the filing date of the application for such radio facilities.

Land station. A station in the mobile service not intended to be used while in motion. (Of the various types of land stations, only the Base Station is pertinent to this part, and the term will be used interchangeably with the term Land Station.)

Mobile relay station. A Base Station in the mobile service, authorized primarily to retransmit automatically on a mobile service frequency communications originated by mobile stations.

Mobile service. A service of radiocommunication between mobile and land stations, or between mobile stations.

Mobile station. A station in the mobile service intended to be used while in motion or during halts at unspecified points. (For purposes of this part, the term includes hand-carried and pack-carried units.)

Operational fixed station. A Fixed Station not open to public correspondence, operated by and for the sole use of those agencies operating their own radiocommunication facilities in the Public Safety, Industrial, Land Transportation, Aviation or Marine Services. (This term includes all stations licensed in the fixed service under this part.)

Person. An individual, partnership, association, joint stock company, trust, or corporation.

Public correspondence. Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

Radiocommunication. Telecommunication by means of radio waves.

Radiodetermination. The determination of position, or the obtaining of information relating to position, by means of the propagation properties of radio waves.

Radiolocation. Radiodetermination used for purposes other than those of radionavigation.

Radiolocation land station. A station in the radiolocation service not intended to be used while in motion.

Radiolocation mobile station. A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.

Radiolocation service. A radiodetermination service involving the use of radiolocation.

Radionavigation. Radiodetermination used for the purposes of navigation, including obstruction warning.

Radio Service. An administrative subdivision of the field of radiocommunication. In an engineering sense, the subdivisions may be made according to the method of operation, as, for example, mobile service and fixed service. In a regulatory sense, the subdivisions may be descriptive of particular groups of licensees, as, for example, the groups of persons licensed under this part.

Safety service. A radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

Signaling. Intermittent or periodic transmission (excluding radiotelephony or any type of Morse code) of intelligence by means of prearranged tones, impulses, or combinations thereof, designed to actuate a mechanism at the point of reception.

Simplex Operation. Operating method in which transmission is made possible alternately in each direction, for example, by means of manual control.

Standard Metropolitan Area. Any or all of the areas within the continental limits of the United States described and enumerated as Standard Metropolitan Areas in the U.S. Census of Population, 1950; Vol. I, Number of Inhabitants; Chapter 1, U.S. Summary; Bureau of the Census, United States Department of Commerce. (The Standard Metropolitan Areas in the United States are listed in that publication in Table 26, beginning on page 1–66.) The publication is sold by the U.S. Government Printing Office, Washington, D.C., 20554.

Station authorization. Any construction permit, license, or special temporary authorization issued by the Commission.

Telemetering. The use of telecommunication for automatically indicating or recording measurements at a distance from the measuring instrument.

§ 91.4 General citizenship restrictions.

A station license may not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign government, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 91.5 Transfer and assignment of station authorization.

A station authorization, the frequencies authorized to be used by the grantee of such authorization, and

the rights therein granted by such authorization shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, or indirectly by transfer of control of any corporation holding such authorization, to any person, unless the Commission shall, after securing full information, decide that said transfer is in the public interest. Requests for authority to assign a station authorization may be submitted in accordance with § 91.56(b) while a request for authority to transfer control of a corporation, as by sale of controlling stock interest, shall be submitted in accordance with § 91.56(d).

§ 91.6 Cooperative arrangements.

(a) Arrangements may be made between two or more persons for the cooperative use of radio station facilities, provided all such persons are eligible to hold station licenses in one of the radio services established under this part, and provided further that all such persons are eligible for the same radio service. Such arrangements shall be governed by the following:

(1) *Mobile service.* A group of persons eligible for a license in the same industrial radio service may share the use of a Base Station licensed to one member of that group in either of the following two ways:

(i) A person who is to receive service from a base station licensed to a person other than himself may obtain a license for his own mobile radio units: *Provided, however,* That the application for such license shall be accompanied by an application from the licensee of the base station, for modification of his license, to permit rendition of the desired service. The application for modification of the base station license shall name the person to be served and may be filed either on FCC Form 400 or by letter, in duplicate; or

(ii) A person who is to furnish base station service to mobile radio units installed in vehicles owned and operated by persons other than himself may, if he desires, be licensee of said mobile radio units: *Provided, however,* That each person owning and operating such mobile radio units shall enter into a written agreement giving the licensee thereof the sole right of control over such units, said agreement to be kept as a part of the records of the base station: *And provided further,* That the operator of each vehicle shall operate the radio units subject to the orders and instructions of the base station operator: *And provided still further,* That the licensee shall at all times have such access to, and control of, the mobile radio equipment as will enable him to discharge his responsibilities under the Communications Act.

(2) *Fixed service.* A group of persons eligible to operate in the same industrial radio service may share the use of a fixed station licensed to one member of that group.

(b) A base station licensee who enters into a cooperative arrangement in accordance with the provisions of paragraph (a) (1) (ii) of this section shall obtain prior approval from the Commission for each person who proposes to enter into said arrangement.

(c) All cooperative arrangements entered into under the provisions of this section shall be governed by the following requirements as to costs and charges:

(1) The arrangment may be without charge. If so, the records of the base station or fixed station licensee shall so indicate.

(2) Contributions to capital and operating expenses may be accepted only on a cost-sharing, non-profit basis, said costs to be prorated on an equitable basis among all persons who are parties to the cooperative arrangement. Records which reflect the cost of the service and its non-profit, cost-sharing nature shall be maintained by the base station licensee and held available for inspection by Commission representatives. An audited financial statement reflecting the non-profit cost-sharing nature of the arrangement shall be submitted annually to the Commission's Washington office no later than three months after the close of the licensee's fiscal year.

§ 91.7 Relay stations.

(a) *General.* Relay stations are used to extend the range of communication between another radio station and the point with which it is desired to communicate. For the purposes of the rules in this part, there are two types of relay stations: Mobile Relay Stations and Fixed Relay Stations. For definitions see § 91.3.

(b) *Mobile relay stations.* The policies governing authorization and operation of this type of relay station are as follows:

(1) Each application for a new mobile relay station authorization shall be accompanied by a satisfactory showing that the applicant has a substantial requirement for prompt mobile-to-mobile communication over ranges greater than can be realized consistently by direct communication on the frequency presently assigned, or, in the case of a proposed new radio system, on any available frequency. (Measurements obtained by use of low-power transmitters of the hand-carried or pack-carried type will not be accepted in satisfaction of the requirements of this subparagraph.)

(2) A Mobile Relay Station may be authorized to operate on any mobile service frequency available for assignment to base stations.

(3) Each Mobile Relay Station shall be so designed and installed that it normally will be activated only by means of a coded signal or signals or such other means as will effectively prevent its activation by undesired signals: *Provided, however,* That this requirement may be waived when both of the following conditions are met:

(i) The radio system is shown to be so designed that the Mobile Relay Station normally is capable of activation only by signals received on frequencies above 50 Mc/s; and

(ii) The applicant for a mobile relay station authorization either verifies that no person having equal rights to the frequency in question is operating on the mobile station frequency within a radius of seventy-five miles of the proposed mobile relay station location, or, alternatively, obtains and submits with the application the written consent of each such person to installation of the proposed mobile relay station and its operation on a regular basis for a trial period of one year from the date a station license is granted by the Commission.

In any event, a waiver granted under the provisions of this subparagraph may be cancelled after ninety days notice by the Commission if it develops that the mobile relay station is in fact consistently activated by undesired signals and thereby causes harmful interference to other licensees.

(4) Each Mobile Relay Station shall be so designed and installed that it will be deactivated automatically when its associated receivers are not receiving a signal on the frequency or frequencies which normally activate it.

(5) Each Mobile Relay Station required by the terms of subparagraph (3) of this paragraph to be activated by a coded signal shall be so designed and installed that it will be deactivated upon receipt or cessation of a coded signal or signals and, in addition, shall be provided with an automatic time-delay or clock device which will deactivate the station not more than three minutes after its activation.

(6) A Mobile Station associated with one or more mobile relay stations may be authorized to operate only on a mobile service frequency above 47.0 Mc/s which is available for assignment to mobile stations.

(7) An Operational Fixed (control) Station associated with one or more Mobile Relay Stations may be assigned any frequency available for assignment to Operational Fixed Stations or, at the option of the applicant, the mobile service frequency assigned to the associated Mobile Station. Use of the mobile service frequency by such operational fixed (control) stations is subject to the condition that harmful interference shall not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(8) In any radio system which employs more than one Mobile Relay Station, where there is a requirement that stations in the vicinity of one Mobile Relay Station be able to communicate automatically with stations in the vicinity of other Mobile Relay Stations, any necessary circuits for interconnection of the Mobile Relay Stations shall be provided by means of wire lines or radio stations operating on fixed service frequencies.

(9) Mobile Relay Stations will not be authorized in the low power industrial radio service.

(10) A Base Station which is used intermittently as an Operational Fixed (control) Station for one or more associated Mobile Relay Station of the same licensee will be authorized to operate only on the mobile service frequencies assigned to the associated Mobile Relay Station and/or Mobile Station. Special authority for such dual station classification and use must be shown in the instrument of station authorization.

(c) *Fixed Relay Stations.* Fixed Relay Stations will be authorized to operate

only on frequencies available for use by Operational Fixed Stations.

§ 91.8 Policy governing the assignment of frequencies.

(a) The frequencies which normally may be assigned to stations in any one of the several Industrial Radio Services are listed in the applicable subpart of this part. All licensees of stations in these services shall cooperate in the use of the frequencies assigned in order to minimize interference, and thereby obtain the most effective use of the authorized facilities. Each frequency or band of frequencies listed in this part is available on a shared basis only and will not be assigned for the exclusive use of any one licensee. The use of any frequency may be restricted as to specified geographical areas, maximum power, or such other operating conditions as are contained in this part or in the station authorization. Except for applications listed in subparagraph (1) of this paragraph, each application requesting assignment of a frequency shall be accompanied by evidence of frequency coordination in the form set forth in either subparagraph (2) or (3) of this paragraph.

(1) The following applications need not be accompanied by evidence of frequency coordination:

(i) Any application requesting a frequency which is already authorized to the applicant for use in the area concerned.

(ii) Any application requesting a Federal Government frequency.

(iii) Any application requesting a frequency allocated primarily for Industrial, Scientific and Medical purposes.

(iv) Any application requesting a frequency in the 72–76 Mc/s band.

(v) Any application requesting a frequency below 25 Mc/s.

(vi) Any application requesting a frequency above 470 Mc/s.

(vii) Any application requesting a freqency assignment on a developmental basis only.

(viii) Any application in the Business Radio Service, where the frequency requested and both immediately adjacent frequencies are available for assignment in that service.

(ix) Any application in the Special Industrial or Business Radio Services specifying an itinerant operation only.

(2) Frequency coordination when required by the provisions of this section may be accomplished by the submission of a report, based on a field study, indicating the degree of probable interference to existing stations operating in the same area. The report shall consider all stations operating on the requested frequency within 75 miles of the proposed station, and all stations operating on any adjacent frequency 15 kc/s or less from the requested frequency and within 35 miles of the proposed station. Further, the applicant shall submit a written and signed statement that all existing licensees within the frequency and mileage limits contained in this subparagraph have been notified of the applicant's intention to request the particular frequency.

(3) In lieu of the report and statement described in subparagraph (2) of this paragraph, the applicant may submit a statement from a frequency advisory committee recommending the specific frequency which in the opinion of the committee will result in the least amount of interference to existing stations operating in the particular area. The frequency advisory committee must be so organized that it is representative of all persons who are eligible for radio facilities in the service concerned in the area the committee purports to serve. In addition to the selection of specific frequencies, committee recommendations may appropriately include comments on other technical factors such as power, antenna height and characteristics which may serve to mitigate any contemplated interference situation. The functions of such committees must be purely advisory in character to the applicant and the Commission, and their recommendations cannot be considered as binding upon either the applicant or the Commission.

(b) Each applicant shall use the highest order of frequencies available, compatible with the operational requirements of the particular radio system involved, and the actual channel loading of the bands in each area. Differentials in first cost and maintenance expense are factors which will not be considered as conclusive by the Commission in approving a choice between the ranges 1.6–6.0, 25–50, 152–174, and 450–460 Mc/s.

(c) The operational requirements of applicants for land mobile radio systems as authorized under this part dictate that the single frequency simplex method of operation be employed, and frequencies have been made available to each of the services largely on that basis. Consequently, in no case will more than one frequency, or band of frequencies, be assigned for the use of a single applicant until it has been demonstrated conclusively to the Commission that the assignment of an additional frequency, or band of frequencies, is essential to the operation of the radio system.

(d) With respect to fixed point-to-point circuits, simultaneous two-way communication will be required in most cases; consequently, it will be customary to assign two frequencies, or bands of frequencies, to such systems and, where possible, with such frequency separation that full duplex operation may be accomplished.

(e) Outside the continental limits of the United States and waters adjacent thereto, frequencies above 152 Mc/s, listed elsewhere in this part as available for assignment to Base Stations or Mobile Stations in particular Services are also available for assignment to Operational Fixed Stations in the same Service on condition that no harmful interference be caused to mobile service operations.

(f) Frequencies assigned to Federal Government radio stations under Executive order of the President may be authorized for use by stations licensed under this part upon appropriate showing by the applicant that such assignment is necessary for inter-communication with Federal Government stations or required for coordination with activities of the Federal Government, provided the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(g) The following criteria shall govern the authorization and use of frequencies within the band 72–76 Mc/s to and by fixed stations:

(1) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(2) The applicant agrees to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are found necessary within 90 days of the time knowledge of said interference is first brought to his attention by the Commission. If said interference is not cleared up within the 90-day period, operation of the fixed station will be discontinued.

(3) Vertical polarization is used.

(4) Whenever it is proposed to locate a 72–76 Mc/s fixed station less than 80, but more than 10 miles from the site of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which such channels are assigned but are not in operation, the fixed station shall be authorized only if:

(i) There are fewer than 100 family dwelling units[1] located within a circle centered at the location of the proposed fixed stations[2] the radius of which shall be determined by use of the chart entitled, "Chart for Determining Radius From Fixed Station in 72–76 Mc/s Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would be Destroyed." Two charts are provided, one for Channel 4 and one for Channel 5:

Provided, however, That the Commission may, in a particular case, authorize the location of a fixed station within a circle as determined under subdivision (i) of this subparagraph containing 100 or more family dwelling units upon a showing that:

(*a*) The proposed site is the only suitable location.

(*b*) It is not feasible, technically or otherwise, to use other available frequencies.

(*c*) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(*d*) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by his operations.

(5) All applications seeking authority to operate with a separation of less than 10 miles will be returned without action.

(h) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 25–50 Mc/s must recognize that the band is shared with various services in other countries; that

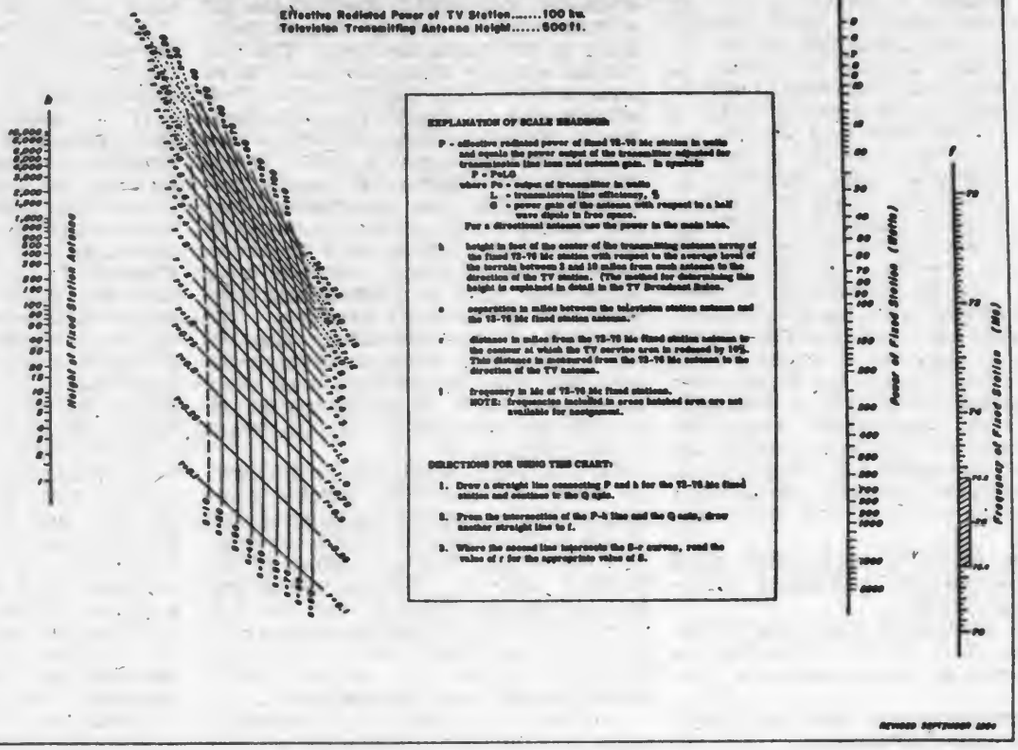
[1] As defined by the U. S. Bureau of Census.

[2] Family dwelling units 70 or more miles distant from the TV antenna site are not to be counted.

FOR CHANNEL 4

CHART FOR DETERMINING RADIUS FROM FIXED STATION IN 72 - 76 Mc BAND TO INTERFERENCE CONTOUR ALONG WHICH 10% OF SERVICE FROM ADJACENT TELEVISION STATION WOULD BE DESTROYED

Effective Radiated Power of TV Station.....100 kw.
Television Transmitting Antenna Height.....500 ft.



EXPLANATION OF SCALE HEADINGS

P - effective radiated power of fixed 72-76 Mc station in watts and equals the power output of the transmitter adjusted for transmission line loss and antenna gain. In symbols
P = Po.L.G
where Po = output of transmitter in watts
L = transmission line efficiency, %
G = power gain of the antenna with respect to a half wave dipole in free space.
For a directional antenna use the power in the main lobe.

h - height in feet of the center of the transmitting antenna array of the fixed 72-76 Mc station with respect to the average level of the terrain between 2 and 10 miles from such antenna in the direction of the TV station. (The method for determining this height is explained in detail in the TV Broadcast Rules.

s - separation in miles between the television station antenna and the 72-76 Mc fixed station antenna.

r - distance in miles from the 72-76 Mc fixed station antenna to the contour at which the TV service area is reduced by 10%. This distance is measured from the 72-76 Mc antenna in the direction of the TV antenna.

f - frequency in Mc of 72-76 Mc fixed stations.
NOTE: Frequencies included in cross hatched area are not available for assignment.

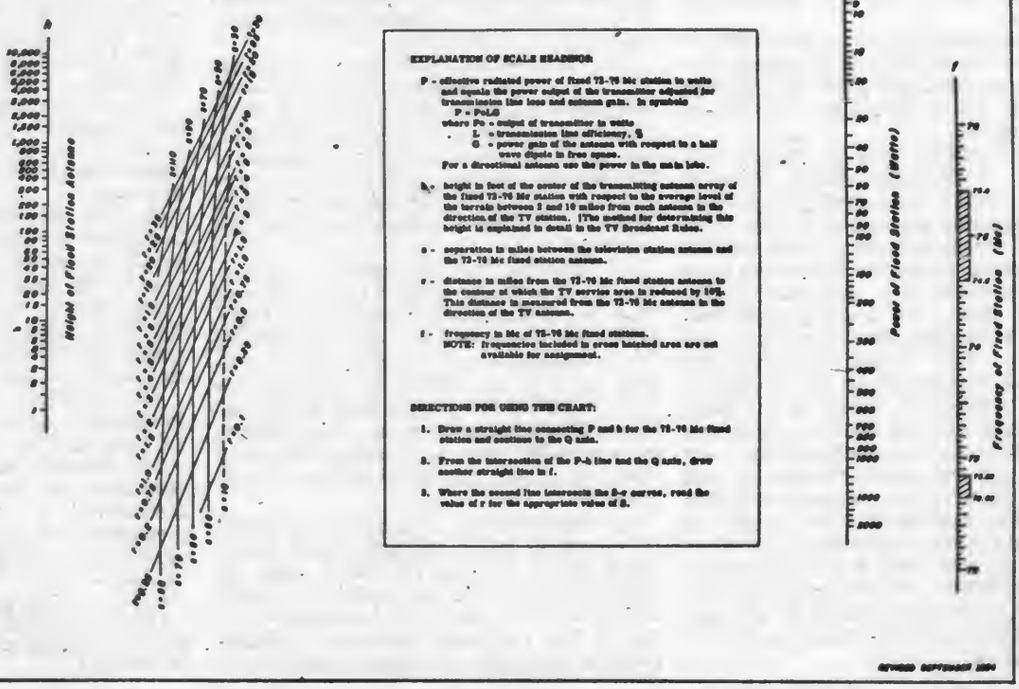
DIRECTIONS FOR USING THIS CHART:

1. Draw a straight line connecting P and h for the 72-76 Mc fixed station and continue to the Q axis.
2. From the intersection of the P-h line and the Q axis, draw another straight line to f.
3. Where the second line intersects the S-r curves, read the value of r for the appropriate value of S.

FOR CHANNEL 5

CHART FOR DETERMINING RADIUS FROM FIXED STATION IN 72-76 Mc BAND TO INTERFERENCE CONTOUR ALONG WHICH 10% OF SERVICE FROM ADJACENT TELEVISION STATION WOULD BE DESTROYED

Effective Radiated Power of TV Station.....100 kw.
Television Transmitting Antenna Height.....500 ft.



EXPLANATION OF SCALE HEADINGS

P - effective radiated power of fixed 72-76 Mc station in watts and equals the power output of the transmitter adjusted for transmission line loss and antenna gain. In symbols
P = Po.L.G
where Po = output of transmitter in watts
L = transmission line efficiency, %
G = power gain of the antenna with respect to a half wave dipole in free space.
For a directional antenna use the power in the main lobe.

h - height in feet of the center of the transmitting antenna array of the fixed 72-76 Mc station with respect to the average level of the terrain between 2 and 10 miles from such antenna in the direction of the TV station. (The method for determining this height is explained in detail in the TV Broadcast Rules.

s - separation in miles between the television station antenna and the 72-76 Mc fixed station antenna.

r - distance in miles from the 72-76 Mc fixed station antenna to the contour at which the TV service area is reduced by 10%. This distance is measured from the 72-76 Mc antenna in the direction of the TV antenna.

f - frequency in Mc of 72-76 Mc fixed stations.
NOTE: Frequencies included in cross hatched area are not available for assignment.

DIRECTIONS FOR USING THIS CHART:

1. Draw a straight line connecting P and h for the 72-76 Mc fixed station and continue to the Q axis.
2. From the intersection of the P-h line and the Q axis, draw another straight line to f.
3. Where the second line intersects the S-r curves, read the value of r for the appropriate value of S.

harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

(i) In the frequency range above 150 Mc/s the Commission may make assignments which are offset from the frequencies set forth in this part in those cases where it can be shown that all suitable listed frequencies are in use in the area concerned, or that for technical reasons a developmental program requires such offset assignment. In either event offset assignments will be made only if the results of an engineering study of each request indicates that the proposed operation can be accomplished without increasing the interference potential, as compared to that which would obtain if a listed frequency were used under the same conditions, and provided, that such offset assignment will not reduce the maximum potential frequency utilization in the area involved. Depending upon the degree of offset and other technical characteristics of the application the Commission may authorize the proposed operation on a developmental basis only.

(j) The bands of frequencies listed in this paragraph are available for assignment to any station in the Industrial Radio Services for narrow-band emission only under the terms of a developmental grant, provided, that the sum of the bandwidth occupied by the modulation and that required for frequency tolerance shall not exceed the limits of the frequency bands indicated. The bands of frequencies available for such assignment are as follows:

Mc/s
30.56–30.57
35.00–35.01
35.19–35.20
35.68–35.69
35.99–36.00
37.00–37.01
154.4600–154.4675
173.2000–173.2075
173.2075–173.2125
173.3875–173.3925
173.3925–173.4000

(k) The provisions of paragraph (a) (1) of this section notwithstanding, in order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, or temporary fixed seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15′ N on the north, 78°30′ W on the east, 37°30′ N on the south and 80°30′ W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P. O. Box #2, Green Bank, West Virginia, 24944 in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

Subpart B—Applications, Authorizations, and Notifications

§ 91.51 Station authorization required.

No radio transmitter shall be operated in the Industrial Radio Services except under and in accordance with a proper station authorization granted by the Federal Communications Commission.

§ 91.52 Procedure for obtaining a radio station authorization and for commencement of operation.

(a) Persons desiring to install and operate radio transmitting equipment should first submit an application for a radio station authorization in accordance with §91.56.

(b) When construction permit only has been issued for a Base, Operational Fixed, or Mobile Station and installation has been completed in accordance with the terms of the construction permit and the applicable rules of the Commission, the permittee shall proceed further as follows:

(1) Notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will first be tested in such manner as to produce radiation, giving name of the permittee, station location, call sign, and frequencies on which tests are to be conducted. This notification shall be made in writing at least two days in advance of the test date. FCC Form 456 may be used for this purpose. No reply from the radio district office is necessary before the tests are begun.

(2) After testing, but on or before the date when the station is first used for operational purposes, mail to the Commission in Washington, D.C., 20554, an application on FCC Form 400, or in the case of microwave stations on FCC Form 402, for license or modification of license as appropriate in the particular case. The station may thereafter be used as though licensed, pending Commission action on the license application.

(c) When a construction permit and license for a new Base, Operational Fixed, or Mobile Station are issued simultaneously the licensee shall notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will be placed in operation, giving name of licensee, station location, call sign, and operating frequencies. This notification shall be made in writing on or before the day on which operation is commenced. FCC Form 456 may be used for this purpose.

(d) When a construction permit and modification of license for a Base Operational Fixed or Mobile Station are issued simultaneously, operation may be commenced without notification to the Engineer in Charge of the local radio district, except where operation on a new or different frequency results by reason of such modification, in which event the notification procedure set forth in paragraph (c) of this section must be observed.

§ 91.53 Procedure for obtaining special temporary authority.

(a) In circumstances requiring immediate or temporary use of facilities, request may be made for special temporary authority to install and operate new equipment or to operate licensed equipment in a manner different than that authorized in the station license. Any such request may be in letter form, submitted in duplicate, and signed in accordance with §91.55: *Provided*, That in cases of emergency involving danger to life or property or due to damage to equipment, such request may be made by telephone or telegraph under the condition that written request is submitted within 10 days from the date of such request. In the event that the Commission finds that such an emergency exists, temporary authorization may be granted for the duration of the emergency. Any such request shall be clear and complete within itself as to the action desired.

(b) Special temporary authority may also be requested for the purpose of conducting a field survey to determine necessary data in connection with the filing of formal applications for installation of a radio system under this part. In this case the authority, if issued, will be for developmental operation only and the applicable sections of Subpart E of this part shall also apply to the grant.

(c) Request for special temporary authority shall contain the following information:

(1) Name, address, and citizenship status of applicant.

(2) Need for special action, including a description of any emergency or damage to equipment.

(3) Type of operation to be conducted.

(4) Purpose of operation.

(5) Time and date of operation desired.

(6) Class of station and nature of service.

(7) Location of station.

(8) Equipment to be used, specifying manufacturer, model number, and number of units.

(9) Frequency(s) desired.

(10) Plate power input to final radio frequency stage.

(11) Type of emission.

(12) Description of antenna to be used, including height.

(d) Except in emergencies involving safety of life or property or due to dam-

age to equipment, request for special temporary authority shall be submitted to the Commission at least ten days prior to the date of proposed operation, or it must be accompanied by a statement of reasons for the delay in submitting such request.

§ 91.54 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Industrial Radio Services are discussed in § 91.56, and may be obtained from the Washington, D.C., office of the Commission, or from any of its engineering field offices. Concerning matters where no standard form is applicable, the informal application procedure outlined in § 91.56 should be followed.

(b) Any application for radio station authorization and all correspondence relating thereto shall be submitted to the Commission's office at Washington, D.C., 20554, and should be directed to the attention of the Secretary. An application for commercial radio operator permit or license may be submitted to any of the Commission's engineering field offices, or to the Commission's office at Washington, D.C., 20554.

(c) Unless otherwise specified, an application shall be filed at least sixty days prior to the date on which it is desired that Commission action thereon be completed.

(d) Failure on the part of the applicant to provide all the information required by the application form, or to supply the necessary exhibits or supplementary statements may constitute a defect in the application.

(e) Applications involving operation at temporary locations:

(1) When one or more individual transmitters are intended to be operated as a base station or as a fixed station at unspecified or temporary locations for indeterminate periods, such transmitters may be considered to comprise a single station intended to be operated at temporary locations. An application for authority to operate a base station or a fixed station at temporary locations shall specify the general geographic area within which the operation will be confined. The area specified may be a city, a county or counties, or a state or states. Sufficient data must be submitted to show the need for the proposed area of operation.

(2) When any unit or units of a base station or fixed station authorized to be operated at temporary locations actually remains or is intended to remain at the same location for a period of over a year, application for a separate authorization specifying the fixed location, shall be made as soon as possible but not later than 30 days after the expiration of the one year period.

§ 91.55 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 91.56 Standard forms to be used.

(a) Except as provided in paragraph (h) of this section, separate application shall be submitted on FCC Form 400 for the following:

(1) New station authorization for a Base or Operational Fixed Station.

(2) New station authorizations for any required number of mobile units (including hand-carried or pack-carried units) or any required number of units of a base station or fixed station to be operated at temporary locations in the same service.

NOTE: An application for mobile units may be combined with an application for a single base station for such mobile units as will operate with that base station only.

(3) License for any class of station upon completion of construction or installation in accordance with the terms and conditions set forth in the construction permit.

(4) Modification of combined construction permit and station license for changes outlined in § 91.64(a).

(5) Modification of construction permit.

(6) Modification of station license.

Any of the foregoing applications will, upon approval and authentication by the Commission, be returned to the applicant as a specifically-designated type of authorization.

(b) When the holder of a station authorization desires to assign to another person the privilege to construct or use a radio station, he shall submit to the Commission a letter setting forth his desire to assign all right, title, and interest in and to such authorization, stating the call sign and location of station. This letter shall also include a statement that the assignor will submit his current station authorization for cancellation upon completion of the assignment. Enclosed with this letter shall be an application for Assignment of Authorization on FCC Form 400 prepared by and in the name of the person to whom the station is being assigned.

(c) [Reserved]

(d) A separate application shall be submitted on FCC Form 703 whenever it is proposed to change, as by transfer of stock ownership, the control of a corporate permittee or licensee.

(e) Informal application. (1) An application not submitted on a standard form prescribed by the Commission is considered to be an informal application. Each informal application shall be submitted in duplicate, normally in letter form, and with the original properly signed. Each application shall be clear and complete within itself as to the facts presented and the action desired.

(2) A request for special temporary authorization must include full particulars as to the purpose for which the request is made and such request should be submitted at least 10 days prior to the date of the proposed operation. A request received within less than 10 days may be accepted upon due showing of sufficient reason for the delay in submitting the request. The information necessary for Commission action on requests for Special Temporary Authority is set forth in § 91.53.

(f) FCC Form 456 "Notification of Completion of Radio Station Construction" may be used to advise the Engineer-in-Charge of the local district office that construction of the station is complete and that operational tests will begin.

(g) Application for renewal of station license shall be submitted on FCC Form 405–A. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

(h) Application for construction permit, license, modification or assignment thereof for an operational fixed station using frequencies above 952 Mc/s (a so-called microwave station) shall be submitted on FCC Form 402.

§ 91.58 Supplemental information to be submitted with application.

Each application for station authorization shall be accompanied by such supplemental information listed below as may be required.

(a) Any statements or showings required by the applicable subpart of this part, in connection with the use of the frequency requested.

(1) Each application for authority to operate on one of the frequencies in the range 1.6–6.0 Mc/s must be fully justified, and shall be accompanied by: A satisfactory showing that the safety of human life will be jeopardized by failure of the Commission to authorize the use of a frequency in the requested range; a description in detail of the particular activity involved; and the manner in which radio will be used in the activity. The circumstances must be such that the activity, by reason of its nature or location, is hazardous to personnel engaged therein, or to the public in the vicinity thereof; that the radiocommunication facilities requested will materially reduce such hazard; and that it is impossible to use a higher order of frequencies for accomplishment of the same purposes.

(b) Statements justifying the need for more than one frequency, as required by § 91.8.

(c) Statement describing the type of emission to be used if it cannot be described as "8A3", "20F3" or "40F3" pursuant to Subpart C of this part.

(d) Description of the antenna system, on FCC Form 401–A in triplicate in all cases when:

(1) The antenna structures proposed to be erected will exceed an over-all height of 170 feet above ground level, except that where the antenna is mounted on top of an existing man-made structure, other than an antenna structure, and does not increase the over-all height of such man-made structure by more than 20 feet, no Form 401–A need be filed; or

(2) The antenna structures proposed to be erected will exceed an over-all height of one foot above the established airport (landing area) elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure, other than an antenna structure, or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet, no Form 401–A need be filed.

(e) A functional system diagram and a detailed description of the manner in which the interrelated stations will operate when the station is, or will be, part of a system involving two or more stations at different fixed locations.

(f) Copies of all agreements and statements which may be required under § 91.6 if operation is desired in connection with any cooperative use of the proposed radio communication facilities.

(g) Statements required by the rules in connection with developmental operation. See §§ 91.202, 91.203, and 91.207.

(h) Description of any equipment, proposed to be used, which does not appear on the Commission's List of Equipments Acceptable for Licensing, and designated for use in the Public Safety, Industrial, and Land Transportation Radio Services.

(i) Any statements or other data required under special circumstances as set forth in the applicable subpart of this part, or required upon request by the Commission.

(j) Data required by the rules in connection with operation of base or fixed stations at temporary locations. See § 91.54(e)(1).

§ 91.59 Partial grants.

Where the Commission without a hearing grants any application in part, or with any privileges, terms or conditions other than those requested, or subject to any interference that may result to a station if designated application or applications are subsequently granted, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which such grant is made or from its effective date if a later date is specified, file with the Commission a written request rejecting the grant as made. Upon receipt of such request, the Commission will vacate its original action upon the application and set the application for hearing in the same manner as other applications are set for hearing.

§ 91.60 Defective applications.

(a) Applications which are incomplete with respect to completeness of answers, supplementary statements, execution, or other matters of a formal character shall be deemed to be defective and may be returned to the applicant with a brief statement as to such defects.

(b) Applications will also be deemed to be defective and may be returned to the applicant in the following cases:

(1) Statutory disqualification of applicant, e. g., aliens under section 310 of the Communications Act;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed.

(c) Applications which are not in accordance with the provisions of this chapter, or other requirements of the Commission will be considered defective and may be dismissed unless accompanied either by (1) a petition to amend any rule or regulation with which the application is in conflict, or (2) a request of the applicant for waiver of, or exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof. Applications may be dismissed, if the accompanying petition for waiver or amendment of rules does not set forth reasons which, sufficient if true, would justify a waiver or change of the rules.

(d) If an applicant is requested by the Commission to file any additional documents or information not included in the prescribed application form, failure to comply with such request will be deemed to render the application defective, and such application may be dismissed.

§ 91.61 Amendment or dismissal of applications.

(a) Any application may be amended upon request of the applicant as a matter of right prior to the time the application is granted or designated for hearing. Each amendment to an application shall be signed and submitted in the same manner and with the same number of copies as required for original application.

(b) Any application may, upon written request signed by the applicant or his attorney, be dismissed without prejudice as a matter of right prior to the time the application is granted or designated for hearing.

§ 91.62 Construction period.

(a) Each radio station construction permit issued by the Commission will specify the date of grant as the earliest date of commencement of construction and installation, and a maximum of eight months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission in any particular case.

(b) In cases where the station is not ready for operational use on or before the expiration date of the construction permit, application for extension of time shall be filed on FCC Form 400, or on FCC Form 402, as appropriate.

§ 91.63 License term.

(a) For all stations in the Industrial Radio Services, except those engaged in developmental operation, the license period shall be as follows:

(1) The initial station license will be issued for a term of from one to five years from the effective date of grant, the term varying as may be necessary to permit the orderly scheduling of renewal applications.

(2) Each station license normally will be renewed, upon proper application, for a term of five years from the effective date of renewal.

(b) Instruments of authorization for stations engaged in developmental operation will be made upon a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 91.64 Changes in authorized stations.

Authority for certain changes in authorized stations must be obtained from the Commission before these changes are made, while other changes do not require prior Commission approval. The following paragraphs describe the conditions under which prior Commission approval is or is not necessary:

(a) Proposed changes which will result in operation inconsistent with any of the terms of the current authorization require that an application for modification of construction permit and/or license be submitted to the Commission and shall be on FCC Form 400 or, in case of microwave stations, on FCC Form 402 and shall be accompanied by exhibits and supplementary statements as required by § 91.58.

(b) [Reserved]

(c) Proposed changes which will not depart from any of the terms of the outstanding authorization for the station involved may be made without prior Commission approval. Included in such changes is the substitution of various makes of transmitting equipment at any station provided the particular equip-

ment to be installed is included in the Commission's "List of Equipments Acceptable for Licensing" and designated for use in the Public Safety, Industrial, and Land Transportation Radio Services and provided the substitute equipment employs the same type of emission and does not exceed the power limitations as set forth in the station authorization.

§ 91.65 Report of temporary location.

The Engineer-in-Charge of each Radio District wherein temporary operation by a Base Station or Operational Fixed Station is authorized shall be notified of such inter-District operating authority only at such time as the initial or modified authorization for such operation is granted by the Commission.

§ 91.66 Discontinuance of station operation.

In case of permanent discontinuance of operation of a station licensed under this part, the licensee shall forward the station license to the Washington, D. C. office of the Commission for cancellation. A copy of the request for cancellation of the license shall be forwarded to the Commission's Engineer in Charge of the district in which the station is located. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

§ 91.67 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 91.68 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 91.68 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part shall be accompanied by the fees prescribed below:

Applications for radio station authorizations for operational fixed radio stations for which frequencies above 952 Mc/s are requested (no fee is required for applications for license to cover construction permit)	$30
Applications for renewal of license only for which FCC Form 405–A is prescribed	4
All other applications for radio station authorizations	10

(b) Fees are not required in the following instances:

Applications filed pursuant to § 91.53 (informal applications for special temporary authority).
Applications filed by governmental entities.
Applications for closed circuit educational television service for which frequencies above 952 Mc/s are requested.

Subpart C—Technical Standards

§ 91.101 Frequencies.

The frequencies available for use in these services, in accordance with the policy set forth in § 91.8, are listed in the applicable subpart of the rules in this part. The separation between assignable frequencies in the various bands does not necessarily indicate the actual amount of separation required for the operation of two or more systems within the same geographical area.

§ 91.102 Frequency stability.

(a) Except as provided in paragraph (b) or (c) of this section, a permittee or licensee in these services shall maintain the carrier frequency of each authorized transmitter within the following percentage of the assigned frequency:

Frequency range	Transmitter (input) power			
	Fixed and base stations		Mobile stations	
	Over 300 watts	300 watts or less	Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*	*Percent*	*Percent*
Below 25	0.005	0.01	0.01	0.02
25 to 50	.002	.002	.002	.005
50 to 1000	.0005	.0005	.0005	.005
Above 1000	(1)	(1)	(1)	(1)

[1] For microwave fixed equipment, see §91.111. For other equipment, tolerances will be specified in the station authorization.

(b) In lieu of meeting the requirements of paragraph (a) of this section for the frequency ranges shown below, transmitters authorized prior to November 1, 1958, and transmitters which are operationally integrated with existing radiocommunication systems authorized prior to November 1, 1958, may conform to the following tolerances until not later than October 31, 1963:

Frequency range	Transmitter power	
	Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*
50 to 150.8	0.005	0.01
174 to 220	0.005	0.01
220 to 1000	(1)	(1)

[1] To be specified in the station authorization.

(c) In lieu of meeting the requirements of paragraph (a) of this section for the frequency bands shown below, transmitters authorized not later than October 31, 1963, for operation wholly within the limits of one or more of the territories or possessions of the United States or the State of Alaska, and transmitters operationally integrated with existing radiocommunication systems authorized prior to August 1, 1958, for operation in areas other than those indicated above, may conform to the following frequency tolerances until not later than October 31, 1963: *Provided*, That in areas other than the territories or possessions of the United States or the State of Alaska, either (1) the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958, or (2) the operation takes place on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved:

Frequency range	Transmitter power	
	Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*
25 to 50	0.01	0.02
152 to 174	0.005	0.01

(d) For the purpose of determining the frequency tolerance applicable to a particular transmitter in accordance with the foregoing provisions of this section, the power of a transmitter shall be the maximum rated plate power input to its final radio frequency stage, as specified by the manufacturer.

§ 91.103 Types of emission.

(a) Except as provided in paragraph (b) of this section, stations in these services will be authorized to use only A3 or F3 emission for radiotelephony. The authorization to use A3 or F3 emission will be construed to include the use of tone signals or signaling devices whose sole function is to establish and maintain communication between stations.

(b) Other types of emission not described in paragraph (a) of this section may be authorized upon a satisfactory showing of need therefor. An application requesting such authorization shall fully describe the emission desired, shall indicate the bandwidth required for satisfactory communication, and shall state the purpose for which such emission is required. For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2 of this chapter.

§ 91.104 Emission limitations.

(a) Each authorization issued to a station operating in these services will show, as the prefix to the emission classification, a figure specifying the maximum authorized bandwidth in kc/s to be occupied by the emission. The specified

band shall contain those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power. Any radiation in excess of the limits specified in paragraph (c) of this section is considered to be an unauthorized emission.

(b) The maximum authorized bandwidth of emission corresponding to the types of emission specified in § 91.103(a) and the maximum authorized frequency deviation in the case of frequency or phase modulated emission, shall be as follows:

(1) For all type A3 emission, the maximum authorized bandwidth shall be 8 kc/s.

(2) Except as provided in subparagraphs (3) and (4) of this paragraph, for all F3 emission, the maximum authorized bandwidth and maximum authorized frequency deviation shall be as follows:

Frequency band	Authorized bandwidth (kc/s)	Frequency deviation (kc/s)
Mc/s		
25 to 50	20	5
50 to 150	40	15
150 to 450	20	5
450 to 1000	40	15

(3) In lieu of meeting the requirements of subparagraph (2) of this paragraph, transmitters which are operationally integrated with existing radiocommunication systems authorized prior to August 1, 1958 to utilize type F3 emission and to operate on frequencies within the ranges 25–50 Mc/s or 152–174 Mc/s may be operated with a maximum frequency deviation of 5 kc/s until not later than October 31, 1963: *Provided*, That the operation takes place either on frequencies authorized stations of the respective systems prior to August 1, 1958, or on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved.

(4) In lieu of meeting the requirements of subparagraph (2) of this paragraph, and notwithstanding the provisions of subparagraph (3) of this paragraph, transmitters utilizing type F3 emission may be operated with a maximum frequency deviation of 15 kc/s until not later than October 31, 1963 if they:

(i) Are authorized for operation wholly within the limits of one or more of the territories or possessions of the United States or the State of Alaska on frequencies within the ranges 25–50 Mc/s or 152–174 Mc/s;

(ii) Were authorized for operation on frequencies within the range 49.60–50.00 Mc/s;

(iii) Were authorized prior to August 1, 1958, for operation within the range 25–42 Mc/s on frequencies removed by at least 40 kc/s from the nearest regularly-available frequency listed in Parts 89, 91 or 93 of this chapter; or

(iv) Are operationally integrated with systems meeting the criteria set forth in subdivision (iii) of this subparagraph.

(c) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 decibels;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10 Log_{10} (mean output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

(d) When an unauthorized emission results in harmful interference, the Commission may, in its discretion, require appropriate technical changes in equipment to alleviate the interference.

§ 91.105 Modulation requirements.

(a) The maximum audio frequency required for satisfactory radiotelephone intelligibility in these services is considered to be 3000 cycles per second; in any transmitter not subject to the provisions of paragraph (d), (e) or (f) of this section, the over-all frequency response of the audio and modulating circuits nevertheless shall correspond approximately with that required thereby.

(b) When amplitude modulation is used for telephony, the modulation percentage shall be sufficient to provide efficient communication and normally shall be maintained above 70 percent on peaks, but shall not exceed 100 percent on negative peaks.

(c) Each transmitter first authorized or installed after July 1, 1950, shall be provided with a device which automatically will prevent modulation in excess of that specified in this subpart which may be caused by greater than normal audio level: *Provided, however*, That this requirement shall not be applicable to transmitters authorized to operate as mobile stations with a maximum plate power input to the final radio frequency stage of 3 watts or less.

(d) Each transmitter which is operated on a frequency in the ranges 25–50 Mc/s or 152–174 Mc/s, and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter in accordance with the provisions of paragraph (g) of this section: *Provided, however*, That this requirement shall not apply until November 1, 1963, to transmitters of stations operated wholly within the limits of one or more of the territories or possessions of the United States or the State of Alaska; and this requirement shall not apply until November 1, 1963, to transmitters which are operationally integrated with existing radiocommunication systems which were authorized prior to August 1, 1958, in those cases where either (1) the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958, or (2) the operation takes place on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved.

(e) Each transmitter which is operated on a frequency in the range 150.8–152 Mc/s and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter, in accordance with the provisions of paragraph (g) of this section.

(f) Each transmitter which is operated on a frequency in the range 450 to 470 Mc/s and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter, in accordance with the provisions of paragraph (g) of this section: *Provided, however*, That this requirement shall not apply until November 1, 1963, to transmitters first authorized or installed prior to November 1, 1958, or to transmitters which are operationally integrated with existing radiocommunications systems which were authorized prior to November 1, 1958.

(g) The audio low-pass filter required by the provisions of the preceding paragraphs of this section shall be installed between the modulation limiter and the modulated stage and, at audio frequencies between 3 kc/s and 15 kc/s, shall have an attenuation greater than the attenuation at 1 kc/s by at least:

$$40 \log_{10} (f/3) \text{ decibels}$$

where "f" is the audio frequency in kilocycles. At audio frequencies above 15 kc/s the attenuation shall be at least 28 decibels greater than the attenuation at 1 kc/s.

§ 91.106 Power and antenna height.

(a) The power which may be used by a station in these services shall be no more than the minimum required for satisfactory technical operation commensurate with the size of the area to be served and local conditions which affect radio transmission and reception. In cases of harmful interference, the Commission may order a change in power, or antenna height, or both.

(b) Except where the power that may be used on a designated frequency is specifically limited to a lower value, plate power input to the final radio frequency stage in excess of the following tabulation will not be authorized:

Frequency:	*Maximum plate power input to the final radio frequency stage (watts)*
1.6–6.0 Mc/s	2,000
25–100 Mc/s	500
100–220 Mc/s	600
Above 220 Mc/s	(1)

[1] To be specified in the authorization.

(c) The plate power input to the final r. f. stage under actual operation shall not exceed by more than 10 percent the

plate power input shown in the Radio Equipment List, Part C, for transmitters included in this list, or the manufacturer's rated plate power input for the particular transmitter specifically listed on the authorization.

§ 91.107 Transmitter control requirements.

(a) Each transmitter shall be so installed and protected that it is not accessible to or capable of operation by persons other than those duly authorized by the licensee.

(b) A control point is an operating position which meets all of the following conditions:

(1) The position must be under the control and supervision of the licensee;

(2) It is a position at which the monitoring facilities required by this section are installed; and

(3) It is a position at which a person immediately responsible for the operation of the transmitter is stationed.

(c) Each station shall be provided with a control point, the location of which will be specified in the license. It will be assumed that the location of the control point is the same as that of the transmitting equipment unless the application includes a request for a different location. Authority must be obtained from the Commission for the installation of additional control points.

(d) A dispatch point is any position from which messages may be transmitted under the supervision of the person at a control point who is responsible for the operation of the transmitter. Dispatch points may be installed without authorization from the Commission.

(e) At each control point, the following facilities shall be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating; or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to produce radiation: *Provided, however,* That the provisions of this subparagraph shall not apply to hand-carried or pack-carried transmitters;

(2) Equipment to permit the person responsible for the operation of the transmitter to aurally monitor all transmissions originating at dispatch points under his supervision;

(3) Facilities which will permit the person responsible for the operation of the transmitter either to disconnect the dispatch point circuits from the transmitter or to render the transmitter inoperative from any dispatch point under his supervision; and

(4) Facilities which will permit the person responsible for the operation of the transmitter to turn the transmitter carrier on and off at will.

§ 91.108 Transmitter measurements.

(a) The licensee of each station shall employ a suitable procedure to determine that the carrier frequency of each transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of three watts, is maintained within the tolerance prescribed in this part. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the carrier frequency or the stability thereof;

(3) At intervals not to exceed one year, for transmitters employing crystal-controlled oscillators;

(4) At intervals not to exceed one month, for transmitters not employing crystal-controlled oscillators.

(b) The licensee of each station shall employ a suitable procedure to determine that the plate power input to the final radio frequency stage of each base station or fixed station transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of three watts, does not exceed the maximum figure specified on the current station authorization. Where the transmitter is so constructed that a direct measurement of plate current in the final radio frequency stage is not practicable, the plate input power may be determined from a measurement of the cathode current in the final radio frequency stage. When the plate input to the final radio frequency stage is determined from a measurement of the cathode current, the required record entry shall indicate clearly the quantities that were measured, the measured values thereof, and the method of determining the plate power input from the measured values. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may increase the transmitter power input;

(3) At intervals not to exceed one year.

(c) The licensee of each station shall employ a suitable procedure to determine that the modulation of each transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of three watts, does not exceed the limits specified in this part. This determination shall be made and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the modulation characteristics;

(3) At intervals not to exceed one year.

(d) The determinations required by paragraphs (a), (b), and (c) of this section may, at the option of the licensee, be made by any qualified engineering measurement service, in which case the required record entries shall show the name and address of the engineering measurement service as well as the name of the person making the measurements.

(e) In the case of mobile transmitters, the determinations required by paragraphs (a) and (c) of this section may be made at a test or service bench: *Provided,* That the measurements are made under load conditions equivalent to actual operating conditions: *And provided further,* That after installation in the mobile unit the transmitter is given a routine check to determine that it is capable of being received satisfactorily by an appropriate receiver.

§ 91.109 Acceptability of transmitters for licensing.

(a) From time to time the Commission will publish a list of equipment entitled "Radio Equipment List, Part C, List of Equipment Acceptable for Licensing." Copies of this list are available for inspection at the Commission's Offices in Washington, D. C., and at each of its field offices. This list will include type approved and type accepted equipment and equipment which was included in this list on May 16, 1955. Such equipment will continue to be included on the list unless it is removed therefrom by Commission action.

(b) Except for transmitters used at developmental stations, each transmitter utilized by a station authorized for operation under these rules must be of a type which is included on the Commission's current "List of Equipment Acceptable for Licensing" and designated for use in this service or be of a type which has been type accepted by the Commission for use in this service. Until January 1, 1965, however, equipment presently in use may continue to be used by the licensee, his successors, or assigns in business provided the operation of such equipment does not result in harmful interference due to the failure of such equipment to comply with the current technical standards of the rules.

§ 91.110 Type acceptance of equipment.

(a) Any manufacturer of a transmitter to be built for use in this service may request "type acceptance" for such transmitter following the type acceptance procedure set forth in Part 2 of this chapter.

(b) Type acceptance for an individual transmitter may also be requested by an applicant for a station authorization by following the type acceptance procedure set forth in Part 2 of this chapter. Such transmitters, if accepted, will not normally be included on the Commission's "Radio Equipment List, Part C, List of Equipment Acceptable for Licensing" but will be individually enumerated on the station authorization.

(c) Additional rules with respect to type acceptance are set forth in Part 2 of this chapter, and include information with respect to withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based.

§ 91.111 Interim technical standards governing use of microwave frequencies.

The interim technical standards indicated in the table in this section shall govern, beginning July 20, 1961, the issuance of authorizations for private microwave systems using the frequency bands above 952 Mc/s listed in the table. However, these standards shall not be applicable to transmitting equipment (including antennas) which were authorized to be operated on these frequen-

cies prior to July 20, 1961, or for which an authorization is issued based on an application filed with the Commission prior to July 20, 1961. Such licensees of equipment and systems not subject to these interim technical standards, including their successors or assigns in business, will be permitted to utilize such equipment provided such operation does not result in harmful interference to another station or system which is conforming to these technical standards. In case of such harmful interference, such non-conforming licensee will be required to take whatever corrective measures are necessary to alleviate the interference.

Frequency band	Power [1] (Watts)	Tolerance (%)	Bandwidth [2]	Beamwidth [3]
Mc/s				
952–960	30	0.0005	100 kc/s	20°
1850–1990	18	.02	8 Mc/s	10°
2110–2200	15	.02	(7)	10°
2450–2500 [4]	12	(5)	(5)	(5)
2500–2700 [6]	12	.02	4 Mc/s	10°
6525–6575 [6]	7	.02	25 Mc/s	7°
6575–6875	7	.02	10 Mc/s	5°
10550–10700 [6]	5	(5)	25 Mc/s	4°
12200–12700	5	.05	20 Mc/s	4°
Above 16000	5	(5)	50 Mc/s	(5)

[1] Maximum rated power output of transmitter. Power in excess of that shown herein will be authorized only under exceptional circumstances based upon a factual showing of need. For pulsed systems average power shall be limited to the values shown, peak power shall not exceed five times this limit.

[2] Maximum bandwidth (necessary or occupied, whichever is greater) which will be authorized. Except for the band 2110–2200 Mc/s, consideration will be given, on a case-by-case basis, to requests for additional adjacent channels based upon a complete and specific factual showing of unique or unusual circumstances, apart from economic considerations, requiring such additional channels. In the band 952–960 Mc/s, bandwidths up to 500 kc/s may be authorized.

[3] Maximum beamwidth of major lobe between 0.5 power points in horizontal plane. Exceptions may be granted for stations in remote areas or until harmful interference is caused to other stations operating in accordance with these provisions.

[4] Subject to no protection from ISM equipment on 2450 Mc/s.

[5] To be specified in the station authorization.

[6] Limited to mobile operations and temporary service between fixed points.

[7] See Docket No. 14712.

[8] See Docket No. 14744.

Subpart D—Station Operating Requirements

§ 91.151 Permissible communications.

(a) Stations licensed under this part may transmit the following types of communications:

(1) Any communication related directly to the safety of life or the protection of property; and

(2) Communications considered essential to the efficient conduct of that portion of the enterprise for which the licensee is eligible to hold a station license under this part, subject to the condition that harmful interference is not caused to safety communications of stations licensed under this part.

(b) A station licensed under this part may communicate with other stations without restriction as to type, service, or licensee when the communications to be transmitted are of the type described in paragraph (a) (1) of this section.

(c) For transmission of all communications other than those described in paragraph (a) (1) of this section, a station licensed under this part shall communicate only as follows:

(1) Each unit of a Mobile Station is authorized primarily to communicate with other units of the Mobile Station, and with associated base stations. Secondarily, each unit of a Mobile Station is authorized to communicate with associated Operational Fixed Stations.

(2) Each Base Station is authorized primarily to communicate with the units of an associated Mobile Station. Secondarily, each Base Station may communicate with an associated Base Station, Operational Fixed Station, or fixed receiver when:

(i) The messages to be transmitted are of immediate importance to mobile units; or

(ii) Wireline communication facilities between such points are inoperative, economically impracticable or unavailable from communications common carrier sources: *Provided, however,* That temporary unavailability due to a busy wireline circuit is not considered to be within the provisions of this subparagraph.

(3) Each Operational Fixed Station is authorized primarily to communicate with associated Operational Fixed Stations and fixed receivers. Secondarily, each Operational Fixed Station is authorized to communicate with units of an associated Mobile Station, and, subject to the limitations of subparagraph (2) of this paragraph, with associated Base Stations.

(4) Subject to the other conditions of this paragraph, stations licensed under this part may communicate with other licensed stations and with U. S. Government stations in those cases which require cooperation or co-ordination of activities: *Provided, however,* That where communication is desired with stations authorized to operate under the authority of a foreign jurisdiction, prior approval of this Commission must be obtained: *And provided further,* That the authority under which such other stations operate does not prohibit the intercommunication.

(d) All communications, regardless of their nature, shall be restricted to the minimum practicable transmission time, and some type of standard operating procedure shall be employed by each licensee. Continuous radiation of an unmodulated carrier is prohibited, except when necessary for test purposes, or when specifically authorized in writing by the Commission.

(e) The licensee of any station in these services may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication without regard to provisions of this section other than the following:

(1) As soon as possible after the beginning of such emergency use, notice be sent to the Commission in Washington, D. C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the emergency and the use to which the station is being put;

(2) The emergency use of the station be discontinued as soon as substantially normal communication facilities are again available, and the Commission in Washington, D. C., and the Engineer in Charge be notified immediately when such special use of the station is terminated; and

(3) The Commission may at any time order discontinuance of such special use of the authorized facilities.

(f) Tests may be conducted by any licensed station as required for proper station and system maintenance, but such tests shall be kept to a minimum and precautions shall be taken "to avoid interference to other stations."

§ 91.152 Station identification.

(a) Each station in these services which is capable of being identified by transmission of its assigned call signal shall transmit such call signal at the end of each transmission or exchange of transmissions, or once each fifteen minutes of the operating period, as the licensee may prefer.

(b) In lieu of the requirement of paragraph (a) of this section, mobile units communicating with a Base Station which transmits on the same frequency may transmit, once during each exchange of transmissions, any unit identifier which is on file in the station records of such Base Station.

(c) In lieu of the requirement of paragraph (a) of this section, mobile units communicating with a Base Station which transmits on a different frequency may transmit, once during each exchange of transmissions, any unit identifier which is on file in the station records of such Base Station and the assigned call signal of either the Mobile Station or the Base Station.

(d) A station which is transmitting for telemetering purposes or retransmitting by self-actuating means a radio signal received from another radio station or stations will be considered for exemption from the requirements of paragraph (a) of this section in specific instances, upon request.

(e) A unit designator may be used in addition to the station identification required by this section, to identify an individual unit or transmitter of a base station or a fixed station which is authorized to be operated at temporary locations.

§ 91.153 Suspension of transmissions required.

The radiation of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization until such deviation is corrected, except for transmissions concerning the immediate safety of life or property, in which case the transmissions shall be suspended as soon as the emergency is terminated.

§ 91.154 Operator requirements.

(a) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of a radio station, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first- or second-class com-

mercial radio operator license, either radiotelephone or radiotelegraph, who shall be responsible for the proper functioning of the station equipment: *Provided, however,* That only persons holding a radiotelegraph first- or second-class operator license shall perform such functions at radiotelegraph stations transmitting by any type of the Morse code.

(b) Except under the circumstances specified in paragraph (a) of this section, only a person holding a commercial radiotelegraph operator license or permit of any class issued by the Commission shall operate a station during the course of normal rendition of service when transmitting radiotelegraphy by any type of the Morse code.

(c) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, an unlicensed person, after being authorized by the station licensee to do so, may operate from a control point a mobile base, or fixed station, or from a dispatch point a base or fixed station, during the course of normal rendition of service when transmitting on frequencies above 25 Mc/s.

(d) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s: *Provided, however,* That an unlicensed person, after being authorized to do so by the station licensee, may operate such a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s while it is associated with and under the operational control of a base station of the same station licensee.

(e) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, base stations and fixed stations shall be operated in accordance with the following when transmitting during the course of normal rendition of service on frequencies below 25 Mc/s:

(1) From a control point, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a base station or fixed station.

(2) From a dispatch point, an unlicensed person may operate a base station or fixed station after being authorized to do so by the station licensee: *Provided, however,* That such operation shall be under the direct supervision and responsibility of a person who (i) holds a commercial radio operator license or permit of any class issued by the Commission and who (ii) is on duty at a control point meeting the requirements of Subpart C of this part.

(f) Except under the circumstances specified in paragraph (a) of this section, and except as limited by paragraphs (g) and (h) of this section, no person, whether or not a licensed operator, is required to be in attendance at a station when transmitting during the course of normal rendition of service and when either (1) transmitting for telemetering purposes or (2) retransmitting by self-actuating means a radio signal received from another radio station or stations.

(g) The provisions of this section authorizing certain unlicensed persons to operate certain stations, or authorizing unattended operation of stations in certain circumstances, shall not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof) in accordance with the terms of the licenses of those stations.

(h) Notwithstanding any other provisions of this section, unless the transmitter is so designed that none of the operations necessary to be performed during the course of normal rendition of service may cause off-frequency operation or result in any unauthorized radiation, and unless the transmitter is so installed that all controls which may cause improper operation or radiation are not readily accessible to the person operating the transmitter, such transmitter shall be operated by a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission being used, issued by the Commission.

§ 91.155 Posting of operator license.

(a) The original license of each base or fixed station operator, other than an operator exclusively performing service and maintenance duties, shall be posted or kept immediately available at the place where he is on duty as an operator: *Provided, however,* That if an operator who is on duty holds a restricted radiotelephone operator permit of the card form (as distinguished from such document of the diploma form) or holds a valid license verification card (FCC Form 758–F) attesting to the existence of any other valid commercial radio operator license, he may have such permit or verification card, as the case may be, in his personal possession.

(b) Whenever a licensed operator is required for a Mobile Station, the original license of each such operator, other than an operator exclusively performing service and maintenance duties, shall be kept in his personal possession whenever he performs the duties of an operator at such station: *Provided,* That in lieu of an original license of the diploma form (as distinguished from such document of the card form) he may have in his personal possession a valid verification card attesting to its existence.

(c) The original license of every station operator who exclusively performs service and maintenance duties at that station shall be posted at the transmitter involved whenever the transmitter is in actual operation while service or maintenance work is being performed by him or under his immediate supervision and responsibility: *Provided,* That in lieu of posting his license, he may have on his person his license or a valid verification card.

§ 91.156 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each mobile station and each base or fixed station authorized to be operated at temporary locations shall be retained as a permanent part of the station records, but need not be posted. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed readily visible for inspection, to each of such transmitters: *Provided,* That, if the transmitter is not in view of the operating position or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

(b) The current authorization for each base or fixed station at a fixed location shall be posted at the principal control point of the station, and a photocopy of such authorization shall be posted at all other control points listed on the authorization. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each transmitter operated at a fixed location, when such transmitter is not in view of, or is not readily accessible to, the operator at the principal control point.

§ 91.157 Inspection of stations.

All stations and records of stations in these services shall be made available for inspection by an authorized representative of the Commission at any time while the station is in operation, and, when not in operation, shall be made available for inspection upon reasonable request of such representative.

§ 91.158 Inspection and maintenance of tower marking and associated control equipment.

The licensee of any radio station which has an antenna structure required to be painted or illuminated pursuant to the provisions of section 303 (q) of the Communications Act of 1934, as amended, and/or Part 17 of this chapter, shall operate and maintain the tower marking and associated control equipment in accordance with the following:

(a) The tower lights shall be observed at least once each 24 hours, either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or, alternatively, there shall be provided and properly maintained an automatic alarm system designed to detect any failure of the tower lights and to provide indication of such failure to the licensee.

(b) Any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within thirty minutes, regardless of the cause of such failure, shall be reported immediately by telephone or telegraph to the nearest Flight Service Station or Office of the Federal Aviation Agency. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(c) All automatic or mechanical control devices, indicators, and alarm systems associated with the tower lights shall be inspected at intervals not to exceed three months, to insure that such apparatus is functioning properly.

(d) All lighting shall be exhibited from sunset to sunrise unless otherwise specified in the instrument of station authorization.

(e) A sufficient supply of spare lamps shall be maintained for immediate replacement purposes at all times.

(f) All towers shall be cleaned or repainted as often as is necessary to maintain good visibility.

§ 91.159 Notice of violations.

(a) Any licensee who appears to have violated any provision of the Communications Act or any provision of this chapter shall be served with a written notice calling the facts to his attention and requesting a statement concerning the matter. FCC Form 793 may be used for this purpose.

(b) Within 10 days from receipt of notice or such other period as may be specified, the licensee shall send a written answer, in duplicate, direct to the office of the Commission originating the official notice. If an answer cannot be sent nor an acknowledgment made within such 10-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay.

(c) The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. If the notice relates to violations that may be due to the physical or electrical characteristics of transmitting apparatus, the answer shall state fully what steps, if any, have been taken to prevent future violations, and, if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and the promised date of delivery. If the installation of such apparatus requires a construction permit, the file number of the application shall be given, or if a file number has not been assigned by the Commission, such identification shall be given as will permit ready identification of the application. If the notice of violation relates to lack of attention to or improper operation of the transmitter, the name and license number of the operator in charge shall be given.

§ 91.160 Station records.

Each licensee of a station in these services shall maintain records as required elsewhere in this part and in accordance with the following:

(a) For all stations, the results and dates of the transmitter measurements required by § 91.108, and the name of the person or persons making the measurements.

(b) For all stations, when service or maintenance duties are performed which may affect their proper operation, the responsible operator shall sign and date an entry in the station record concerned, giving:

(1) Pertinent details of all duties performed by him or under his supervision;

(2) His name and address; and

(3) The class, serial number, and expiration date of his license: *Provided, however,* That the information called for under subparagraphs (2) and (3) of this paragraph, so long as it remains unchanged, is not required to be repeated in the case of a person who is regularly employed as operator on a full-time basis at the station.

(c) For base stations and operational fixed stations only, excepting stations authorized to operate at temporary locations, the name or names of persons responsible for the operation of transmitting equipment each day, together with the period of their duty.

(d) For base stations only, excepting base stations authorized to operate at temporary locations, when they communicate with other base stations or with operational fixed stations:

(1) Call signs of other stations; and

(2) Date, time, and approximate duration of each transmission.

(e) When a Base Station or Operational Fixed Station has an antenna structure which is required to be illuminated, appropriate entries shall be made as follows:

(1) The time the tower lights are turned on and off each day, if manually controlled.

(2) The time the daily check of proper operation of the tower lights was made.

(3) In the event of any observed or otherwise known failure of a tower light:

(i) Nature of such failure.

(ii) Date and time the failure was observed or otherwise noted.

(iii) Date, time and nature of the adjustments, repairs, or replacements made.

(iv) Identification of the Flight Service Station (Federal Aviation Agency) notified of the failure of any code or rotating beacon light not corrected within thirty minutes, and the date and time such notice was given.

(v) Date and time notice was given to the Flight Service Station (Federal Aviation Agency) that the required illumination was resumed.

(4) Upon completion of the three-month periodic inspection required by § 91.158:

(i) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators and alarm systems.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

(f) The records shall be kept in an orderly manner, and in such detail that the data required are readily available. Key letters or abbreviations may be used if proper meaning or explanation is set forth in the record.

(g) Each entry in the records of each station shall be signed by a person qualified to do so, having actual knowledge of the facts to be recorded.

(h) No record or portion thereof shall be erased, obliterated, or wilfully destroyed within the required retention period. Any necessary correction may be made only by the person originating the entry, who shall strike out the erroneous portion, initial the correction made and indicate the date of correction.

(i) Records required by this part shall be retained by the licensee for a period of at least one year.

Subpart E—Developmental Operation

§ 91.201 Eligibility.

An authorization for developmental operation in any of the services under this part will be issued only to those persons who are eligible to operate stations in such service on a regular basis.

§ 91.202 Showing required.

(a) Except as provided in paragraph (b) of this section, each application for developmental operation shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the radio art, or is along lines not already investigated;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program as proposed; and

(6) The public interest, convenience, or necessity will be served by the proposed operation.

(b) The provisions of paragraph (a) of this section do not apply when an application is made for developmental operation solely for the reason that the frequency requested is restricted to such developmental use.

§ 91.203 Limitations on use.

Stations used for developmental operation shall be constructed and used in such a manner as to conform with all of the technical and operating requirements of Subparts C and D of this part, unless deviation therefrom is specifically provided in the instrument of authorization.

§ 91.204 Frequencies available for assignment.

Stations engaged in developmental operation may be authorized to use a frequency, or frequencies, available for the service in which they propose to operate. The number of channels assigned will depend upon the specific re-

quirements of the developmental program itself, and the number of frequencies available in the particular area where the station will be operated.

§ 91.205 Interference.

The operation of any station engaged in developmental work shall be subject to the condition that no harmful interference is caused to the operation of stations licensed on a regular basis under any part of this chapter.

§ 91.206 Special provisions.

(a) The developmental program as described by the applicant in the application for authorization shall be substantially followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by the general rules in this chapter and the rules in this part, the Commission may specify supplemental or additional requirements or conditions in each case, as deemed necessary in the public interest, convenience, or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 91.207 Required supplementary statement.

Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

§ 91.208 Report of operation.

A report on the results of the developmental program shall be filed with and made a part of each application for renewal of authorization or in cases where no renewal is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information, and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on the following:

(a) The final objective.

(b) Results of operation to date.

(c) Analysis of the results obtained.

(d) Copies of any published reports.

(e) Need for continuation of the program.

(f) Number of hours of operation on each frequency.

Subpart F—Power Radio Service

§ 91.251 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Power Radio Service:

(a) Persons primarily engaged in the generation, transmission, or distribution of electrical energy, for use by the general public or by the members of a cooperative organization.

(b) Persons primarily engaged in the distribution of manufactured or natural gas by means of pipe line, for use by the general public or by the members of a cooperative organization, or in a combination of that activity with the production, transmission or storage of manufactured or natural gas preparatory to such distribution.

(c) Persons primarily engaged in the distribution of water or steam by means of pipe line or, in the case of water, by means of canal or open ditch, for use by the general public or by the members of a cooperative organization, or in a combination of that activity with the collection, transmission, storage, or purification of water or the generation of steam preparatory to such distribution.

(d) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one of the activities set forth in paragraphs (a), (b), and (c) of this section.

(e) A non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service to persons who are actually engaged in one or more of the activities set forth in paragraphs (a), (b), and (c) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis, said costs to be prorated on an equitable basis among all persons to whom service is rendered. Records which reflect the cost-sharing non-profit nature of the arrangement shall be maintained and held available for inspection by Commission representatives. Each person licensed under the provisions of this paragraph shall obtain prior approval from the Commission for each person who proposes to participate in the licensee's service.

§ 91.252 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Power Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

(b) Persons licensed under the provisions of § 91.251(b) may utilize their radio facilities in conjunction with the supplying of liquefied petroleum gas to consumers in areas beyond gas distribution pipe lines.

(c) Persons eligible for radio authorizations in the Power Radio Service who are engaged in the distribution of natural gas direct to consumers and who have a substantial requirement for mobile service communication with a gas supplier may be authorized to operate on the Petroleum Radio Service frequency or frequencies assigned to the supplier: *Provided, however,* That such operation shall be limited to communications in a local area common to both parties, and shall relate only to gas supply and distribution activities. The application of any person seeking a frequency assignment under the provisions of this paragraph shall be accompanied by a written statement from the natural gas supplier which:

(1) Concurs in the need for such intercommunication; and

(2) Consents to the use by the natural gas distributor of the frequency or frequencies involved.

(d) Radio facilities licensed to an electric power entity, in addition to being used primarily for the installation and maintenance of the electric power system, may also be used for the installation and maintenance of any other wireline facilities where such facilities employ in whole or in part the same pole line or duct distribution system as that of the electric power entity and where the licensee has the responsibility to maintain such additional wireline facilities through common ownership or contractual arrangement.

(e) Fixed operations in the Power Radio Service are authorized primarily for voice as well as tone and impulse signaling. Mobile operations in the Power Radio Service are authorized primarily for voice communications and such tone or impulse signaling as may be necessary to establish or maintain voice communication.

(f) Tone or impulse signaling, for purposes other than to establish or maintain voice communications may be secondarily used to the extent provided in this subpart on mobile service frequencies above 25 Mc/s in the Power Radio Service subject to the condition that harmful interference is not caused to the primary operations of any other licensee on the particular frequency. All such secondary tone or impulse signaling shall be subject to the following limitations:

(1) The only purposes for which such secondary signaling may be used are:

(i) Automatic indication of failure of equipment or service in the production, transmission or distribution facilities of the licensee.

(ii) Automatic indication of an abnormal condition in the production, transmission or distribution facilities of the licensee, which if not promptly corrected would result in failure of the equipment affected.

(iii) Manually supervised transmissions as may be necessary to restore lost service, place standby equipment in operation, or to correct any abnormal condition, which otherwise would result in an immediate failure in the production, transmission or distribution facilities of the licensee.

(2) Any one alarm, warning or corrective requirement utilizing secondary tone or impulse signaling shall be limited to not more than five transmissions, not to exceed six seconds each, and no two transmissions shall commence in the same sixty-second period.

(3) The bandwidth utilized for secondary tone or impulse signaling shall not exceed that authorized to the licensee for voice emission on the frequency concerned.

(4) Frequency loading resulting from the use of secondary tone or impulse signaling will not be considered in whole or in part as a justification for an-

thorizing additional frequencies in the licensee's mobile service system.

(5) A mobile service frequency may not be used exclusively for secondary tone or impulse signaling.

§ 91.253 Station limitations.

(a) Mobile relay stations will be authorized in the Power Radio Service only in accordance with the provisions of § 91.7.

(b) Base or mobile stations licensed in this service on frequencies above 25 Mc/s may transmit secondary tone or impulse signals to receivers at fixed locations, subject to the conditions, and for the purposes set forth in § 91.252(f). Such a base or mobile station authorization for F3 emission will be construed to include authority for the transmission of secondary tone or impulse signals.

(c) Operational fixed stations may be authorized in this service on any frequency above 25 Mc/s which is being used by the applicant for mobile operations, subject to the conditions and for the purposes set forth in § 91.252(f) and further subject to the following limitations and exemptions:

(1) Only those operational fixed stations which are automatically activated will be authorized under the provisions of this paragraph and the operation of such stations shall cause no harmful interference to any station operating in the mobile service on the same frequency.

(2) The plate power input to the final radio frequency stage of any transmitter shall not exceed 50 watts.

(3) Only A1, A2, F1, or F2 emission will be authorized for such operational fixed stations.

(4) Operational fixed stations licensed under the provisions of this paragraph are exempt from the requirements of §§ 91.54(e)(2), 91.107(c), and 91.152.

(5) Any Operational Fixed Station authorized under the provisions of this paragraph shall be equipped with a device which will automatically de-activate the transmitter, and require manual re-set in the event the carrier of such transmitter remains on for a period in excess of three minutes.

§ 91.254 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Power Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are enumerated in paragraph (b) of this section:

POWER RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
kc/s		
2292	Base or mobile	10
2308	do	10
4637.5	do	10
Mc/s		
27.235	Base, mobile, or fixed	2, 8
27.245	do	2, 8
27.255	do	2, 8
27.265	do	2, 8
27.275	do	2, 8
37.46	do	
37.48	do	
37.50	do	
37.52	do	
37.54	Base or mobile	
37.56	do	
37.58	do	
37.60	do	
37.62	do	
37.64	do	
37.66	do	
37.68	do	
37.70	do	
37.72	do	
37.74	do	
37.76	do	
37.78	do	
37.80	do	
37.82	do	
37.84	do	
37.86	do	
40.68	Operational fixed	4, 5
47.70	Base or mobile	
47.72	do	
47.74	do	
47.76	do	
47.78	do	
47.80	do	
47.82	do	
47.84	do	
47.86	do	
47.88	do	
47.90	do	
47.92	do	
47.94	do	
47.96	do	
47.98	do	
48.00	do	
48.02	do	
48.04	do	
48.06	do	
48.08	do	
48.10	do	
48.12	do	
48.14	do	
48.16	do	
48.18	do	
48.20	do	
48.22	do	
48.24	do	
48.26	do	
48.28	do	
48.30	do	
48.32	do	
48.34	do	
48.36	do	
48.38	do	
48.40	do	
48.42	do	
48.44	do	
48.46	do	
48.48	do	
48.50	do	
48.52	do	
48.54	do	
72.02	Operational fixed	3
72.06	do	3
72.10	do	3
72.14	do	3
72.18	do	3
72.22	do	3
72.26	do	3
72.30	do	3
72.34	do	3
72.38	do	3
72.42	do	3
72.46	do	3
72.50	do	3
72.54	do	3
72.58	do	3
72.62	do	3
72.66	do	3
72.70	do	3
72.74	do	3
72.78	do	3
72.82	do	3
72.86	do	3
72.90	do	3
72.94	do	3
72.98	do	3
73.02	do	3
73.06	do	3
73.10	do	3
73.14	do	3
73.18	do	3
73.22	do	3
73.26	do	3
73.30	do	3
73.34	do	3
73.38	do	3
73.42	do	3
73.46	do	3
73.50	do	3
73.54	do	3
73.58	do	3
73.62	do	3
73.66	do	3
73.70	do	3
73.74	do	3
73.78	do	3
73.82	Operational fixed	3
73.86	do	3
73.90	do	3
73.94	do	3
73.98	do	3
74.02	do	3
74.06	do	3
74.10	do	3
74.14	do	3
74.18	do	3
74.22	do	3
74.26	do	3
74.30	do	3
74.34	do	3
74.38	do	3
74.42	do	3
74.46	do	3
74.50	do	3
74.54	do	3
74.58	do	3
75.42	do	3
75.46	do	3
75.50	do	3
75.54	do	3
75.58	do	3
75.62	do	3
75.66	do	3
75.70	do	3
75.74	do	3
75.78	do	3
75.82	do	3
75.86	do	3
75.90	do	3
75.94	do	3
75.98	do	3
153.41	Base or mobile	
153.44	do	11
153.47	do	
153.50	do	11
153.53	do	
153.56	do	11
153.59	do	
153.62	do	11
153.65	do	
153.68	do	11
153.71	do	
158.13	do	
158.16	do	12
158.19	do	
158.22	do	12
158.25	do	
169.425	Operational fixed	4
169.450	do	4
169.475	do	4
169.500	do	4
169.525	do	4
170.225	do	4
170.250	do	4
170.275	do	4
170.300	do	4
170.325	do	4
171.025	do	4
171.050	do	4
171.075	do	4
171.100	do	4
171.125	do	4
171.825	do	4
171.850	do	4
171.875	do	4
171.900	do	4
171.925	do	4
173.25	Base or mobile	12
173.30	do	12
173.35	do	12
406.025	Operational fixed	4, 6
406.075	do	4, 6
406.125	do	4, 6
406.175	do	4, 6
412.625	do	4, 6
412.675	do	4, 6
412.725	do	4, 6
412.775	do	4, 6
451.05	Base or mobile	9
451.10	do	9
451.15	do	9
451.20	do	9
451.25	do	9
456.05	Mobile	7, 9
456.10	do	7, 9
456.15	do	7, 9
456.20	do	7, 9
456.25	do	7, 9
952–960	Operational fixed	1
2850–1990	do	1
1110–2200	do	1
2450–2500	Base, mobile, or fixed	1, 2
2500–2700	Operational fixed	1
6425–6575	Base or mobile	1
6575–6875	Operational fixed	1
10,550–10,700	do	1
11,700–12,200	Base or mobile	1
12,200–12,700	Operational fixed	1
13,200–13,225	do	1
16,000–18,000	do	1, 2
26,000–30,000	do	1

POWER RADIO SERVICE FREQUENCY TABLE—Continued

POWER RADIO SERVICE FREQUENCY TABLE—Continued

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(2) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific or medical devices.

(3) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(4) This frequency will be assigned only for the specific purpose of transmitting hydrological or meteorological data. The use of this frequency is subject to the condition that harmful interference will not be caused to Federal Government stations, and further, that the hydrological or meteorological data being handled is made available to interested governmental agencies. Other provisions of this part notwithstanding, an operational fixed station operating on this frequency shall not engage in communications with any station in the mobile service unless written authorization to do so has been obtained from the Commission. Persons who desire to operate stations on this frequency should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(5) Use of this frequency is limited to stations located in the States of Pennsylvania and West Virginia only and is subject to no protection from interference due to the operation of industrial, scientific or medical devices on this frequency.

(6) This frequency is intended for use primarily by fixed relay stations.

(7) This frequency will not be assigned to base stations.

(8) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(9) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying, provided that such operation causes no harmful interference to base or mobile stations, and further provided, that this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(10) Frequencies below 25 Mc/s will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 Mc/s will not meet the operational requirements of the applicant. This frequency is available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases a substitute frequency, if found to be available, may be assigned from the following bands 1605–1750, 2107–2170, 2194–2495, 2505–2850, 3155–3400 or 4438–4650 kc/s. Since such assignments are in certain instances subject to additional technical and operational limitations, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

(11) This frequency is not available for assignment in the States of Arkansas, Louisiana, Oklahoma, and Texas.

(12) This frequency is not available for assignment in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington.

§ 91.255 Unlisted frequencies.

(a) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be granted subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

Subpart G—Petroleum Radio Service

§ 91.301 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Petroleum Radio Service:

(a) Persons engaged in prospecting for, producing, collecting, refining, or transporting by means of pipeline, petroleum or petroleum products (including natural gas).

(b) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one or more of the activities set forth in paragraph (a) of this section.

(c) A non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service to persons who are actually engaged in one or more of the activities set forth in paragraph (a) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis, said costs to be prorated on an equitable basis among all persons to whom service is rendered. Records which reflect the cost-sharing non-profit nature of the arrangement shall be maintained and held available for inspection by Commission representatives. Each person licensed under the provisions of this paragraph shall obtain prior approval from the Commission for each person who proposes to participate in the licensee's service.

§ 91.302 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Petroleum Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

(b) Persons eligible for authorizations in the Petroleum Radio Service who are engaged in the transportation of natural gas by pipeline and who have a substantial requirement for mobile service communication with a public utility company purchasing such gas for distribution to the consumer may be authorized to operate on the Power Radio Service frequency or frequencies assigned to such distributor(s): *Provided, however,* That such operation shall be limited to communications in the local area common to both parties and shall relate only to gas supply and distribution activities. The application of any person seeking a frequency assignment under the provisions of this paragraph shall be accompanied by a written statement from the natural gas distributor which:

(1) Concurs in the need for such intercommunication; and

(2) Consents to the use by the natural gas supplier of the frequency or frequencies involved.

(c) Fixed operations in the Petroleum Service are authorized primarily for voice as well as tone and impulse signaling. Mobile operations in the Petroleum Service are authorized primarily for voice communications and such tone or impulse signaling as may be necessary to establish or maintain voice communication.

(d) Tone or impulse signaling, for purposes other than to establish or maintain voice communications, may be secondarily used to the extent provided in this subpart on mobile service frequencies above 25 Mc/s in the Petroleum Radio Service subject to the condition that harmful interference is not caused to the primary operations of any other licensee on the particular frequency. All such secondary tone or impulse signaling shall be subject to the following limitations.

(1) The only purposes for which such secondary signaling may be used are:

(i) Automatic indication of failure of equipment or service in the production,

collection, refining, or transporting facilities of the licensee.

(ii) Automatic indication of an abnormal condition in the producton, collection, refining, or transporting facilities of the licensee, which if not promptly corrected would result in failure of the equipment affected.

(2) Any one alarm or warning utilizing secondary tone or impulse signaling shall be limited to not more than five transmissions, not to exceed six seconds each, and no two transmissions shall commence in the same sixty-second period.

(3) The bandwidth utilized for secondary tone or impulse signaling shall not exceed that authorized to the licensee for voice emission on the frequency concerned.

(4) Frequency loading resulting from the use of secondary tone or impulse signaling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile service system.

(5) A mobile service frequency may not be used exclusively for secondary tone or impulse signaling.

§ 91.303 Station limitations.

(a) Mobile relay stations will be authorized in the Petroleum Radio Service only in accordance with the provisions of § 91.7.

(b) Operational fixed stations may be authorized in this service on any frequency above 25 Mc/s which is being used by the applicant for mobile operations, subject to the conditions and for the purposes set forth in § 91.302(d) and further subject to the following limitations and exemptions:

(1) Only those operational fixed stations which are automatically activated and which are located within the area normally covered by the licensee's mobile system will be authorized under the provisions of this paragraph. The use of such operational fixed stations shall cause no harmful interference to any station operating in the mobile service on the same frequency.

(2) The plate power input to the final radio frequency stage of any transmitter shall not exceed 50 watts.

(3) Only A1, A2, F1, or F2 emissions will be authorized for such operational fixed stations.

(4) Operational fixed stations licensed under the provisions of this paragraph are exempt from the requirements of §§ 91.54(e)(2), 91.107(c), and 91.152.

(5) Any operational fixed station authorized under the provisions of this paragraph shall be equipped with a device which will automatically de-activate the transmitter, and require manual reset in the event the carrier of such transmitter remains on for a period in excess of three minutes.

§ 91.304 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Petroleum Radio Service, together with the class of station(s) to which they are normally assigned; and the specific assignment limitations, which are enumerated in paragraph (b) of this section:

PETROLEUM RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
kc/s		
1614	Base or mobile	8
1628	do	8
1652	do	8
1676	do	8
1700	do	8
2292	do	8
2308	do	8
4637.5	do	8
Mc/s		
25.02	Base or mobile	
25.04	do	
25.06	do	
25.08	do	
25.10	do	
25.12	do	
25.14	do	
25.16	do	
25.18	do	
25.20	do	
25.22	do	
25.24	do	
25.26	do	
25.28	do	
25.30	do	
25.32	do	
27.235	Base, mobile, or fixed	6,13
27.245	do	6,13
27.255	do	6,13
27.265	do	6,13
27.275	do	6,13
30.66	Base or mobile	12
30.70	do	
30.74	do	12
30.78	do	
30.82	do	12
33.18	do	
33.20	do	
33.22	do	
33.24	do	
33.26	do	
33.28	do	
33.30	do	
33.32	do	
33.34	do	
33.36	do	
33.38	do	
40.68	Operational fixed	2,3
48.56	Base or mobile	10
48.58	do	10
48.60	do	10
48.62	do	10
48.64	do	10
48.66	do	10
48.68	do	10
48.70	do	10
48.72	do	10
48.74	do	10
48.76	do	10
48.78	do	10
48.80	do	10
48.82	do	10
48.84	do	10
48.86	do	10
48.88	do	10
48.90	do	10
48.92	do	10
48.94	do	10
48.96	do	10
48.98	do	10
49.00	do	10
49.02	do	10
49.04	do	10
49.06	do	10
49.08	do	10
49.10	do	10
49.12	do	10
49.14	do	10
49.16	do	10
49.18	do	10
49.20	do	10
49.22	do	10
49.24	do	10
49.26	do	10
49.28	do	10
49.30	do	10
49.32	do	10
49.34	do	10
49.36	do	10
49.38	do	10
49.40	do	10
49.42	do	10
49.44	do	10
49.46	do	10
49.48	do	10
49.50	do	10
72.02	Operational fixed	1
72.06	do	1
72.10	do	1
72.14	do	1
72.18	do	1
72.22	do	1

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
Mc/s		
72.26	Operational fixed	1
72.30	do	1
72.34	do	1
72.38	do	1
72.42	do	1
72.46	do	1
72.50	do	1
72.54	do	1
72.58	do	1
72.62	do	1
72.66	do	1
72.70	do	1
72.74	do	1
72.78	do	1
72.82	do	1
72.86	do	1
72.90	do	1
72.94	do	1
72.98	do	1
73.02	do	1
73.06	do	1
73.10	do	1
73.14	do	1
73.18	do	1
73.22	do	1
73.26	do	1
73.30	do	1
73.34	do	1
73.38	do	1
73.42	do	1
73.46	do	1
73.50	do	1
73.54	do	1
73.58	do	1
73.62	do	1
73.66	do	1
73.70	do	1
73.74	do	1
73.78	do	1
73.82	do	1
73.86	do	1
73.90	do	1
73.94	do	1
73.98	do	1
74.02	do	1
74.06	do	1
74.10	do	1
74.14	do	1
74.18	do	1
74.22	do	1
74.26	do	1
74.30	do	1
74.34	do	1
74.38	do	1
74.42	do	1
74.46	do	1
74.50	do	1
74.54	do	1
74.58	do	1
75.42	do	1
75.46	do	1
75.50	do	1
75.54	do	1
75.58	do	1
75.62	do	1
75.66	do	1
75.70	do	1
75.74	do	1
75.78	do	1
75.82	do	1
75.86	do	1
75.90	do	1
75.94	do	1
75.98	do	1
153.05	Base or mobile	11
153.08	do	11
153.11	do	11
153.14	do	11
153.17	do	11
153.20	do	11
153.23	do	11
153.26	do	11
153.29	do	11
153.32	do	11
153.35	do	11
153.38	do	11
153.44	do	11
153.50	do	9,10
153.56	do	9,10
153.62	do	9,10
153.68	do	9,10
158.16	do	9,10
158.22	do	10,15
158.28	do	10,15
158.31	do	11
158.37	do	11
158.43	do	10
169.425	do	11
169.450	Operational fixed	2
169.475	do	2
169.500	do	2
169.525	do	2
170.225	do	2
170.250	do	2
170.275	do	2
170.300	do	2

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
Mc/s		
170.325	Operational fixed	2
171.025	do	2
171.050	do	2
171.075	do	2
171.100	do	2
171.125	do	2
171.825	do	2
171.850	do	2
171.875	do	2
171.900	do	2
171.925	do	2
173.25	Base or mobile	10, 15
173.30	do	10, 15
173.35	do	10, 15
406.025	Operational fixed	2, 4
406.075	do	2, 4
406.125	do	2, 4
406.175	do	2, 4
412.625	do	2, 4
412.675	do	2, 4
412.725	do	2, 4
412.77	do	2, 4
451.55	Base or mobile	7, 10
451.60	do	7, 10
451.65	do	7, 10
451.70	do	7, 10
451.75	do	7, 10
456.55	Mobile	5, 7, 10
456.60	do	5, 7, 10
456.65	do	5, 7, 10
456.70	do	5, 7, 10
556.75	do	5, 7, 10
952–960	Operational fixed	14
1850–1990	do	14
2110–2200	do	14
2450–2500	Base, mobile, or fixed	13, 14
2500–2700	Operational fixed	14
6425–6575	Base or mobile	14
6575–6875	Operational fixed	14
10,550–10,700	do	14
11,700–12,200	Base or mobile	14
12,200–12,700	Operational fixed	14
12,200–13,225	do	14
16,000–18,000	do	13, 14
26,000–30,000	do	14

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(2) This frequency will be assigned only for the specific purpose of transmitting hydrological or meteorological data. The use of this frequency is subject to the condition that harmful interference will not be caused to Federal Government stations, and further, that the hydrological or meteorological data being handled is made available to interested governmental agencies. Other provisions of this part notwithstanding, an operational fixed station operating on this frequency shall not engage in communications with any station in the mobile service unless written authorization to do so has been obtained from the Commission. Persons who desire to operate stations on this frequency should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(3) Use of this frequency is limited to stations located in the States of Pennsylvania and West Virginia only and is subject to no protection from interference due to the operation of industrial, scientific, or medical devices on this frequency.

(4) This frequency is intended for use primarily by fixed relay stations.

(5) This frequency will not be assigned to base stations.

(6) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(7) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying: *Provided,* That such operation causes no harmful interference to base or mobile stations: *And further provided,* That this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(8) Frequencies below 25 Mc/s will be assigned to base or mobile stations in this service only upon a satisfactory showing, that from a safety of life standpoint, frequencies above 25 Mc/s will not meet the operational requirements of the applicant. This frequency is available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases a substitute frequency, if found to be available, may be assigned from the bands 1605–1750, 2107–2170, 2194–2495, 2505–2850, 3155–3400 or 4438–4650 kc/s. Since such assignments are in certain instances subject to additional technical and operational limitations, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

(9) This frequency is available for assignment only in the States of Arkansas, Louisiana, Oklahoma, and Texas. All licensees in this service who operate on this frequency in the States of Oregon and Washington will be required to vacate this frequency assignment by June 30, 1968.

(10) This frequency is shared with the Forest Products Radio Service.

(11) This frequency is shared with the Forest Products and Manufacturers Radio Services.

(12) This frequency is shared with the Motor Carrier Radio Service.

(13) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(14) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(15) This frequency is available for assignment only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington.

§ 91.305 Unlisted frequencies.

(a) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be granted subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

Subpart H—Forest Products Radio Service

§ 91.351 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Forest Products Radio Service:

(a) A person who is engaged in tree logging, tree farming, or related woods operations.

(b) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in any of the activities set forth in paragraph (a) of this section.

(c) A non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged in one or more of the activities set forth in paragraph (a) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis, said costs to be prorated on an equitable basis among all persons to whom service is rendered. Records which reflect this cost-sharing non-profit basis shall be maintained and held available for inspection by Commission representatives. Each person licensed under the provisions of this paragraph shall obtain prior approval from the Commission for each person who proposes to participate in the licensee's service.

§ 91.352 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Forest Products Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

§ 91.353 Station limitations.

(a) Mobile relay stations will be authorized in the Forest Products Radio

Service only in accordance with the provisions of § 91.7.

§ 91.354 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Forest Products Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are enumerated in paragraph (b) of this section:

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
kc/s		
1676	Base or mobile	8
1700	do	8
2366	do	8
Mc/s		
27.235	Base, mobile, or fixed	6, 14
27.245	do	6, 14
27.255	do	6, 14
27.265	do	6, 14
27.275	do	6, 14
29.71	Base or mobile	
29.73	do	
29.75	do	
29.77	do	
29.79	do	
30.68	do	
30.72	do	
37.44	do	
37.88	do	
43.06	Operational fixed	2, 3
43.56	Base or mobile	11
43.58	do	11
43.60	do	11
43.62	do	11
43.64	do	11
43.66	do	11
43.68	do	11
43.70	do	11
43.72	do	11
43.74	do	11
43.76	do	11
43.78	do	11
43.80	do	11
43.82	do	11
43.84	do	11
43.86	do	11
43.88	do	11
43.90	do	11
43.92	do	11
43.94	do	11
43.96	do	11
43.98	do	11
44.00	do	11
44.02	do	11
44.04	do	11
44.06	do	11
44.08	do	11
44.10	do	11
44.12	do	11
44.14	do	11
44.16	do	11
44.18	do	11
44.20	do	11
44.22	do	11
44.24	do	11
44.26	do	11
44.28	do	11
44.30	do	11
44.32	do	11
44.34	do	11
44.36	do	11
44.38	do	11
44.40	do	11
44.42	do	11
44.44	do	11
44.46	do	11
44.48	do	11
44.50	do	11
44.54	do	11
44.58	do	12
72.02	Operational fixed	2
72.06	do	1
72.10	do	1
72.14	do	1
72.18	do	1
72.22	do	1
72.26	do	1
72.30	do	1
72.34	do	1
72.38	do	1
72.42	do	1
72.46	do	1
72.50	do	1
72.54	do	1
72.58	do	1
72.62	do	1

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
Mc/s		
72.66	Operational fixed	1
72.70	do	1
72.74	do	1
72.78	do	1
72.82	do	1
72.86	do	1
72.90	do	1
72.94	do	1
72.98	do	1
73.02	do	1
73.06	do	1
73.10	do	1
73.14	do	1
73.18	do	1
73.22	do	1
73.26	do	1
73.30	do	1
73.34	do	1
73.38	do	1
73.42	do	1
73.46	do	1
73.50	do	1
73.54	do	1
73.58	do	1
73.62	do	1
73.66	do	1
73.70	do	1
73.74	do	1
73.78	do	1
73.82	do	1
73.86	do	1
73.90	do	1
73.94	do	1
73.98	do	1
74.02	do	1
74.06	do	1
74.10	do	1
74.14	do	1
74.18	do	1
74.22	do	1
74.26	do	1
74.30	do	1
74.34	do	1
74.38	do	1
74.42	do	1
74.46	do	1
74.50	do	1
74.54	do	1
74.58	do	1
75.42	do	1
75.46	do	1
75.50	do	1
75.54	do	1
75.58	do	1
75.62	do	1
75.66	do	1
75.70	do	1
75.74	do	1
75.78	do	1
75.82	do	1
75.86	do	1
75.90	do	1
75.94	do	1
75.98	do	1
153.05	Base or mobile	13
153.08	do	13
153.11	do	13
153.14	do	13
153.17	do	13
153.20	do	13
153.23	do	13
153.26	do	13
153.29	do	13
153.32	do	13
153.35	do	13
153.38	do	13
153.44	do	9, 11
153.50	do	9, 11
153.56	do	9, 11
153.62	do	9, 11
153.68	do	9, 11
154.57	Mobile	10
158.16	Base or mobile	11, 16
158.22	do	11, 16
158.28	do	13
158.31	do	13
158.37	do	11
158.43	do	13
169.425	Operational fixed	2
169.450	do	2
169.475	do	2
169.500	do	2
169.525	do	2
170.225	do	2
170.250	do	2
170.275	do	2
170.300	do	2
170.325	do	2
171.025	do	2
171.050	do	2
171.075	do	2
171.100	do	2
171.125	do	2
171.825	do	2
171.850	do	2

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
Mc/s		
171.875	Operational fixed	2
171.900	do	2
171.925	do	2
173.25	Base or mobile	11, 16
173.30	do	11, 16
173.35	do	11, 16
406.025	Operational fixed	2, 4
406.075	do	2, 4
406.125	do	2, 4
406.175	do	2, 4
412.625	do	2, 4
412.675	do	2, 4
412.725	do	2, 4
412.775	do	2, 4
451.55	Base or mobile	7, 11
451.60	do	7, 11
451.65	do	7, 11
451.70	do	7, 11
451.75	do	7, 11
456.55	Mobile	5, 7, 11
456.60	do	5, 7, 11
456.65	do	5, 7, 11
456.70	do	5, 7, 11
456.75	do	5, 7, 11
952–960	Operational fixed	15
1850–1990	do	15
2110–2200	do	15
2450–2500	Base, mobile, or fixed	14, 15
2500–2700	Operational fixed	15
6425–6575	Base or mobile	15
6575–6875	Operational fixed	15
10550–10700	do	15
11700–12200	Base or mobile	15
12200–12700	Operational fixed	15
13200–13225	do	15
16000–18000	do	14, 15
26000–30000	do	15

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(2) This frequency will be assigned only for the specific purpose of transmitting hydrological or meteorological data. The use of this frequency is subject to the condition that harmful interference will not be caused to Federal Government stations, and further, that the hydrological or meteorological data being handled is made available to interested governmental agencies. Other provisions of this part notwithstanding, an operational fixed station operating on this frequency shall not engage in communications with any station in the mobile service unless written authorization to do so has been obtained from the Commission. Persons who desire to operate stations on this frequency should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(3) Use of this frequency is limited to stations located in the States of Pennsylvania and West Virginia only and is subject to no protection from interference due to the operation of industrial, scientific, or medical devices on this frequency.

(4) This frequency is intended for use primarily by fixed relay stations.

(5) This frequency will not be assigned to base stations.

(6) Other provisions of this part notwithstanding, this frequency may be authorized, for intermittent transmissions, for use with any type of emission which does not exceed an occupied bandwidth

of 8 kc/s; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(7) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying, provided that such operation causes no harmful interference to base or mobile stations, and further provided, that this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(8) Frequencies below 25 Mc/s will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 Mc/s will not meet the operational requirements of the applicant. This frequency is available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases a substitute frequency, if found to be available, may be assigned from the bands 1605–1750, 2107–2170, 2194–2495, 2505–2850, 3155–3400, or 4438–4650 kc/s. Since such assignments are in certain instances subject to additional technical and operational limitations, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

(9) This frequency is available for assignment only in the States of Arkansas, Louisiana, Oklahoma, and Texas. All licensees in this service who operate on this frequency in the States of Oregon and Washington will be required to vacate this frequency assignment by June 30, 1968.

(10) Authorizations to operate on this frequency will be issued for type (A or F) 2 emission for tone signaling (or for a combination of such emission and type (A or F) 3 emission) with a maximum authorized bandwidth of 40 kc/s. The plate power input to the final radio frequency stage of any transmitter shall not exceed three watts. The maximum distance between any transmitter and the center of the radiating portion of its antenna shall not exceed 25 feet. Operation on this frequency is subject to the condition that no harmful interference be caused to stations operating in the Business Radio Service.

(11) This frequency is shared with the Petroleum Radio Service.

(12) This frequency is shared with the Special Industrial Radio Service.

(13) This frequency is shared with the Petroleum and Manufacturer's Radio Services.

(14) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(15) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(16) This frequency is available for assignment only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington.

§ 91.355 Unlisted frequencies.

(a) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be granted subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

Subpart I—Motion Picture Radio Service

§ 91.401 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Motion Picture Radio Service:

(a) A person who is engaged in the production or filming of motion pictures.

(b) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in the production or filming of motion pictures.

(c) A non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged in one or more of the activities set forth in paragraph (a) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis among all persons to whom service is rendered. Records which reflect this cost-sharing non-profit basis shall be maintained and held available for inspection by Commission representatives. Each person licensed under the provisions of this paragraph shall obtain prior approval from the Commission for each person who proposes to participate in the licensee's service.

§ 91.402 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Motion Picture Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

§ 91.403 Station limitations.

(a) Mobile relay stations will be authorized in the Motion Picture Radio Service only in accordance with the provisions of § 91.7.

§ 91.404 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Motion Picture Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are enumerated in paragraph (b) of this section:

MOTION PICTURE RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
kc/s		
1628	Base or mobile	2
1652	do	2
2292	do	2
2398	do	2
4637.5	do	2
Mc/s		
27.235	Base, mobile, or fixed	4,6
27.245	do	4,6
27.255	do	4,6
27.265	do	4,6
27.275	do	4,6
72.02	Operational fixed	1
72.06	do	1
72.10	do	1
72.14	do	1
72.18	do	1
72.22	do	1
72.26	do	1
72.30	do	1
72.34	do	1
72.38	do	1
72.42	do	1
72.46	do	1
72.50	do	1
72.54	do	1
72.58	do	1
72.62	do	1
72.66	do	1
72.70	do	1
72.74	do	1
72.78	do	1
72.82	do	1
72.86	do	1
72.90	do	1
72.94	do	1
72.98	do	1
73.02	do	1
73.06	do	1
73.10	do	1
73.14	do	1
73.18	do	1
73.22	do	1
73.26	do	1
73.30	do	1
73.34	do	1
73.38	do	1
73.42	do	1
73.46	do	1
73.50	do	1
73.54	do	1
73.58	do	1
73.62	do	1
73.66	do	1
73.70	do	1
73.74	do	1
73.78	do	1
73.82	do	1
73.86	do	1
73.90	do	1
73.94	do	1
73.98	do	1
74.02	do	1
74.06	do	1
74.10	do	1
74.14	do	1
74.18	do	1
74.22	do	1
74.26	do	1
74.30	do	1
74.34	do	1

MOTION PICTURE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
Mc/s		
74.38	Operational fixed	1
74.42	do	1
74.46	do	1
74.50	do	1
74.54	do	1
74.58	do	1
75.42	do	1
75.46	do	1
75.50	do	1
75.54	do	1
75.58	do	1
75.62	do	1
75.66	do	1
75.70	do	1
75.74	do	1
75.78	do	1
75.82	do	1
75.86	do	1
75.90	do	1
75.94	do	1
75.98	do	1
152.87	Base or mobile	3
152.90	do	3
152.93	do	3
152.96	do	3
152.99	do	3
153.02	do	3
173.225	do	4
173.275	do	4
173.325	do	4
173.375	do	4
960–960	Operational fixed	7
1850–1990	do	7
2110–2200	do	7
2450–2500	Base, mobile, or fixed	6, 7
2500–2700	Operational fixed	7
6425–6575	Base or mobile	7
6575–6875	Operational fixed	7
10550–10700	do	7
11700–12200	Base or mobile	7
12200–12700	Operational fixed	7
12200–13225	do	7
16000–18000	do	6, 7
28000–30000	do	7

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(2) Frequencies below 25 Mc/s will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 Mc/s will not meet the operational requirements of the applicant. This frequency is available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases a substitute frequency, if found to be available, may be assigned from the bands 1605–1750, 2107–2170, 2194–2495, 2505–2850, 3155–3400, or 4438–4650 kc/s. Since such assignments are in certain instances subject to additional technical and operational limitations, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

(3) This frequency is shared with the Special Industrial Radio Service.

(4) This frequency is shared with the Relay Press Radio Service.

(5) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(6) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(7) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

§ 91.405 Unlisted frequencies.

(a) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be granted subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

Subpart J—Relay Press Radio Service

§ 91.451 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Relay Press Radio Service:

(a) A person who is engaged in the publication of a newspaper or in the operation of an established press association.

(b) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one or more of the activities set forth in paragraph (a) of this section.

(c) A non-profit corporation or association, organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged in one or more of the activities set forth in paragraph (a) of this section. Such a corporation or association shall render service only on a non-profit cost-sharing basis, said costs to be prorated on an equitable basis among all persons to whom service is rendered. Records which reflect this cost-sharing non-profit basis shall be maintained and held available for inspection by Commission representatives. Each person licensed under the provisions of this paragraph shall obtain prior approval from the Commission for each person who proposes to participate in the licensee's service.

§ 91.452 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Relay Press Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

§ 91.454 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Relay Press Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are enumerated in paragraph (b) of this section:

RELAY PRESS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Mc/s		
27.235	Base, mobile, or fixed	2, 4
27.245	do	2, 4
27.255	do	2, 4
27.265	do	2, 4
27.275	do	2, 4
72.02	Operational fixed	1
72.06	do	1
72.10	do	1
72.14	do	1
72.18	do	1
72.22	do	1
72.26	do	1
72.30	do	1
72.34	do	1
72.38	do	1
72.42	do	1
72.46	do	1
72.50	do	1
72.54	do	1
72.58	do	1
72.62	do	1
72.66	do	1
72.70	do	1
72.74	do	1
72.78	do	1
72.82	do	1
72.86	do	1
72.90	do	1
72.94	do	1
72.98	do	1
73.02	do	1
73.06	do	1
73.10	do	1
73.14	do	1
73.18	do	1
73.22	do	1
73.26	do	1
73.30	do	1
73.34	do	1
73.38	do	1
73.42	do	1
73.46	do	1
73.50	do	1
73.54	do	1
73.58	do	1
73.62	do	1
73.66	do	1
73.70	do	1
73.74	do	1
73.78	do	1
73.82	do	1
73.86	do	1
73.90	do	1
73.94	do	1
73.98	do	1
74.02	do	1

RELAY PRESS RADIO SERVICE FREQUENCY TABLE—Con.

Frequency or band	Class of station(s)	Limitations
Mc/s		
74.06	Operational fixed	1
74.10	do	1
74.14	do	1
74.18	do	1
74.22	do	1
74.26	do	1
74.30	do	1
74.34	do	1
74.38	do	1
74.42	do	1
74.46	do	1
74.50	do	1
74.54	do	1
74.58	do	1
75.42	do	1
75.46	do	1
75.50	do	1
75.54	do	1
75.58	do	1
75.62	do	1
75.66	do	1
75.70	do	1
75.74	do	1
75.78	do	1
75.82	do	1
75.86	do	1
75.90	do	1
75.94	do	1
75.98	do	1
173.225	Base or mobile	3
173.275	do	3
173.325	do	3
173.375	do	3
952–960	Operational fixed	5
1850–1990	do	5
2110–2200	do	5
2450–2500	Base, mobile, or fixed	4, 5
2500–2700	Operational fixed	5
6425–6575	Base or mobile	5
6575–6875	Operational fixed	5
10550–10700	do	5
11700–12200	Base or mobile	5
12200–12700	Operational fixed	5
13200–13225	do	5
16000–18000	do	4, 5
26000–30000	do	5

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(2) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(3) This frequency is shared with the Motion Picture Radio Service.

(4) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(5) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

§ 91.455 Unlisted frequencies.

(a) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be granted subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

Subpart K—Special Industrial Radio Service

§ 91.501 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Special Industrial Radio Service:

(a) Persons regularly engaged in the operation of farms or ranches or similar land installations for the quantity production of crops or plants, vines or trees (excluding forestry operations), or for the keeping, grazing or feeding of livestock for animal products, animal increase or value enhancement.

(b) Persons operating a commercial business regularly engaged in the construction of roads; bridges; sewers; pipelines; airfields; water, oil, gas or power production, collection or distribution systems; and other engineering projects normally classified as heavy construction activities.

(c) Persons regularly engaged in the operation of mines for the recovery of solid fuels, minerals or metals from the earth or the sea, including the exploration for and development of mining properties.

(d) Persons operating a commercial business regularly rendering certain specialized services essential either to industrial operations or public health. Eligibility for these specialized services is limited to the following:

(1) Plowing, soil conditioning, seeding, fertilizing, or harvesting for agricultural or forestry activities.

(2) The spraying or dusting of insecticides, herbicides or fungicides in areas other than enclosed structures.

(3) Livestock breeding service.

(4) Maintaining, patroling and repairing of gas or liquid transmission pipelines, tank cars, water or waste disposal wells, industrial storage tanks, or distribution systems of public utilities.

(5) Acidizing, cementing, logging, perforating, or shooting activities, and services of a similar nature incident to the drilling of new oil or gas wells, or the maintenance of production from established wells.

(6) Supplying of chemicals, mud, tools, pipe and other unique materials or equipment to the petroleum production industry as the primary activity of the applicant: *Provided*, That the delivery, installation or application of these materials require on the part of the supplier the use of specially fitted conveyances and unusual skills.

(7) The delivery of ice or fuel to the consumer in solid, liquid or gaseous form for heating, lighting, refrigerating or power generation purposes, by means other than pipelines or railroads.

(8) The delivering and pouring of ready-mixed concrete or hot asphalt mix.

(e) A subsidiary corporation proposing to furnish a non-profit communications service to its parent corporation or another subsidiary of the same parent where the party to be served is engaged in one of the activities set forth above.

§ 91.502 Availability and use of service.

(a) The initial application from a person claiming eligibility in this service must be acompanied by a statement in detail sufficient to indicate clearly such eligibility.

(b) Authorizations to operate stations in this service are available only to the extent and for the purposes set forth in this subpart, and the operation of all stations licensed hereunder shall be strictly confined to those activities upon which eligibility was established, except for transmissions relating to an immediate emergency involving the safety of life or property: *Provided, however*, That those persons otherwise eligible under § 91.501(a) may use their radio facilities in connection with the gathering or processing of products grown or raised for them by others; and that those persons otherwise eligible under § 91.501(d)(7) may use their radio facilities in connection with the servicing of the equipment that uses the products delivered.

(c) Communications relating to any of the following shall not be transmitted by any station licensed in the Special Industrial Radio Service:

(1) Sales reports or the dispatching of salesmen;

(2) Payrolls, accounts, or inventory control;

(3) Any message relating to the retail delivery of any item or product, except where such retail delivery is specifically included in the eligibility provisions of this subpart; or

(4) Any message where the time element is not of immediate importance.

(d) Persons engaging in activities some of which are eligible under this subpart and some of which are not, and desiring to use radio in connection with

both types should apply for authorization in the Business Radio Service.

§ 91.503 Station limitations.

(a) Mobile relay stations will not be authorized in the Special Industrial Radio Service within the continental limits of the United States, except when such stations and all associated control and mobile stations are to be operated exclusively on frequencies above 450 Mc/s: *Provided, however,* That this restriction shall not apply to the continued licensing of mobile relay systems authorized prior to November 1, 1955.

(b) Fixed stations proposed to be operated in the Special Industrial Radio Service on frequencies above 952 Mc/s will be authorized only on a developmental basis.

(c) Base or mobile stations being utilized in itinerant operations at various temporary locations and not associated with a permanent service area will be authorized only on frequencies indicated for itinerant use or for general use.

§ 91.504 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Special Industrial Radio Service together with the class of station(s) to which they are normally assigned, a general reference terminology and the specific assignment limitations, which are developed in paragraph (b) of this section:

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	General reference	Limitations
kc/s			
2292	Base or mobile	General use	10
2398	do	do	10
4637.5	do	do	10
Mc/s			
27.235	Base, mobile, or fixed	ISM General use	2, 8
27.245	do	do	2, 8
27.255	do	do	2, 8
27.265	do	do	2, 8
27.275	do	General use	
27.29	Base or mobile	do	
27.31	do	do	
27.33	do	do	
27.35	do	do	
27.37	do	Permanent use	11
30.58	do	do	11
30.60	do	do	11
30.62	do	General use	
30.64	do	do	
31.28	do	do	
31.32	do	do	
31.36	do	do	
31.40	do	do	
31.44	do	do	
31.48	do	do	
31.52	do	do	
31.56	do	do	
31.60	do	do	
31.64	do	do	
31.68	do	do	
31.72	do	do	
31.76	do	do	
31.80	do	do	
31.84	do	do	
31.88	do	do	
31.92	do	do	
31.96	do	do	14
33.12	Mobile	Permanent use	11
35.74	Base or mobile	do	11
35.76	do	do	11
35.78	do	do	11
35.80	do	do	11
35.82	do	do	11
35.84	do	do	4, 5
35.86	do	Hydrological	
40.66	Operational fixed	General use	12
43.02	Base or mobile	Itinerant use	
43.04	do	do	
43.06	Base or mobile	General use	
43.08	do	do	
43.10	do	do	
43.12	do	do	
43.14	do	do	11
43.18	do	Permanent use	11
47.44	do	do	11
47.48	do	do	11
47.52	do	do	11
47.56	do	do	11
47.60	do	do	11
47.64	do	do	11
47.68	do	do	
49.52	do	General use	
49.54	do	do	
49.56	do	Permanent use	11
49.58	do	General use	
72.02	Operational fixed	72 Mc/s fixed	11
72.06	do	do	
72.10	do	do	
72.14	do	do	
72.18	do	do	
72.22	do	do	
72.26	do	do	
72.30	do	do	
72.34	do	do	
72.38	do	do	
72.42	do	do	
72.46	do	do	
72.50	do	do	
72.54	do	do	
72.58	do	do	
72.62	do	do	
72.66	do	do	
72.70	do	do	
72.74	do	do	
72.78	do	do	
72.82	do	do	
72.86	do	do	
72.90	do	do	
72.94	do	do	
72.98	do	do	
73.02	do	do	
73.06	do	do	
73.10	do	do	
73.14	do	do	
73.18	do	do	
73.22	do	do	
73.26	do	do	
73.30	do	do	
73.34	do	do	
73.38	do	do	
73.42	do	do	
73.46	do	do	
73.50	do	do	
73.54	do	do	
73.58	do	do	
73.62	do	do	
73.66	do	do	
73.70	do	do	
73.74	do	do	
73.78	do	do	
73.82	do	do	
73.86	do	do	
73.90	do	do	
73.94	do	do	
73.98	do	do	
74.02	do	do	
74.06	do	do	
74.10	do	do	
74.14	do	do	
74.18	do	do	
74.22	do	do	
74.26	do	do	
74.30	do	do	
74.34	do	do	
74.38	do	do	
74.42	do	do	

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	General reference	Limitations

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	General reference	Limitations
Mc/s			
74.46	Operational fixed	72 Mc/s fixed	3
74.50	do	do	3
74.54	do	do	3
74.58	do	do	3
75.42	do	do	3
75.46	do	do	3
75.50	do	do	3
75.54	do	do	3
75.58	do	do	3
75.62	do	do	3
75.66	do	do	3
75.70	do	do	3
75.74	do	do	3
75.78	do	do	3
75.82	do	do	3
75.86	do	do	3
75.90	do	do	3
75.94	do	do	3
75.98	do	do	3
151.505	Base or mobile	Itinerant use	12
151.535	do	Permanent use	11
151.565	do	do	11
151.595	do	do	11
152.87	do	General use	13
152.90	do	Permanent use	11, 13
152.93	do	do	11, 13
152.96	do	do	11, 13
152.99	do	do	11, 13
153.02	do	do	11, 13
154.49	do	do	11
158.40	do	Itinerant use	12
169.425	Operational fixed	Hydrological	4
169.450	do	do	4
169.475	do	do	4
169.500	do	do	4
169.525	do	do	4
170.225	do	do	4
170.250	do	do	4
170.275	do	do	4
170.300	do	do	4
170.325	do	do	4
171.025	do	do	4
171.050	do	do	4
171.075	do	do	4
171.100	do	do	4
171.125	do	do	4
171.825	do	do	4
171.850	do	do	4
171.875	do	do	4
171.900	do	do	4
171.925	do	do	4
406.025	do	do	4, 6
406.075	do	do	4, 6
406.125	do	do	4, 6
406.175	do	do	4, 6
412.625	do	do	4, 6
412.675	do	do	4, 6
412.725	do	do	4, 6
412.775	do	do	4, 6
451.80	Base or mobile	Itinerant use	9, 12
451.85	do	Permanent use	9, 11
451.90	do	do	9, 11
451.95	do	do	9, 11
456.80	Mobile	Itinerant use	7, 9, 12
456.85	do	Permanent use	7, 9, 11
456.90	do	do	7, 9, 11
456.95	do	do	7, 9, 11
952–960	Operational fixed	Microwave fixed	1
1850–1990	do	do	1
2110–2200	do	do	1
2450–2500	Base, mobile, or fixed	2450 Mc/s ISM	1, 2
2500–2700	Operational fixed	Microwave fixed	1
6425–6575	Base or mobile	Microwave mobile	1
6575–6875	Operational fixed	Microwave fixed	1
8400–8500	Base, mobile, or fixed		1
10550–10700	Operational fixed	Microwave fixed	1
11700–12200	Base or mobile	Microwave mobile	1
12200–12700	Operational fixed	Microwave fixed	1
13200–13250	do	do	1
16000–18000	do	do	1, 2
26000–30000	do	do	1

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(2) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(3) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(4) This frequency will be assigned only for the specific purpose of transmitting hydrological or meteorological data. The use of this frequency is subject to the condition that harmful interference will not be caused to Federal Government stations, and further, that the hydrological or meteorological data being handled is made available to interested governmental agencies. Other rule provisions of this part notwithstanding, an operational fixed station operating on this frequency shall not engage in communications with any station in the mobile service unless written authorization to do so has been obtained from the Commission. Persons who desire to operate stations on this frequency should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(5) Use of this frequency is limited to stations located in the States of Pennsylvania and West Virginia only and is subject to no protection from interference due to the operation of industrial, scientific, or medical devices on this frequency.

(6) This frequency is intended for use primarily by fixed relay stations.

(7) This frequency will not be assigned to base stations.

(8) Other rule provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(9) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying, provided that such operation causes no harmful interference to base or mobile stations, and further provided, that this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(10) Frequencies below 25 Mc/s will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 Mc/s will not meet the operational requirements of the applicant. This frequency is available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases a substitute frequency, if found to be available, may be assigned from the following bands 1605–1750, 2107–2170, 2194–2495, 2505–2850, 3155–3400 or 4438–4650 kc/s. Since such assignments are in certain instances subject to additional technical and operational limitations, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

(11) This frequency will be assigned only to stations which are restricted in operation to a specified permanent area for which frequency coordination has been accomplished.

(12) This frequency will be assigned only to stations used in itinerant operations, which require that the station be transferred from time to time to various temporary communication areas.

(13) This frequency is shared with the Motion Picture Radio Service.

(14) This frequency is limited to a maximum plate input power to the final radio frequency stage of 3 watts; and each station authorized hereon will be classified and licensed as a mobile station. Any units of such a station, however, may be used to provide the operational functions of a base or fixed station, provided no harmful interference is caused to mobile service operations and provided further, that the separation between the control point and the center of the radiating portion of the antenna of any units so used shall not exceed 25 feet.

§ 91.505 Ineligible licensees.

Persons presently ineligible in this service, but properly authorized to operate herein prior to June 15, 1958, may continue to operate under appropriate authorization until June 15, 1963: *Provided, however,* That frequency modification will be required if the radio system is operating on any frequency, the availability of which will not extend until June 15, 1963. During the five-year period all affected authorizations will be eligible for appropriate renewals and any modification which does not constitute an assignment of license to a new licensee.

§ 91.506 Unlisted frequencies.

(a) Radio systems authorized to operate in the band 49.6–50.0 Mc/s previously available to this service may continue to operate until the expiration of the existing licenses or until December 31, 1960, whichever is later. Where a single system involves licenses with different expiration dates, the date of the last expiring license will be considered the system expiration date and all authorizations expiring prior to that date may be extended to, but not beyond, the date of the last expiring license.

(b) Radio systems authorized to operate on frequencies which had previously been available for assignment within this service, but which are no longer available for assignment, may continue to operate on such frequencies under appropriate authorization until April 1, 1963.

(c) The fact that an authorized radio system is affected by the provisions of paragraph (a) or (b) of this section shall not be considered as a bar to modification, assignment or transfer of the authorization.

Subpart L—Business Radio Service

§ 91.551 Eligibility.

The following persons when engaged in lawful activities are eligible to hold authorizations to operate radio stations in the Business Radio Service:

(a) Any person engaged in a commercial activity.

(b) Educational or philanthropic institutions.

(c) Clergymen or ecclesiastical institutions.

(d) Hospitals, clinics and medical associations.

(e) A subsidiary corporation proposing to furnish a nonprofit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one of the activities set forth above.

§ 91.552 Availability and use of service.

(a) The Business Radio Service is available to the extent indicated in the eligibility provisions of this subpart and is intended for use by those eligibles without restriction as to the types of messages transmitted as long as they are necessary to the accomplishment of the business activity concerned: *Provided, however,* That all stations licensed in this service must accord first priority for the use of the frequency concerned to any station transmitting communications resulting from an actual emergency involving immediate danger to life or property.

(b) Each application for an authorization in the Business Radio Service shall be complete in itself including any necessary showings or attachments and without cross reference to information previously filed. Applications for modification of an existing station must show in precise detail all particulars of the desired operation; repeating in exact accordance those particulars of the outstanding authorization not being affected by the modification and including new entries in the appropriate items to reflect the changes desired.

(c) Pursuant to the provisions of § 91.8, frequencies authorized to stations in the Business Radio Service can be used only on a shared and cooperative basis. Any licensee in this service must expect operations in the same area by other licensees on the same frequency, and must cooperate fully in the joint use of the assigned frequency. In areas of extreme frequency congestion, the Commission may require monitoring of the assigned frequency before transmitting.

(d) In any area where the shared use of frequencies in the Business Radio Service results in an uneven distribution of the total communications load between the available frequencies, the Commission will consider applications for appropriate frequency change.

§ 91.553 Station limitations.

(a) Mobile relay stations will not be authorized in the Business Radio Service within the continental limits of the United States, except when such stations and all associated control and mobile stations are to be operated exclusively on frequencies above 450 Mc/s.

(b) Fixed stations proposed to be operated in the Business Radio Service in the frequency bands 952–960 Mc/s and 6575–6875 Mc/s and on frequencies above 10,550 Mc/s will be authorized only on a developmental basis.

(c) Base or mobile stations being utilized in itinerant operations at various temporary locations and not associated with a permanent service area will be authorized only on frequencies indicated for itinerant use or for general use.

§ 11.554 Frequencies available.

(a) The following tabulation indicates the frequencies or bands of frequencies available for assignment to stations in the Business Radio Service together with the class of station(s) to which they are normally assigned, a general reference terminology and the specific assignment limitations, which are developed in paragraph (b) of this section:

BUSINESS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	General reference	Limitations
Mc/s			
27.235	Base, mobile, or fixed	ISM general use	2, 8
27.245	do	do	2, 8
27.255	do	do	2, 8
27.265	do	do	2, 8
27.275	do	do	2, 8
27.39	Base or mobile	General use	
27.41	do	do	
27.43	do	Permanent use	10, 11
27.45	do	do	10, 11
27.47	do	do	10, 11
27.49	do	Itinerant use	10, 12
27.51	Mobile	Low power general use	13
27.53	do	do	13
30.76	Base or mobile	Permanent use	10, 11
30.80	do	do	10, 11
30.84	Mobile	Low power general use	13, 14
30.88	Base or mobile	Permanent use	10, 11
30.92	do	do	10, 11
30.96	do	do	10, 11
31.00	do	do	10, 11
31.04	do	do	10, 11
31.16	Mobile	Low power general use	13, 14
31.20	do	do	13, 14
31.24	do	do	13, 14
33.14	do	do	13, 14
33.16	do	Half-watt general use	14, 20
33.40	do	do	14, 20
35.02	do	Low power general use	13, 14
35.04	Base or mobile	Itinerant use	10, 12
35.06	do	Permanent use	10, 11
35.08	do	do	10, 11
35.10	do	do	10, 11
35.12	do	do	10, 11
35.14	do	do	10, 11
35.18	do	do	10, 11
35.70	do	do	11
35.72	do	do	11
35.88	do	do	10, 11
35.90	do	do	10, 11
35.92	do	do	10, 11
35.94	do	General use	
35.96	do	do	
35.98	do	do	

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	General reference	Limitations
Mc/s			
40.68	Operational fixed	Hydrological	4, 5
42.96	Base or mobile	Permanent use	10, 11
42.98	Mobile	Low power general use	13, 11
43.00	Base or mobile	Permanent use	10, 14
72.02	Operational fixed	72 Mc/s fixed	3
72.06	do	do	3
72.10	do	do	3
72.14	do	do	3
72.18	do	do	3
72.22	do	do	3
72.26	do	do	3
72.30	do	do	3
72.34	do	do	3
72.38	do	do	3
72.42	do	do	3
72.46	do	do	3
72.50	do	do	3
72.54	do	do	3
72.58	do	do	3
72.62	do	do	3
72.66	do	do	3
72.70	do	do	3
72.74	do	do	3
72.78	do	do	3
72.82	do	do	3
72.86	do	do	3
72.90	do	do	3
72.94	do	do	3
72.98	do	do	3
73.02	do	do	3
73.06	do	do	3
73.10	do	do	3
73.14	do	do	3
73.18	do	do	3
73.22	do	do	3
73.26	do	do	3
73.30	do	do	3
73.34	do	do	3
73.38	do	do	3
73.42	do	do	3
73.46	do	do	3
73.50	do	do	3
73.54	do	do	3
73.58	do	do	3
73.62	do	do	3
73.66	do	do	3
73.70	do	do	3
73.74	do	do	3
73.78	do	do	3
73.82	do	do	3
73.86	do	do	3
73.90	do	do	3
73.94	do	do	3
73.98	do	do	3
74.02	do	do	3
74.06	do	do	3
74.10	do	do	3
74.14	do	do	3
74.18	do	do	3
74.22	do	do	3
74.26	do	do	3
74.30	do	do	3
74.34	do	do	3
74.38	do	do	3
74.42	do	do	3
74.46	do	do	3
74.50	do	do	3
74.54	do	do	3
74.58	do	do	3
74.62	do	do	3
74.66	do	do	3
74.70	do	do	3
74.74	do	do	3
74.78	do	do	3
74.82	do	do	3
74.86	do	do	3
74.90	do	do	3
74.94	do	do	3
74.98	do	do	3
75.02	do	do	3
75.06	do	do	3
75.10	do	do	3
75.14	do	do	3
75.18	do	do	3
75.22	do	do	3
75.26	do	do	3
75.30	do	do	3
75.34	do	do	3
75.38	do	do	3
75.42	do	do	3
75.46	do	do	3
75.50	do	do	3
75.54	do	do	3
75.58	do	do	3
75.62	do	do	3
75.66	do	do	3
75.70	do	do	3
75.74	do	do	3
75.78	do	do	3

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	General reference	Limitations
Mc/s			
75.82	Operational fixed	72 Mc/s fixed	3
75.86	do	do	3
75.90	do	do	3
75.94	do	do	3
75.98	do	do	3
151.625	Base or mobile	Itinerant use	10, 12
151.655	do	Permanent use	10, 11
151.685	do	do	10, 11
151.715	do	do	10, 11
151.745	do	do	10, 11
151.775	do	do	10, 11
151.805	do	do	10, 11
151.835	do	do	10, 11
151.865	do	do	10, 11
151.895	do	do	10, 11
151.925	do	General use	
151.955	do	do	15
152.300	do	Permanent use	15
152.360	do	do	15
152.420	do	do	15
154.540	do	do	10, 11
154.570	Mobile	Low power general use	13, 14
154.600	do	do	13, 14
157.560	Base or mobile	Permanent use	15
157.620	do	do	15
157.680	do	do	15
169.425	Operational fixed	Hydrological	4
169.450	do	do	4
169.475	do	do	4
169.500	do	do	4
169.525	do	do	4
170.225	do	do	4
170.250	do	do	4
170.275	do	do	4
170.300	do	do	4
170.325	do	do	4
171.025	do	do	4
171.050	do	do	4
171.075	do	do	4
171.100	do	do	4
171.125	do	do	4
171.825	do	do	4
171.850	do	do	4
171.875	do	do	4
171.900	do	do	4
171.925	do	do	4
406.025	do	do	4, 6
406.075	do	do	4, 6
406.125	do	do	4, 6
406.175	do	do	4, 6
412.625	do	do	4, 6
412.675	do	do	4, 6
412.725	do	do	4, 6
412.775	do	do	4, 6
461.05	Base or mobile	Permanent use	10, 11
461.10	do	do	10, 11
461.15	do	do	10, 11
461.20	do	do	10, 11
461.25	do	do	10, 11
461.30	do	do	10, 11
461.35	do	do	10, 11
461.40	do	do	10, 11
461.45	do	do	10, 11
461.50	do	do	10, 11
461.55	do	do	10, 11
461.60	do	do	10, 11
461.65	do	do	10, 11
461.70	do	do	10, 11
461.75	do	do	10, 11
461.80	do	do	10, 11
461.85	do	do	10, 11
461.90	do	do	10, 11
461.95	do	do	10, 11
462.00	do	do	10, 11, 15
463.25	do	do	10, 11, 16
463.30	do	do	10, 11, 16
463.35	do	do	10, 11, 16
463.40	do	do	10, 11, 16
463.45	do	do	10, 11, 16

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	General reference	Limitations
Mc/s			
463.50	Base or mobile	Permanent use	10, 11, 16
463.55	do	do	10, 11, 16
463.60	do	do	10, 11, 16
463.65	do	do	10, 11, 16
463.70	do	do	10, 11, 16
463.75	do	do	10, 11, 16
463.80	do	do	10, 11, 16
463.85	do	do	10, 11, 16
463.90	do	do	10, 11, 16
463.95	do	do	10, 11, 16
464.00	do	do	10, 11, 16
464.05	do	do	10, 11, 16
464.10	do	do	10, 11, 16
464.15	do	do	10, 11, 16
464.20	do	do	10, 11, 16
464.25	do	do	9, 11, 16, 17
464.30	do	do	9, 11, 16, 17
464.35	do	do	9, 11, 16, 17
464.40	do	do	9, 11, 16, 17
464.45	do	do	9, 11, 16, 17
464.50	do	Itinerant use	12, 16, 17
464.55	do	do	12, 16, 17
464.60	do	General use	16, 17
464.65	do	do	16, 17
464.70	do	do	16, 17
466.50	Mobile	Low power general use	13, 16
466.55	do	do	13, 16
466.60	do	do	13, 16
466.65	do	do	13, 16
466.70	do	do	13, 16
466.75	do	do	13, 16
466.80	do	do	13, 16
466.85	do	do	13, 16
466.90	do	do	13, 16
466.95	do	do	13, 16
467.00	do	Permanent use	7, 9, 11, 16, 17
467.05	do	do	7, 9, 11, 16, 17
467.10	do	do	7, 9, 11, 16, 17
467.15	do	do	7, 9, 11, 16, 17
467.20	do	do	7, 9, 11, 16, 17
467.25	do	Itinerant use	7, 12, 16, 17
467.30	do	do	7, 12, 16, 17
467.35	do	General use	7, 16, 17
467.40	do	do	7, 16, 17
467.45	do	do	7, 16, 17
468.00	do	Permanent use	7, 10, 11
468.05	do	do	7, 10, 11
468.10	do	do	7, 10, 11
468.15	do	do	7, 10, 11
468.20	do	do	7, 10, 11
468.25	do	do	7, 10, 11
468.30	do	do	7, 10, 11
468.35	do	do	7, 10, 11
468.40	do	do	7, 10, 11
468.45	do	do	7, 10, 11
468.50	do	do	7, 10, 11
468.55	do	do	7, 10, 11
468.60	do	do	7, 10, 11
468.65	do	do	7, 10, 11
468.70	do	do	7, 10, 11
468.75	do	do	7, 10, 11
468.80	do	do	7, 10, 11
468.85	do	do	7, 10, 11
468.90	do	do	7, 10, 11
468.95	do	do	7, 10, 11
469.00	do	do	7, 10, 11
469.05	do	do	7, 10, 11
469.10	do	do	7, 10, 11
469.15	do	do	7, 10, 11
469.20	do	do	7, 10, 11
469.25	do	do	7, 10, 11
469.30	do	do	7, 10, 11
469.35	do	do	7, 10, 11
469.40	do	do	7, 10, 11
469.45	do	do	7, 10, 11
469.50	do	do	7, 10, 11
469.55	do	do	7, 10, 11
469.60	do	do	7, 10, 11
469.65	do	do	7, 10, 11
469.70	do	do	7, 10, 11
469.75	do	do	7, 10, 11
469.80	do	do	7, 10, 11
469.85	do	do	7, 10, 11
469.90	do	do	7, 10, 11
469.95	do	do	7, 10, 11
952-960	Operational fixed	Microwave fixed	1, 18
6575-6875	do	do	1, 19
10630-10700	do	do	1
11700-12200	Base or mobile	Microwave mobile	1
12200-12700	Operational fixed	Microwave fixed	1
12200-13250	do	do	1
16000-18000	do	do	1, 2
26000-30000	do	do	1

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(2) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(3) Use of this frequency is subject to the condition that no harmful interference will be caused to the reception of television channels 4 or 5. Assignments will be made only in accordance with the criteria set forth in § 91.8.

(4) This frequency will be assigned only for the specific purpose of transmitting hydrological or meteorological data. The use of this frequency is subject to the condition that harmful interference will not be caused to Federal Government stations, and further, that the hydrological or meteorological data being handled is made available to interested governmental agencies. Other provisions of this part notwithstanding, an operational fixed station operating on this frequency shall not engage in communications with any station in the mobile service unless written authorization to do so has been obtained from the Commission. Persons who desire to operate stations on this frequency should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(5) Use of this frequency is limited to stations located in the States of Pennsylvania and West Virginia only and is subject to no protection from interference due to the operation of industrial, scientific, or medical devices on this frequency.

(6) This frequency is intended for use primarily by fixed relay stations.

(7) This frequency will not be assigned to base stations.

(8) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmission; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(9) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying, provided that such operation causes no harmful interference to base or mobile stations, and further provided, that this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(10) Operation on this frequency is limited to a maximum plate power input of 180 watts to the final radio frequency stage.

(11) This frequency will be assigned only to stations which are restricted in operation to a specified permanent area.

(12) This frequency will be assigned only to stations used in itinerant operations, which require that the station be transferred from time to time to various temporary communication areas.

(13) This frequency is limited to a maximum plate input power to the final radio frequency stage of 3 watts and each station authorized hereon will be classified and licensed as a mobile sta-

tion. Any units of such a station, however, may be used to provide the operational functions of a base or fixed station, provided no harmful interference is caused to mobile service operations and further provided, that the separation between the control point and the center of the radiating portion of the antenna of any units so used shall not exceed 25 feet.

(14) This frequency may not be used aboard aircraft.

(15) This frequency is shared with the Taxicab Radio Service and is available for assignment in this service only to stations which are used exclusively in areas outside of Standard Metropolitan Areas of 50,000 or more population. All operations on this frequency are subject to the condition that no harmful interference is caused to the Taxicab Radio Service.

(16) This frequency is shared with the Citizens Radio Service for use in that service with a maximum plate input power to the final radio frequency stage of 5 watts.

(17) Operation on this frequency is limited to a maximum plate power input of 60 watts to the final radio frequency stage.

(18) Available only for control-repeater operations.

(19) Available only for intercity closed circuit educational television systems. Such authorizations will be granted on a case by case basis, and applicants must furnish complete and specific factual data showing wherein, apart from economic considerations, it is not feasible to utilize frequencies above 10,550 Mc/s for such operations.

(20) This frequency is limited to a maximum plate input power to the final radio frequency stage of 0.5 watt and each station authorized hereon will be classified and licensed as a mobile station. Any units of such a station, however, may be used to provide the operational functions of a base or fixed station, provided no harmful interference is caused to mobile service operations and further provided, that the separation between the control point and the center of the radiating portion of the antenna of any units so used shall not exceed 25 feet.

§ 11.555 Exemption from technical standards.

Transmitters licensed in this Service which have a plate power input to the final radio frequency stage not exceeding 200 milliwatts are exempt from the technical requirements set out in Subpart C of this part: *Provided, however,* That the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency tolerance shall be so adjusted that any emission appearing on a frequency 40 kc/s or more removed from the assigned frequency is attenuated at least 30 db below the unmodulated carrier.

Subpart M—Industrial Radiolocation Service

§ 91.601 Nature of service.

The rules in this subpart are designed to facilitate the eventual establishment, on a regular basis, of an Industrial Radiolocation Service to be used primarily in connection with geographical, geological, or geophysical activities. Since there does not appear to be any single radiolocation system which is satisfactory in all respects, all stations licensed under this subpart will be authorized only on a developmental basis. To encourage further development of radiolocation techniques, deviation from the rules in this subpart may be authorized on request where it appears to the Commission that the public interest, convenience or necessity would be served thereby.

§ 91.602 Eligibility.

The following persons are eligible to hold authorizations to operate radio stations in the Industrial Radiolocation Service:

(a) Any person engaged in a commercial or industrial enterprise who has a substantial need in connection therewith to establish a position, distance, or direction by means of radiolocation devices for purposes other than navigation.

(b) A corporation or association organized for the purpose of furnishing a radiolocation service to persons eligible under paragraph (a) of this section.

§ 11.603 Service authorized.

(a) Stations licensed under this subpart to operate on frequencies within the band 1750–1800 kc/s shall provide service without discrimination to all persons eligible under the provisions of §91.602 (a).

(b) Stations licensed under this subpart to operate on frequencies in bands other than 1750–1800 kc/s may be required by the Commission to provide service without discrimination to all persons eligible under the provisions of § 91.602(a).

§ 91.604 Showing required for authorization.

(a) Applications to operate stations in the Industrial Radiolocation Service will be granted only in these cases where it is shown: That the applicant is financially, legally and technically qualified to render the proposed service; and that a grant of the application would serve the public interest, convenience or necessity. A showing with respect to technical qualifications should include information which indicates the applicant's ability to construct and operate the proposed facilities; the availability of qualified operating and maintenance personnel; and complete details as to the manner in which the service will be made available to those seeking it under the provisions of § 91.603.

(b) Each application for a new station in this service shall be accompanied by:

(1) A functional description of the manner in which the system will operate, including the interrelationship and function of each unit in the system;

(2) A complete technical description of the equipment to be used, including:

(i) Emission bandwidth;

(ii) Modulation;

(iii) Plate power input to final radio frequency stage;

(iv) For equipment employing pulse modulation, the pulse width, pulse repetition rate, and peak power output;

(v) Physical and radiation characteristics of the antenna system; and

(3) A map of the area which it is proposed to serve, showing location of each station.

§ 91.605 Report of operation.

A report of the results of the operation of developmental stations in this service shall be filed within 60 days of the expiration of such authorization. Matters which the licensee does not wish to disclose publicly may be so labeled and submitted as separate documents; they will be used solely for the Commission's information, and will not be disclosed publicly without permission of the licensee. The report shall include comprehensive and detailed information covering the system and equipment, including the following:

(a) Results of operation to date, including:

(1) Maximum and minimum usable range;

(2) Maximum and average accuracy in various parts of the service area;

(3) Approximate number of hours of operation;

(4) Approximate number of position readings taken;

(5) Emission bandwidth;

(6) Type(s) of modulation;

(7) Minimum practical operating power (input to final stage);

(8) For equipment employing pulse modulation, the pulse width, pulse repetition rate and peak power output;

(9) Physical and radiation characteristics of the antenna systems employed;

(b) Copies of any reports published by the licensee; and

(c) Schedule of charges; reports of revenues received and sums disbursed.

§ 91.606 Policy governing assignment of frequencies in the band 1750–1800 kc/s.

(a) Notwithstanding contrary provisions elsewhere in this part, each frequency assignment in the band 1750–1800 kc/s, will be on an exclusive basis within the daytime primary service area of the station to which assigned. The normal minimum geographical separation between stations of two different radiolocation systems shall be not less than 360 miles when the stations are operated on the same frequency or on different frequencies separated by less than 5 kc/s. Any person desiring geographical separations of less than 360 miles under these circumstances will be required to show that the desired separation will result in a protection ratio of at least 20 db throughout the daytime primary service area of other stations.

(b) For purposes of this section, the daytime primary service area of an Industrial Radiolocation Service station operating in the 1750–1800 kc/s band is defined as the area within which the signal intensities are adequate for satisfactory use by the petroleum industry for radiolocation purposes during the hours from sunrise to sunset from all stations in the radiolocation system of which the station in question is a part, i. e., the

primary service area of the station coincides with the primary service area of the system.

(c) Where the number of applicants requesting authority to serve an area exceeds the number of frequencies available for assignment; or where it appears to the Commission that fewer applicants or licensees than the number before it should be given authority to serve a particular area; or where it appears that an applicant, either directly or indirectly, seeks to use more than 25 kc/s of the available spectrum space in this band, the applications may be designated for hearing.

§ 91.607 Frequencies available.

(a) Land Radiopositioning Stations and Mobile Radiopositioning Stations in this service, excluding speed measuring devices, may be authorized to use frequencies in the band 1750–1800 kc/s. Such use shall be in connection with petroleum industry activities only and shall be at locations within 150 miles of the shoreline of the Gulf of Mexico; or within 15 miles inland and 150 miles offshore of that portion of the shoreline of the State of California south of 35 degrees 30 minutes North latitude. These frequencies are shared with the Disaster Communications Service and are subject to a number of special restrictions set forth elsewhere in this subpart.

(b) Land Radiopositioning Stations and Mobile Radiopositioning Stations in this service, including speed measuring devices, may be authorized to use frequencies in the band 2450–2500 Mc/s on the condition that harmful interference will not be caused to the fixed and mobile services. Stations in the Industrial Radiolocation Service operating in this band also must accept any harmful interference that may be experienced from the operation of industrial, scientific, and medical equipment operating in accordance with Part 18 of this chapter, Rules and Regulations Relating to Industrial, Scientific and Medical Service.

(c) Land Radiopositioning Stations and Mobile Radiopositioning Stations in this Service, excluding speed measuring devices, may be authorized to use frequencies in the following bands on the condition that harmful interference will not be caused to stations in the Radionavigation Service:

Mc/s	*Mc/s*
2900–3100	9000–9200
5250–5440	9320–9500
5460–5650	

(d) Land Radiopositioning Stations and Mobile Radiopositioning Stations in this service may be authorized on request to use frequencies allocated exclusively to Federal Government Stations in those instances where the Commission finds, after consultation with the appropriate Government agency or agencies, that such assignment is necessary or required for coordination with Government activities.

(e) Land Radiopositioning Stations (SHORAN) and Mobile Radiopositioning Stations (SHORAN) in this service may be authorized the use of the frequencies 230 Mc/s, 250 Mc/s and 310 Mc/s at locations within 150 miles of the respective shorelines of California, Alaska, Oregon, Washington (including the area in and about Puget Sound), and the Gulf of Mexico for radiolocation operations of the petroleum industry only, provided that no harmful interference is caused to services operating in accordance with the Table of Frequency Allocations contained in Part 2 of this chapter, and provided that SHORAN operations are coordinated locally in advance with Federal Government authorities making use of frequencies in the band 225–328.6 Mc/s in the same area.

(f) Land Radiopositioning Stations and Mobile Radiopositioning Stations in this service, including speed measuring devices, may be authorized to use frequencies in the band 10,500–10,550 Mc/s, for A0 emission only, on a shared basis with stations in other services.

(g) Stations authorized to operate on frequencies included in the bands 3100–3246, 3266–3300 and 9200–9300 Mc/s prior to April 16, 1958, may continue to operate on frequencies in those bands for the duration of the terms of their current authorizations. Such authorizations will be subject, upon proper application therefor, to renewal, modification and, in the event of a change in the ownership of the licensee's business, assignment or transfer with the business for which they were granted. Renewal authorizations will be issued subject to the condition that no harmful interference is caused to government stations in the radiopositioning service operating in the bands 3100–3246, 3266–3300 and 9200–9300 Mc/s.

(h) Radiolocation stations in this service may be authorized to use frequencies in the band 10,000–10,500 Mc/s, upon the conditions that no pulsed emissions are used and that no harmful interference is caused to other users of this band; and upon the further condition that such stations in the radiolocation service operating in this band must accept any harmful interference that may be experienced from the operation of other services in this band. The non-Government radiolocation service is limited to survey operations using transmitters with a power not to exceed one watt into the antenna.

§ 91.608 Special restrictions applicable to 1750–1800 kc/s only.

Each station authorized to operate in the Radiolocation Service on frequencies between 1750–1800 kc/s, is subject to the following restrictions in addition to the other requirements in this part:

(a) Such stations shall be located within 150 miles of the shoreline of the Gulf of Mexico; or within 15 miles inland and 150 miles offshore of that portion of the shoreline of the State of California south of 35 degrees 30 minutes North latitude.

(b) Such stations shall be used in connection with petroleum industry activities only;

(c) Plate power input to the final radio frequency stage shall not exceed 500 watts;

(d) In the absence of a satisfactory showing that the public interest, convenience or necessity would be served thereby, stations in this band will be restricted to a maximum authorized bandwidth of 3 kc/s; and

(e) Land Radiopositioning Stations will not be authorized for operation at temporary locations.

§ 91.609 Special exemptions.

Stations licensed under this subpart are exempt from the requirements of §§ 91.8, 91.151, 91.201, 91.202, 91.207, and 91.208.

§ 91.610 License term.

(a) The license for each station authorized to operate on frequencies below 1800 kc/s in this service will expire on July 1st of the calendar year following the year in which action is taken on the license application.

(b) The license for each station authorized to operate on frequencies above 1800 kc/s in this service will expire one year from the date of final action on the license application.

§ 91.611 Control of interference, 1750–1800 kc/s only.

(a) *Nighttime protection.* Operation of stations in the Industrial Radiolocation Service on frequencies in the 1750–1800 kc/s band is subject to the condition that during the hours from sunset to sunrise no harmful interference be caused to any proper operation of stations licensed to operate in the same band under Part 20 of this chapter, Rules Governing Disaster Communications Service.

(b) *Daytime protection.* Operation of stations in the Industrial Radiolocation Service on frequencies in the 1750–1800 kc/s band is subject to the condition that during the hours from sunrise to sunset no harmful interference be caused to operation of stations licensed to operate in the same band under Part 20 of this chapter, Disaster Communications Service, when such stations are transmitting during an imminent or actual disaster in any area in connection therewith. (Except during such an imminent or actual disaster, operation of stations in the Disaster Communications Service shall not cause harmful interference during the hours from sunrise to sunset to operation of stations in the Industrial Radiolocation Service. See Part 20 of this chapter.)

(c) *Times of sunrise and sunset.* For the purposes of this section, irrespective of the time zones involved, it shall be assumed that the times of sunrise and sunset at each actual station location are as follows:

(1) *Gulf of Mexico area.* The monthly average central standard times of sunrise and sunset at New Orleans, Louisiana, are set forth in the following table:

	Jan.	Feb.	Mar.	Apr.	May	June
Sunrise	7:00	6:45	6:15	5:30	5:15	5:00
Sunset	5:15	5:45	6:15	6:30	6:45	7:00

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Sunrise	5:15	5:30	5:45	6:00	6:30	6:45
Sunset	7:00	6:45	6:00	5:30	5:00	5:00

(2) *California area.* The monthly average Pacific standard times of sunrise and sunset at Los Angeles, California, are set forth in the following table:

	Jan.	Feb.	Mar.	Apr.	May	June
Sunrise	7:00	6:45	6:00	5:30	4:45	4:45
Sunset	5:00	5:30	6:00	6:30	6:45	7:00

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Sunrise	4:45	5:15	5:30	6:00	6:30	6:45
Sunset	7:00	6:45	6:00	5:15	4:45	4:45

(d) *Notification and liaison system.* To carry into effect the requirements of paragraphs (a) and (b) of this section, including a positive means whereby operation in this service can be suspended to protect against harmful interference, there shall be established an adequate and reliable system of notification and liaison between licensees in this service and licensees in the Disaster Communications Service. The extent and division of responsibility for various phases of the notification and liaison system shall be as follows:

(1) Organization and establishment of a system of liaison within the Industrial Radiolocation Service; the devising of a system for the receipt and distribution of notification information; and the installation, operation and maintenance of such a system shall be the responsibility of licensees in the Industrial Radiolocation Service authorized to operate in the band 1750–1800 kc/s.

(2) Organization and establishment of a system of liaison within the Disaster Communications Service; and the devising of a method for the dispatch of notification information to the person or persons designated by licensees in the Industrial Radiolocation Service shall be the responsibility of licensees in the Disaster Communications Service authorized to operate in the band 1750–1800 kc/s.

(3) The responsibility for the initiation of liaison between licensees in the Industrial Radiolocation Service and the licensees in the Disaster Communications Service shall be the responsibility of the former.

(4) Once initiated, the maintenance, review and improvement of liaison between licensees in the two Services shall be the joint responsibility of both groups.

(5) Issuance of notification to suspend operation in the Industrial Radiolocation Service due to an impending or actual disaster shall be the responsibility of licensees in the Disaster Communications Service. Such notification shall be by those means which have been mutually agreed upon as sufficiently adequate, prompt and reliable to effectuate the purpose of this section. Any desired communication method or combination of methods may be utilized.

(6) Prompt suspension of operation of the radiopositioning station or stations upon receipt of disaster notification shall be the responsibility of licensees in the Industrial Radiolocation Service.

(7) When stations in the Industrial Radiolocation Service have discontinued transmitting to protect disaster communications in connection with an imminent or actual disaster, and when the point has been reached where there is no reasonable possibility that radiolocation transmissions will cause harmful interference to the disaster communications, it shall be the responsibility of licensees in the Disaster Communications Service to communicate this information promptly to the licensee in the Industrial Radiolocation Service so that they may resume operation at will.

(8) Although the prearranged notification procedure required to be established by the terms of this section shall be the primary means by which licensees in the Industrial Radiolocation Service receive information necessary for compliance with the requirements of this section, it shall be the further responsibility of licensees in this Service to suspend operation upon receipt of any reliable intelligence which indicates a reasonable possibility that harmful interference is being caused to actual disaster transmissions.

(9) The notification and liaison procedure hereby required to be established shall be limited to that geographical area within which there is a reasonable anticipation, determined by actual tests wherever practicable, that harmful interference may be caused by a licensee in the Industrial Radiolocation Service to licensees in the Disaster Communications Service.

(10) All construction permits for radiopositioning stations in this band are granted subject to the condition that the permittee, at the time of filing for station licenses, accompany such applications with a comprehensive plan defining in detail the means of notification which have been agreed upon by the permittee and the licensees of Disaster Communications Service stations in the area. The notification plan shall be kept current by the licensee, through successive modifications as may be necessary, to incorporate stations in the Disaster Communications Service which subsequently may be authorized to operate in the same interference area. A copy of this notification plan and of all subsequent modifications shall be filed at the following points: The Commission's offices at Washington, D.C., 20554; the offices of the Engineer in Charge of the Radio District in which the radiopositioning station is located; and the offices of the Engineer in Charge of the Radio District or Districts in which are located the Disaster Communications Service stations involved in the plan.

Subpart N—[Reserved]

Subpart O—Manufacturers Radio Service

§ 91.726 Definition.

For the purpose of this subpart, manufacturing activities are defined as the activities directly involved in the mechanical or chemical transformation of organic or inorganic substances into new products within establishments usually described as plants, factories, shipyards, or mills and which employ, in that process, power-driven machines and materials-handling equipment. Establishments engaged in assembling components of manufactured products in plants, factories, shipyards or mills are also engaged in manufacturing activities if the new product is neither a new structure nor other fixed improvement. Establishments primarily engaged in the wholesale or retail trade, or in service activities, even though they fabricate or assemble any or all of the products or commodities handled, shall not be considered to be engaged in manufacturing activities.

§ 91.727 Eligibility.

(a) Persons directly engaged in manufacturing activities, as that term is defined in § 91.726, are eligible to hold authorizations to operate radio stations in the Manufacturers Radio Service.

(b) A subsidiary corporation proposing to furnish a nonprofit radiocommunication service to its parent corporation or to another subsidiary of the same parent corporation is eligible in the Manufacturers Radio Service, if the parent corporation or the other subsidiary is engaged in a manufacturing activity as defined in § 91.726.

(c) A subsidiary corporation, devoted exclusively to providing services or materials for the exclusive use of its parent or another subsidiary corporation, in connection with any manufacturing activity defined in § 91.726, is eligible in the Manufacturers Radio Service: *Provided, however,* That such subsidiary's use of radio shall be confined solely to the transmission of communications essential to the provision of services or materials required by the parent or another subsidiary.

§ 91.728 Availability and use of service.

(a) The initial application from a person claiming eligibility in the Manufacturers Radio Service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

(b) Authorizations to operate stations in this service are available to persons establishing eligibility under the provisions of this subpart; however, except for transmissions relating to an immediate emergency involving the safety of life or property, such authorized stations may be used only for the transmission of communications incident to plant, security, production control or materials-handling, other than the retail distribution of the manufacturer's products.

§ 91.729 Station limitations.

(a) Mobile relay stations will not be authorized in the Manufacturers Radio Service within the continental limits of the United States, except when such stations and all associated control and mobile stations are to be operated exclusively on frequencies above 450 Mc/s.

(b) No base station will be authorized in this service for operation at unspecified or temporary locations.

(c) Fixed stations proposed to be operated in the Manufacturers Radio Service on frequencies above 952 Mc/s will be authorized only on a developmental basis.

(d) Stations in this service proposed to be operated on frequencies in the 152-

162 Mc/s band will not be authorized to operate with a plate power input to the final radio frequency stage in excess of 180 watts.

§ 91.730 Frequencies available.

(a) The following tabulation indicates the frequencies available for assignment to stations in the Manufacturers Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are developed in paragraph (b) of this section:

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE

Frequency	Class of station(s)	Limitations
Mc/s		
27.235	Base, mobile, or fixed	2,3
27.245	do	2,3
27.255	do	2,3
27.265	do	2,3
27.275	do	2,3
153.05	Base or mobile	1
153.08	do	1
153.11	do	1
153.14	do	1
153.17	do	1
153.20	do	1
153.23	do	1
153.26	do	1
153.29	do	1
153.32	do	1
153.35	do	1
153.38	do	1
158.28	do	1
158.31	do	1
158.43	do	1
462.05	do	
462.10	do	
462.15	do	
462.20	do	
462.25	do	
462.30	do	
462.35	do	
462.40	do	
462.45	do	
462.50	do	
467.50	Mobile	4
467.55	do	4
467.60	do	4
467.65	do	4
467.70	do	4
467.75	do	4
467.80	do	4
467.85	do	4
467.90	do	4
467.95	do	5
952–960	Operational fixed	5
1850–1990	do	5
2110–2200	do	6
2450–2500	Base, mobile, or fixed	5, 5
2500–2700	Operational fixed	5
6425–6575	Base or mobile	5
6575–6875	Operational fixed	5
8400–8500	Base, mobile, or fixed	5
10,550–10,700	do	5
11,700–12,200	Base or mobile	5
12,200–12,700	Operational fixed	5
13,200–13,250	Base, mobile, or fixed	6
16,000–18,000	do	5, 5
26,000–30,000	do	5

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) This frequency is shared with the Petroleum Radio Service and the Forest Products Radio Service.

(2) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(3) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(4) This frequency will not be assigned to base stations.

(5) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(6) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

Subpart P—Telephone Maintenance Radio Service

§ 91.751 Eligibility.

The following persons are eligible to hold authorizations in the Telephone Maintenance Radio Service:

(a) Communications common carriers primarily engaged in rendering a wire-line or wire-line and radio communications service to the public for hire.

(b) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in the activity set forth above.

§ 91.752 Availability and use of service.

(a) The initial application from a person claiming eligibility in this service must be accompanied by a statement in detail sufficient to indicate clearly such eligibility.

(b) Except for transmissions relating to an immediate emergency endangering life or property, stations in this service may be used only for the transmission of communications incident to the technical or engineering aspects of construction, repair, maintenance or efficient operation of communications common carrier rights-of-way, plant facilities or customer stations.

(c) The facilities authorized in this service shall not be used for administrative or other non-technical business activities of the licensee, nor for the transmission of any common carrier or public correspondence communication.

§ 91.753 Station limitations.

(a) Mobile relay stations will not be authorized in the Telephone Maintenance Radio Service within the continental limits of the United States, except when such stations and all associated control and mobile stations are to be operated exclusively on frequencies above 150 Mc/s.

(b) Fixed stations proposed to be operated in the Telephone Maintenance Radio Service on frequencies above 952 Mc/s will be authorized only on a developmental basis.

§ 91.754 Frequencies available.

(a) The following tabulation indicates the frequencies available for assignment to stations in the Telephone Maintenance Radio Service together with the class of station(s) to which they are normally assigned and the specific assignment limitations, which are developed in paragraph (b) of this section:

TELEPHONE MAINTENANCE RADIO SERVICE FREQUENCY TABLE

Frequency	Class of station(s)	Limitations
Mc/s		
27.235	Base, mobile, or fixed	2,3
27.245	do	2,3
27.255	do	2,3
27.265	do	2,3
27.275	do	2,3
35.16	Base or mobile	
43.16	Mobile	4
151.985	Base or mobile	
158.34	Mobile	4
451.30	Base or mobile	1
451.35	do	1
451.40	do	1
451.45	do	1
451.50	do	1
456.30	Mobile	1,4
456.35	do	1,4
456.40	do	1,4
456.45	do	1,4
456.50	do	1,4
952–960	Operational fixed	5
1850–1990	do	5
2110–2200	do	5
2450–2500	Base, mobile, or fixed	5, 6
2500–2700	Operational fixed	5
6425–6575	Base or mobile	5
6575–6875	Operational fixed	5
8400–8500	Base, mobile, or fixed	5
10,550–10,700	do	5
11,700–12,200	Base or mobile	5
12,200–12,700	Operational fixed	5
13,200–13,250	Base, mobile, or fixed	5
16,000–18,000	do	5, 6
26,000–30,000	do	5

(b) Explanation of assignment limitations appearing in the frequency tabulation of this section:

(1) This frequency is available for assignment on a secondary basis to fixed relay or control stations which operate as integral parts of a radio circuit over which messages are sent to or received from a mobile station without interruption for manual relaying, provided that such operation causes no harmful interference to base or mobile stations, and further provided, that this frequency will not be assigned for such control or relay operation in any instance where its use will be in a radio circuit which involves more than two automatic retransmissions in each direction on mobile service frequencies.

(2) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

(3) Other provisions of this part notwithstanding, this frequency may be authorized for use with any type of emission which does not exceed an occupied bandwidth of 8 kc/s, for intermittent transmissions; further, authorizations may be issued to permit operation on this frequency by self-actuating or other electrical or mechanical means not under the direct control of any individual. All operations on this frequency are limited to a maximum plate power input of 30 watts to the final radio frequency stage.

(4) This frequency will not be assigned to base stations.

(5) Limited to developmental operation only with the assigned frequency and particulars of operation specified in each authorization.

(6) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices.

PART 93—LAND TRANSPORTATION RADIO SERVICES

Subpart A—General Information

Subpart B—Applications, Authorizations, and Notifications

Subpart C—Technical Standards

Subpart D—Station Operating Requirements

Subpart E—Developmental Operation

Subpart F—Motor Carrier Radio Service

Subpart G [Reserved]

Subpart H—Railroad Radio Service

Subpart I—Taxicab Radio Service

Subpart J [Reserved]

Subpart K—Automobile Emergency Radio Service

AUTHORITY: §§ 93.1 to 93.506 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General Information

§ 93.1 Basis and purpose.

(a) The basis for the rules in this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. The rules in this part are issued pursuant to the authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of the rules and regulations in this part is to prescribe the conditions under which parts of the radio spectrum may be employed for radiocommunication and control facilities in certain land transportation operations.

§ 93.2 General limitations on use.

The radio facilities authorized under this part shall not be used to render a communications common carrier service or to carry program material of any kind for use in connection with radio broadcasting.

§ 93.3 Arrangements for cooperative use of facilities.

For the purposes of this part, the use of facilities licensed under this part for the transmission or reception of any communication which relates solely to the conduct of the activity or activities of a person other than the licensee of those facilities is defined as the rendition of a private radiocommunication service to such other person by the licensee. The installation and use of mobile units, operated under the licensee's station authorization, in the vehicles of other persons furnishing the licensee, under contract, services or facilities within the purview of the established scope of the service in which the station is authorized, in accordance with the provisions of §§ 93.357 and 93.506, shall not be considered the rendition of a private radiocommunication service when the communications involved relate solely to the furnishing of such services or facilities to the licensee. Except for emergency communications, or except for authorized communications relating to civil defense, any rendition of a private radiocommunication service by a station in the Land Transportation Radio Services shall be governed by the following:

(a) The licensee of a base station may render a private radiocommunication service to the licensee(s) of a mobile station or stations in the Land Transportation Radio Services, without specific advance approval by the Commission, upon satisfaction of the following conditions:

(1) The frequency upon which the base station is operated shall be one which would be available for assignment to base stations for use in connection will all of the transportation activities involved.

(2) The rendition of the radiocommunication service shall be on a cost-sharing or no-charge basis, in accordance with the provisions of paragraph (e) of this section.

(3) The licensee of the base station shall maintain exclusive control over the operation of the base station; however, he may provide dispatch points (but not control points) for the use of the licensee of the mobile station.

(4) Except upon specific authorization by the Commission, the licensee of a base station shall not serve a greater number of mobile units of any other person than the number of mobile units of the licensee served by the same base station.

(b) The licensee of a base station may install mobile units, operated under an authorization held by him, in the vehicles of other persons who are separately engaged in transportation activities and may render a private radiocommunication service to the vehicles in which those mobile units are installed only upon specific advance approval by the Commission with respect to every person to whom such radiocommunication service is to be rendered and upon satisfaction of the following additional conditions:

(1) The frequency or frequencies upon which the base and mobile station(s) are operated shall be one(s) which would be available for assignment to base and mobile stations, respectively, for use in connection with all of the transportation activities involved.

(2) The rendition of the radiocommunication service shall be on a cost-sharing or no-charge basis, in accordance with the provisions of paragraph (e) of this section.

(3) The licensee of the base and mobile station(s) shall maintain exclusive control over the operation of the base and mobile station(s); however, he may provide dispatch points (but not control points) for the use of the persons receiving the radiocommunication service. In order to maintain such control, each person in whose vehicles the mobile units of the licensee are proposed to be installed shall enter into a written agreement verifying that the licensee has the sole right of control of the mobile radio units, that the vehicle operators shall operate the radio units subject to the orders and instructions of the base station operator and that the licensee shall at all times have such access to and control of the mobile equipment as will enable him to carry out his responsibilities under the license. A copy of the agreement with vehicle owners required hereby shall be kept with the station records and held available for inspection by Commission representatives but need not be submitted to the Commission unless specifically requested in a particular case.

(4) Except upon specific authorization by the Commission, the licensee of a base station shall not serve a greater number of mobile units of any other person than the number of mobile units of the licensee served by the same base station.

(c) A licensee authorized under the provisions of the various subparts of this part which makes eligible in certain of these services, either a non-profit corporation or association organized for the purpose of furnishing a private radiocommunication service to persons engaged in the respective activities, or a subsidiary corporation proposing to furnish a private radiocommunication service to the parent corporation or to another subsidiary of the same parent where the party to be served is engaged in the respective activities, may render that communication service only upon specific advance approval by the Commission with respect to every person to whom such radiocommunication service is to be rendered and upon satisfaction of the following additional conditions:

(1) The frequency or frequencies upon which the base and mobile station(s) are operated shall be one(s) which would be available for use in connection with all of the transportation activities involved.

(2) The rendition of the radiocommunication service shall be on a cost-sharing or no-charge basis, in accordance with the provisions of paragraph (e) of this section.

(3) The licensee of the base and mobile station(s) shall maintain exclusive control over the operation of the base and mobile station(s) involved; however, he may provide dispatch points for the use of persons receiving the radiocommunication service. Control points may be provided only upon receiving the prior approval of the Commission in each case.

(d) Authority may be granted for the licensee of an operational fixed station or stations in one of the Land Transportation Radio Services to render a private radiocommunication service to specific other persons engaged in transportation activities, when the frequency or frequencies upon which such operational fixed station(s) are operated are ones which are available for assignment to operational fixed stations for use in connection with all of the transportation activities involved; however, such authority will be granted only on an individual and case-by-case basis at the discretion of the Commission pending further development of its microwave program. The rendition of such radiocommunication service, when authorized, shall be on a cost-sharing or no-charge basis, in accordance with the provisions of paragraph (e) of this section and each person who is to receive such radiocommunication service shall be named in the station authorization.

(e) All arrangements for the rendition of a private radiocommunication service in accordance with the provisions of the preceding paragraphs of this section shall be either on a no-charge basis or on a non-profit, cost-sharing basis pursuant to a written contract between the parties concerned. Such contract shall clearly establish that the licensee has full access to and exclusive control over the radio equipment operated under the authority of the license held by him; and that contributions to capital and operating expenses are accepted only on a cost-sharing, non-profit basis, said costs to be prorated on an equitable basis among all persons who are parties to the arrangement. Records which reflect the cost of the service and its non-profit, cost-sharing nature shall be maintained by the base (or fixed) station licensee and held available for inspection by Commission representatives.

(f) In order to comply with the requirement of specific advance approval contained in paragraphs (b), (c) and (d) of this section, a licensee proposing to render a private radiocommunication service to any other person (other than to render base station service to the licensee of a mobile station) shall make application for authority to render that service with respect to each base or fixed station involved, naming each person who is to receive service and including a description of the kind and extent of the transportation activity in which each is engaged. When the radiocommunication service is to be rendered on a regular basis, the requests for such authority shall be made on FCC Form 400; however, if the service is to be rendered on an irregular or temporary basis, the request may be in the manner provided for in § 93.53. Upon approval of the request, the Commission will designate the persons to whom service may be rendered on the station authorization or in the special temporary authority which shall be kept with the station records.

§ 93.4 General citizenship restrictions.

A station license may not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign government—if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 93.5 Transfer and assignment of station authorization.

A station authorization, the frequencies authorized to be used by the grantee of such authorization, and the rights therein granted by such authorization shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, or indirectly by transfer of control of any corporation holding such authorization, to any person, unless the Commission shall, after securing full information, decide that the said transfer is in the public interest. Requests for authority to assign a station authorization may be submitted in accordance with § 93.56(b) while a request for authority to transfer control of a corporation, as by sale of controlling stock interest, shall be submitted in accordance with § 93.56(d).

§ 93.6 Definition of terms.

For the purpose of this part, the following definitions shall be applicable. For other definitions, refer to Part 2 of this chapter, Frequency Allocations and Treaty Matters; General Rules and Regulations.

(a) Definition of services:

Automobile Emergency Radio Service. The term "Automobile Emergency Radio Service" as used in this part means a radiocommunication service for use in connection with the dispatching of emergency road service vehicles for the purpose of providing assistance to disabled automotive vehicles used on streets or highways.

Fixed service. A service of radiocommunication between specified points.

Land mobile service. A mobile service between base stations and land mo-

bile stations, or between land mobile stations.

Land transportation radio services. Any private service of radiocommunication essential to the conduct of certain land transportation activities, the transmitting facilities of which are defined as fixed, land, mobile or radiolocation stations.

Mobile service. A service of radiocommunication between mobile and land stations, or between mobile stations.

Motor Carrier Radio Service. A radiocommunication service for use in connection with the operation of a motor carrier land transportation system.

Radiolocation service. A radiodetermination service involving the use of radiolocation.

Railroad Radio Service. The term "Railroad Radio Service" as used in this part means a radiocommunication service for use in connection with the operation and maintenance of a railroad common carrier.

Safety service. A radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

Taxicab Radio Service. The term "Taxicab Radio Service", as used in this part, means a radiocommunication service for use in connection with the transportation facilities of a taxicab common carrier.

(b) Definition of stations:

Base station. A land station in the land mobile service carrying on a service with land mobile stations.

Control station. An operational fixed station, the transmissions of which are used to automatically control the emissions or operation of another radio station at a specified location.

Fixed relay station. An operational fixed station in the fixed service, established to receive radio signals directed to it from any source and to retransmit them automatically on a fixed service frequency for reception at one or more fixed points.

Mobile relay station. A base station in the mobile service, authorized primarily to retransmit automatically on a mobile service frequency, communications originated either by associated mobile units or by an associated control station. (Authorized in the Railroad Radio Service only.)

Mobile repeater station. A mobile station in the mobile service, authorized to retransmit automatically on a mobile service frequency, communications originated either by associated pack-carried or hand-carried mobile units or by other mobile or base stations directed to such pack-carried or hand-carried units. (Authorized in the Railroad Radio Service only.)

Mobile station. A station in a mobile service intended to be used while in motion or during halts at unspecified points.

Operational fixed station. A fixed station, not open to public correspondence, operated by, and for the sole use of those agencies operating their own radiocommunication facilities in the Public Safety, Industrial, Land Transportation, Marine, or Aviation Services. (This term includes all stations licensed in the fixed service under this part.)

Radiolocation land station. A station in the radiolocation service not intended to be used while in motion.

Radiolocation mobile station. A station in the radiolocation service intended to be used while in motion or during halts at unspecified points.

(c) Miscellaneous definitions:

Antenna structure. The term antenna structure includes the radiating system, its supporting structure, and any surmounting appurtenances.

Assigned frequency. The frequency appearing on a station authorization, from which the carrier frequency may deviate by an amount not to exceed that permitted by the frequency tolerance.

Authorized bandwidth. The frequency band, specified in kilocycles and centered on the carrier frequency, containing those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power.

Bandwidth occupied by an emission. The band of frequencies comprising 99 percent of the total radiated power extended to include any discrete frequency on which the power is at least 0.25 percent of the total radiated power. (Par. 58, Atlantic City Radio Regulations.)

Common carrier. As used in the Motor Carrier Radio Service, a person who holds himself out to the general public to engage in the transportation of passengers or property without discrimination, for compensation as a regular occupation or business.

Contract carrier. As used in the Motor Carrier Radio Service, a person who under individual contracts or agreements engages in the transportation of passengers or property for compensation as a regular occupation or business.

Harmful interference. Any emission, radiation or induction which endangers the functioning of a radionavigation service or other safety service or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with this chapter.

Landing area. A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used, or approved for use for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Motor carrier. Any streetcar, bus, truck, or other land motor vehicle operated over public streets or highways by a common or contract carrier and used for the transportation of passengers or property (freight) for compensation: *Provided, however,* That motor vehicles used as taxicabs, livery vehicles, or school buses, and motor vehicles used for sightseeing or special charter purposes, shall not be included within the meaning of this term as used in the Motor Carrier Radio Service.

Person. An individual, partnership, association, joint stock company, trust, or corporation.

Radiolocation. Radiodetermination used for purposes other than those of radionavigation.

Radiodetermination. The determination of position, or the obtaining of information relating to position, by means of the propagation properties of radio waves.

Station authorization. Any construction permit, license, or special temporary authority issued by the Commission.

Telemetering. Automatic radiocommunication, in a fixed or mobile service, intended to indicate or record a measurable variable quantity at a distance.

Urban area. As used in the Motor Carrier Radio Service, one or more contiguous, incorporated or unincorporated cities, boroughs, towns, or villages, having aggregate population of 2,500 or more persons.

§ 93.8 Policy governing the assignment of frequencies.

(a) The frequencies which normally may be assigned to stations in any one of the several Land Transportation Radio Services are listed in the applicable subparts of this part. Each frequency or band of frequencies thus listed is available on a shared basis only and will not be assigned for the exclusive use of any licensee. All applicants and licensees in these services shall cooperate in the selection and use of the frequencies in order to minimize interference and obtain the most effective use of their radio facilities. In the event of interference between stations, the licensees of the stations involved are expected to resolve such interference problems by mutually satisfactory agreement. If the licensees are unable to reach such an agreement the Commission, at its discretion, among other things, may specify a time sharing arrangement, or may limit the transmitting power, antenna height, and hours or area of operation of the stations concerned.

(b) In the States of Alaska and Hawaii, and in areas outside the continental limits of the United States and the waters adjacent thereto, frequencies above 150.8 Mc/s, listed elsewhere in this part as available for assignment to base stations or mobile stations in particular services, are further available for assignment to operational fixed stations in the same services on the condition that no harmful interference be caused to mobile service operations.

(c) Frequencies assigned to Federal Government radio stations under Executive order of the President may be authorized for use by stations licensed under this part upon appropriate showing by the applicant that such assignment is necessary for inter-communication with Federal Government stations or required for coordination with activities of the Federal Government, provided the Commission determines, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(d) The following criteria shall govern the authorization and use of frequencies within the band 72–76 Mc/s to and by fixed stations:

(1) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(2) The applicant agrees to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are found necessary within 90 days of the time knowledge of said interference is first brought to his attention by the Commission. If said interference is not cleared up within the 90-day period, operation of the fixed station will be discontinued.

(3) Vertical polarization is used.

(4) Whenever it is proposed to locate a 72–76 Mc/s fixed station less than 80, but more than 10 miles from the site of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which such channels are assigned but are not in operation, the fixed station shall be authorized only if:

(i) There are fewer than 100 family dwelling units[1] located within a circle centered at the location of the proposed fixed station[2] the radius of which shall be determined by use of the chart entitled, "Chart for Determining Radius From Fixed Station in 72–76 Mc/s Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would Be Destroyed." Two charts are provided, one for Channel 4 and one for Channel 5: *Provided, however,* That the Commission may, in a particular case, authorize the location of a fixed station within a circle as determined under subdivision (i) of this subparagraph containing 100 or more family dwelling units upon a showing that:

(a) The proposed site is the only suitable location.

(b) It is not feasible, technically or otherwise to use other available frequencies.

(c) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(d) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by his operations.

(5) All applications seeking authority to operate with a separation of less than 10 miles will be returned without action.

(e) Persons authorized pursuant to this part to operate radio stations on frequencies in the band 25–50 Mc/s must recognize that the band is shared with various services in other countries; that harmful interference may be caused by tropospheric and ionospheric propagation of signals from distant stations of all services of the United States and other countries operating on frequencies in this band; and that no protection from such harmful interference generally can be expected. Persons desiring to avoid such harmful interference should consider operation on available frequencies higher in the radio spectrum not generally subject to this type of difficulty.

(f) Frequencies designated as "secondary" or "tertiary" in the various subparts of this part are available for assignment in accordance with the following schedule:

(1) Secondary frequencies become generally available for assignment on November 1, 1963; however, assignment may be made prior to that date in those cases where both (i) the equipment to be used meets the technical standards effective November 1, 1963, and (ii) the applicant coordinates the selection of each secondary frequency in accordance with the procedure set forth in § 93.9 with respect to all frequencies assigned to stations in the same or other services 15 kc/s or less from the frequency or frequencies requested in the application.

(2) Tertiary frequencies are available for assignment on a case-by-case basis, at the discretion of the Commission, when the equipment to be used meets the technical standards effective November 1, 1963: *Provided,* That either (i) a satisfactory showing is made that operation on the requested tertiary frequency will result in the least interference to existing stations of other licensees operating within local interference range on frequencies within the frequency band involved, or (ii) such assignment is recommended to the Commission in accordance with the provisions of § 93.9(a)(3).

(3) In the case of stations of radiocommunications systems authorized prior to August 1, 1958, for operation on frequencies not currently available for assignment to such stations, the provisions of this paragraph regarding immediate compliance with the technical standards which are generally effective on November 1, 1963, shall not be applicable to the assignment of secondary or tertiary frequencies to such stations; provided, that in lieu thereof the frequency deviation of all frequency modulated transmitters of such stations shall not exceed ±5 kc/s .

(g) Except in the Taxicab Radio Service, the Commission may authorize, on a developmental basis only, the use of a frequency in the 152–162 Mc/s band not specifically listed as available for assignment: *Provided,* That:

(1) The frequency is within 7½ kc/s of a frequency listed as available for assignment to the station in the service involved;

(2) The equipment to be used meets the technical standards effective November 1, 1963; and

(3) The applicant submits adequate showing that such irregular assignment will be less likely to result in mutual harmful interference than would the assignment of one of the listed frequencies in the same band available to such station.

§ 93.9 Frequency coordination.

(a) Each application requesting assignment of a frequency in the bands 30–50, 150.8–162, or 450–470 Mc/s, not currently authorized for use by that station, shall be accompanied by a statement as evidence that applicant is aware of and has complied with the requirement that he cooperate with other licensees in the selection of a frequency. This statement may be submitted in any one of the following forms, but any recommendations submitted in connection therewith are purely advisory in character and cannot be considered as binding upon the Commission.

(1) A statement, including an engineering survey, if necessary, which sets forth the technical and other considerations in support of the selection of the particular frequency requested. The Commission expects that the applicant will notify the licensees of all known stations in the same or other services located within the local interference range of the proposed station location and operating on any frequency 15 kc/s or less from the frequency proposed to be used by the applicant, of the applicant's intention to request that frequency.

(2) A statement from a local frequency advisory committee of users suggesting a specific frequency or commenting upon the frequency which in its opinion would result in the least interference being caused to existing stations in the area by the proposed station. In the event the frequency recommended in accordance with the above is not in the frequency band desired by the applicant, the committee should also indicate a frequency in the band desired by the applicant which in its opinion would result in the least amount of interference and would therefore appear to be most suitable. Such statements may appropriately include comments on other technical factors such as power, antenna height and other limitations which may serve to mitigate any possible interference. The frequency advisory committee must be so organized that it is representative of the industry eligible for radio facilities in the service concerned in the area in which the committee functions and for which recommendations are made.

(3) A recommendation from a frequency coordinating committee, or other appropriate representative of a national association composed of a majority of persons eligible for radio facilities in the particular service involved.

(b) In addition to the provisions of paragraph (a) of this section, in order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocohontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, or temporary fixed seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15′ N on the north, 78°30′ W on the east, 37°30′ N on the south, and 80°30′ W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P. O. Box No. 2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, pro-

[1] As defined by the U. S. Bureau of Census.
[2] Family dwelling units 70 or more miles distant from the TV antenna site are not to be counted.

posed frequency type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After the receipt of such applications, the Commission will allow a period of 20 days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the 20-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

Subpart B—Applications, Authorizations, and Notifications

§ 93.51 Station authorization required.

No radio transmitter shall be operated in the Land Transportation Radio Services except under and in accordance with a valid station authorization granted by the Federal Communications Commission.

§ 93.52 Procedures for obtaining a radio station authorization and for commencement of operation.

(a) Persons desiring to install and operate radio transmitting equipment should first submit an application for a radio station authorization in accordance with § 93.56(a).

(b) When construction permit only has been issued for a base, fixed or mobile station and installation has been completed in accordance with the terms of the construction permit and the applicable rules of the Commission, the permittee shall proceed further as follows:

(1) Notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will first be tested in such manner as to produce radiation, giving name of the permittee, station location, call sign, and frequencies on which tests are to be conducted. This notification shall be made in writing at least two days in advance of the test date. FCC Form 456 may be used for this purpose. No reply from the radio district office is necessary before the tests are begun.

(2) After testing, but on or before the date when the station is first used for operational purposes, mail to the Commission in Washington, D.C., an application on FCC Form 400 or in the case of microwave stations on FCC Form 402, for license or modification of license, as appropriate in the particular case. The station may thereafter be used as though licensed, pending Commission action on the license application.

(c) When a construction permit and license for a new base, fixed or mobile station are issued simultaneously the licensee shall notify the Engineer-in-Charge of the local radio district of the date on which the transmitter will be placed in operation, giving name of licensee, station location, call sign, and operating frequencies. This notification shall be made in writing on or before the day on which operation is commenced. FCC Form 456 may be used for this purpose.

(d) When a construction permit and modification of license for a base, fixed or mobile station are issued simultaneously, operation may be commenced without notification to the Engineer-in-Charge of the local radio district, except where operation on a new, or different frequency results by reason of such modification, in which event the notification procedure set forth in paragraph (c) of this section must be observed.

§ 93.53 Special temporary authority.

(a) In circumstances requiring immediate or temporary use of facilities, request may be made for special temporary authority to install and operate new equipment or to operate licensed equipment in a manner different than that authorized in the station license. Any such request may be in letter form, submitted in duplicate, and signed in accordance with § 93.55: *Provided*, That in cases of emergency involving danger to life or property or due to damage to equipment, such request may be made by telephone or telegraph under the condition that written request is submitted within 10 days from the date of such request. In the event that the Commission finds that such an emergency exists, temporary authorization may be granted for the duration of the emergency. Any such request shall be clear and complete within itself as to the action desired.

(b) Special temporary authority may also be requested for the purpose of conducting a field survey to determine necessary data in connection with the filing of formal applications for installation of a radio system under this part. In this case the authority, if issued, will be for developmental operation only and the applicable sections of Subpart E of this part shall also apply to the grant.

(c) Request for special temporary authority shall contain the following information:

(1) Name, address, and citizenship status of applicant.

(2) Need for special action, including a description of any emergency or damage to equipment.

(3) Type of operation to be conducted.

(4) Purpose of operation.

(5) Time and date of operation desired.

(6) Class of station and nature of service.

(7) Location of station.

(8) Equipment to be used, specifying manufacturer, model number and number of units.

(9) Frequency(s) desired.

(10) Plate power input to final radio frequency stage.

(11) Type of emission.

(12) Description of antenna to be used, including height.

(d) Except in emergencies involving safety of life or property or due to damage to equipment, request for special temporary authority shall be submitted to the Commission at least ten days prior to the date of proposed operation, or it must be accompanied by a statement of reasons for the delay in submitting such request.

§ 93.54 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Land Transportation Radio Services are discussed in § 93.56, and may be obtained from the Washington, D.C., office of the Commission, or from any of its engineering field offices. Concerning matters where no standard form is applicable, the procedure outlined in § 93.56 (g) should be followed.

(b) Any application for radio station authorization, and all correspondence relating thereto, shall be submitted to the Commission's office at Washington, D.C., 20554, and should be directed to the attention of the Secretary.

(c) Unless otherwise specified, an application shall be filed at least sixty days prior to the date on which it is desired that Commission action thereon be completed.

(d) Failure on the part of the applicant to provide all the information required by the application form, or to supply the necessary exhibits or supplementary statements may constitute a defect in the application.

(e) Applications involving operation at temporary locations:

(1) When one or more individual transmitters are intended to be operated as a base station or as a fixed station at unspecified or temporary locations for indeterminate periods, such transmitters may be considered to comprise a single station intended to be operated at temporary locations. An application for authority to operate a base station or a fixed station at temporary locations shall specify the general geographic area within which the operation will be confined. The area specified may be a city, a county or counties, or a state or states. Sufficient data must be submitted to show the need for the proposed area of operation.

(2) When any unit or units of a base station or fixed station authorized to operate at temporary locations actually remains or is intended to remain at the same location for a period of over a year, application for a separate authorization specifying the fixed location, shall be made as soon as possible but not later than 30 days after the expiration of the one year period.

§ 93.55 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Co-

lumbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 93.56 Standard forms to be used.

(a) Except as provided in paragraph (h) of this section, separate application shall be submitted on FCC Form 400 for the following:

(1) New station authorization for a base or fixed station.

(2) New station authorizations for any required number of mobile units (including hand-carried or pack-carried units) or any required number of units of a base station or fixed station at temporary locations to be operated in the same service.

NOTE: An application for mobile units may be combined with an application for a single base station for such mobile units as will operate with that base station only.

(3) License for any class of station upon completion of construction or installation in accordance with the terms and conditions set forth in the construction permit.

(4) Modification of a combined construction permit and station license for changes outlined in § 93.64(a).

(5) Modification of construction permit.

(6) Modification of station license.

Any of the foregoing applications will, upon approval and authentication by the Commission, be returned to the applicant as a specifically designated type of authorization.

(b) When the holder of a station authorization desires to assign to another person the privilege to construct or use a radio station, he shall submit to the Commission a letter setting forth his desire to assign all right, title, and interest in and to such authorization, stating the call sign and location of station. This letter shall also include a statement that the assignor will submit his current station authorization for cancellation upon completion of the assignment. Enclosed with this letter shall be an application for Assignment of Authorization on FCC Form 400 prepared by and in the name of the person to whom the station is being assigned.

(c) [Reserved]

(d) A separate application shall be submitted on FCC Form 703 whenever it is proposed to change the control of a corporate permittee or licensee.

(e) FCC Form 456 "Notification of Completion of Radio Station Construction" may be used to advise the Engineer-in-Charge of the local district office that construction of the station is complete and that operational tests will begin.

(f) Application for renewal of station license shall be submitted on FCC Form 405-A. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

(g) Informal applications:

(1) An application not submitted on a standard form prescribed by the Commission is considered to be an informal application. Each informal application shall be submitted in duplicate, normally in letter form, and with the original properly signed. Each application shall be clear and complete within itself as to the facts presented and action desired.

(2) A request for special temporary authorization must include full particulars as to the purpose for which the request is made and such request should be submitted at least 10 days prior to the date of the proposed operation. A request received within less than 10 days may be accepted upon due showing of sufficient reason for the delay in submitting the request. The information necessary to Commission action on requests for Special Temporary Authority is set forth in § 93.53 of this subpart.

(h) Application for construction permit, license, modification or assignment thereof for an operational fixed station using frequencies above 952 Mc/s (a so-called microwave station) shall be submitted on FCC Form 402.

§ 93.58 Supplemental information to be submitted with application.

Each application for station authorization shall be accompanied by such supplemental information listed below as may be required:

(a) Any statements or showings required by the applicable subpart of this part, in connection with the use of the frequency requested.

(b) Statements justifying the need when more frequencies are desired than are normally assigned to a single applicant under the applicable subpart of this part.

(c) Statement describing the type of emission to be used if it cannot be described as "8A3", "20F3", or "40F3" pursuant to Subpart C of this part.

(d) Description of the antenna system, on FCC Form 401-A in triplicate, in all cases when:

(1) The antenna structure proposed to be erected will exceed an over-all height of 170 feet above ground level, except that where the antenna is mounted on top of an existing man-made structure, other than an antenna structure, and does not increase the over-all height of such man-made structure by more than 20 feet, no Form 401-A need be filed; or

(2) The antenna structures proposed to be erected will exceed an over-all height of one foot above the established airport (landing area) elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except that where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on top of an existing man-made structure, other than an antenna structure, or natural formation and does not increase the over-all height of such man-made structure or natural formation by more than 20 feet, no Form 401-A need be filed.

(e) A functional system diagram and a detailed description of the manner in which the interrelated stations will operate when the station is, or will be, part of a system involving two or more stations at different fixed locations.

(f) Lists of those persons to whom the applicant proposes to provide a private radiocommunication service, when prior advance approval with respect to those persons is required in accordance with the provisions of § 93.3, together with a description of the kind and extent of the transportation activity in which each is engaged.

(g) Statements required by the Rules in connection with developmental operation. See §§ 93.202, 93.203, 93.207.

(h) Description of any equipment, proposed to be used, which does not appear on the Commission's current Radio Equipment List, Part C, and designated for use in the Land Transportation Radio Services.

(i) Any statements or other data required under special circumstances as set forth in the applicable subpart of this part, or required upon request by the Commission.

(j) Data required by the rules in connection with operation of base or fixed stations at temporary locations. See § 93.54(e)(1).

§ 93.59 Partial grant.

Where the Commission, without a hearing, grants an application in part, or with any privileges, terms, or conditions other than those requested, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which public announcement of such grant is made, or from its effective date if a later date is specified, file with the Commission a written request rejecting the grant as made. Upon receipt of such request, the Commission will vacate its original action and set the application for hearing in the same manner as other applications are set for hearing.

§ 93.60 Defective applications.

(a) Applications which are incomplete with respect to completeness of answers, supplementary statements, execution, or other matters of a formal character shall be deemed to be defective and may be returned to the applicant with a brief statement as to such defects.

(b) Applications will also be deemed to be defective and may be returned to the applicant in the following cases:

(1) Statutory disqualification of applicant, e. g., aliens under section 310 of the Communications Act;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed.

(c) Applications which are not in accordance with the provisions of this chapter, or other requirements of the Commission will be considered defective and may be dismissed unless accompanied either by (1) a petition to amend any rule or regulation with which the application is in conflict, or (2) a request of the applicant for waiver of, or exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof. Applications may be dismissed, if the accompanying petition for waiver or amendment of rules does not set forth reasons which, sufficient if true, would justify a waiver or change of the rules.

(d) If an applicant is requested by the Commission to file any additional documents or information not included in the prescribed application form, failure to comply with such request will be deemed to render the application defective, and such application may be dismissed.

§ 93.61 Amendment or dismissal of applications.

(a) Any application may be amended upon request of the applicant as a matter of right prior to the time the application is granted or designated for hearing. Each amendment to an application shall be signed and submitted in the same manner and with the same number of copies as required for original application.

(b) Any application may, upon written request signed by the applicant or his attorney, be dismissed without prejudice as a matter of right prior to the time the application is granted or designated for hearing.

§ 93.62 Construction period.

(a) Each radio station construction permit issued by the Commission will specify the date of grant as the earliest date of commencement of construction and installation, and a maximum of eight months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission in any particular case.

(b) In cases where the station is not ready for operational use on or before the expiration date of the construction permit, application for extension of time shall be filed on FCC Form 400, or on FCC Form 402, as appropriate.

§ 93.63 License term.

(a) For all stations in the Land Transportation Radio Services, except those engaged in developmental operation the license period shall be as follows:

(1) Each station license will be issued for a term of from one to five years from the effective date of grant, the term varying as may be necessary to permit the orderly scheduling of renewal applications.

(2) Each station license normally will be renewed, upon proper application, for a term of five years from the effective date of renewal.

(b) Instruments of authorization for stations engaged in developmental operation will be made upon a temporary basis for a specific period of time, but in no event to extend beyond one year from date of grant.

§ 93.64 Changes in authorized stations.

Authority for certain changes in authorized stations must be obtained from the Commission before these changes are made, while other changes do not require prior Commission approval. The following paragraphs describe the conditions under which prior Commission approval is or is not necessary:

(a) Proposed changes which will result in operation inconsistent with any of the terms of the current authorization require that an application for modification of construction permit and/or license be submitted to the Commission and shall be on FCC Form 400 or, in the case of microwave stations, on FCC Form 402 and shall be accompanied by exhibits and supplementary statements as required by § 93.58.

(b) [Reserved]

(c) Proposed changes which will not depart from any of the terms of the outstanding authorization for the station involved may be made without prior Commission approval. Included in such changes is the substitution of various makes of transmitting equipment at any station provided the particular equipment to be installed is contained in the Commission's current Radio Equipment List, Part C, and designated for use in the Land Transportation Radio Services and provided the substitute equipment employs the same type of emission and does not exceed the power limitations as set forth in the station authorization.

§ 93.65 Discontinuance of station operation.

In case of permanent discontinuance of operation of a station in this service, the licensee shall forward the station license to the Washington, D. C. office of the Commission for cancellation. A copy of the request for cancellation of the license shall be forwarded to the Commission's Engineer in Charge of the district in which the station is located. For purposes of this rule, a station which is not operated for a period of one year is considered to have been permanently discontinued.

§ 93.66 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 93.67 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 93.67 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part shall be accompanied by the fees prescribed below:

Applications for radio station authorizations for operational fixed radio stations for which frequencies above 952 Mc/s are requested (no fee is required for applications for license to cover construction permit)	$30
Applications for renewal of license only for which FCC Form 405–A is prescribed	4
All other applications for radio station authorizations	10

(b) Fees are not required in the following instances:

Applications filed pursuant to § 93.53 (informal applications for special temporary authority).

Applications filed by governmental entities.

Subpart C—Technical Standards

§ 93.101 Frequencies.

The frequencies below 952 Mc/s available for use in the Land Transportation Radio Services are listed in the applicable subparts of this part. The separation shown between assignable frequencies in the various bands does not necessarily indicate the actual amount of separation required for satisfactory operation of two or more systems within the same geographical area. Accordingly, grants of adjacent channel assignments in all bands will be in the discretion of the Commission.

§ 93.102 Frequency stability.

(a) Except as provided in paragraphs (b) and (c) of this section, a permittee

or licensee in these services shall maintain the carrier frequency of each authorized transmitter within the following percentage of the assigned frequency:

Frequency range	All fixed and base stations	All mobile stations	
		Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*	*Percent*
Below 25	0.01	0.01	0.02
25–50	.002	.002	.005
50–952	.0005	.0005	.005
Above 952	(1)	(1)	(1)

[1] As specified in § 93.111.

(b) In lieu of meeting the requirements of paragraph (a) of this section for the frequency ranges shown below, transmitters authorized prior to November 1, 1958, and transmitters which are operationally integrated with existing radiocommunication systems authorized prior to November 1, 1958, may conform to the following tolerances until not later than October 31, 1963:

Frequency range	Transmitter power	
	Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*
50–150.8	0.005	0.01
162–220	.005	.01
220–952	(1)	(1)
Above 952	(2)	(2)

[1] To be specified in the station authorization.
[2] As specified in § 93.111.

(c) In lieu of meeting the requirements of paragraph (a) of this section for the frequency bands shown below, transmitters of stations authorized prior to November 1, 1963, for operation wholly within the limits of one or more of the territories or possessions of the United States or the States of Alaska or Hawaii, and transmitters operationally integrated with existing radiocommunication systems authorized prior to August 1, 1958, for operation in areas other than those indicated above, may conform to the following frequency tolerances until not later than October 31, 1963: *Provided*, That in areas other than the territories or possessions of the United States or the States of Alaska or Hawaii, either (1) the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958 or (2) the operation takes place on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved:

Frequency range	Transmitter power	
	Over 3 watts	3 watts or less
Mc/s	*Percent*	*Percent*
25 to 50	0.01	0.02
152 to 162	.005	.01

(d) For the purpose of determining the frequency tolerance applicable to a particular transmitter in accordance with the foregoing provisions of this section, the power of a transmitter shall be the maximum rated plate power input to its final radio frequency stage, as specified by the manufacturer.

§ 93.103 Types of emission.

(a) Except as provided in paragraph (b) of this section, stations in these services will be authorized to use only A3 or F3 emission for radiotelephony. The authorization to use A3 or F3 emission will be construed to include the use of tone signals or signaling devices whose sole function is to establish and maintain communication between stations.

(b) Other types of emission not described in paragraph (a) of this section may be authorized upon a satisfactory showing of need therefor. An application requesting such authorization shall fully describe the emission desired, shall indicate the bandwidth required for satisfactory communication, and shall state the purpose for which such emission is required. For information regarding the classification of emissions and the calculation of the bandwidth, reference should be made to Part 2 of this subchapter.

§ 93.104 Emission limitations.

(a) Each authorization issued to a station operating in these services will show, as the prefix to the emission classification, a figure specifying the maximum authorized bandwidth in kc to be occupied by the emission. The specified band shall contain those frequencies upon which a total of 99 percent of the radiated power appears extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power. Any radiation in excess of the limits specified in paragraph (c) of this section is considered to be an unauthorized emission.

(b) The maximum authorized bandwidth of emission corresponding to the types of emission specified in § 93.103(a), and the maximum authorized frequency deviation in the case of frequency or phase modulated emission, shall be as follows:

(1) For all type A3 emission, the maximum authorized bandwidth shall be 8 kc.

(2) Except as provided in subparagraphs (3) and (4) of this paragraph, for all F3 emission, the maximum authorized bandwidth and maximum authorized frequency deviation shall be as follows:

Frequency band	Authorized bandwidth (kc/s)	Frequency deviation (kc/s)
Mc/s		
25 to 50	[2] 20	[2] 5
50 to 150	40	15
150 to 450	[2] 20	[2] 5
450 to 952	40	15
Above 952	(1)	(1)

[1] As specified in § 93.111.
[2] Notwithstanding the provisions of § 93.8(f), transmitters operating with three watts or less plate power input to the final radio frequency stage may operate with an authorized bandwidth of 40 kc/s and a deviation of ±15 kc/s until not later than October 31, 1963: *Provided*, That harmful interference is not caused by such wideband operation to any station of another licensee which is utilizing radio equipment meeting the narrow-band technical standards.

(3) In lieu of meeting the requirements of subparagraph (2) of this paragraph, transmitters authorized prior to November 1, 1963, to utilize type F3 emission for operation wholly within the limits of one or more of the territories or possessions of the United States or the States of Alaska or Hawaii on frequencies within the ranges 25–50 Mc/s and 152–162 Mc/s, and transmitters operationally integrated with existing radiocommunication systems authorized prior to August 1, 1958, to utilize type F3 emission for operation in areas other than those indicated above on frequencies within the range 25–42 Mc/s, may be operated with a maximum authorized bandwidth of 40 kc/s and a maximum frequency deviation of 15 kc/s until not later than October 31, 1963: *Provided*, That in areas other than the territories or possessions of the United States or the States of Alaska or Hawaii, the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958. (Note special conditions contained in § 93.503(e).)

(4) In lieu of fully meeting the requirements of subparagraph (2) of this paragraph, transmitters of stations in areas other than the territories or possessions of the United States or the States of Alaska or Hawaii which are operationally integrated with existing radiocommunication systems authorized prior to August 1, 1958, to utilize type F3 emission and to operate on frequencies within the range 42–50 Mc/s or 152–162 Mc/s may be operated with any resultant bandwidth not exceeding 40 kc/s but limited to a maximum frequency deviation of 5 kc/s until not later than October 31, 1963, provided either (i) that the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958, or (ii) that the operation takes place on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved.

(c) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 decibels;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwith: At least 43 plus 10 Log_{10} (mean output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

(d) When an unauthorized emission results in harmful interference the Commission may, in its discretion, require appropriate technical changes in equipment to alleviate the interference.

§ 93.105 Modulation requirements.

(a) The maximum audio frequency required for satisfactory radiotelephone intelligibility in these services is considered to be 3000 cycles per second; in any transmitter not subject to the provisions of paragraph (d) of this section, the overall frequency response of the audio and modulating circuits nevertheless shall correspond approximately with that required thereby.

(b) When amplitude modulation is used for telephony, the modulation percentage shall be sufficient to provide efficient communication and normally shall be maintained above 70 percent on peaks, but shall not exceed 100 percent on negative peaks.

(c) Each transmitter first authorized or installed after July 1, 1950, shall be provided with a device which automatically will prevent modulation in excess of that specified in this subpart which may be caused by greater than normal audio level: *Provided, however,* That this requirement shall not be applicable to transmitters authorized to operate as mobile stations with a maximum plate power input to the final radio frequency stage of 3 watts or less.

(d) Each transmitter which is operated on a frequency in the range 25 to 50 Mc/s, or 152 to 162 Mc/s, and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter in accordance with the provisions of paragraph (g) of this section: *Provided,* That this requirement shall not apply until November 1, 1963, to transmitters of stations operated wholly within the limits of one or more of the territories or possessions of the United States or the States of Alaska or Hawaii; and in addition this requirement shall not apply until November 1, 1963, to transmitters which are operationally integrated with existing radiocommunications systems which were authorized prior to August 1, 1958, in those cases where either (1) the operation takes place on frequencies which were specifically assigned to stations of the respective systems prior to August 1, 1958, or (2) the operation takes place on frequencies which are directly substituted for specific frequencies in the same frequency range which were assigned to stations of the respective systems prior to August 1, 1958, and which are no longer available for assignment to the station or stations involved.

(e) Each transmitter which is operated on a frequency in the range 150.8 to 152 Mc/s and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter, in accordance with the provisions of paragraph (g) of this section.

(f) Each transmitter which is operated on a frequency in the range 450 to 470 Mc/s and which is provided with a modulation limiter in accordance with the provisions of paragraph (c) of this section shall also be equipped with an audio low-pass filter, in accordance with the provisions of paragraph (g) of this section: *Provided,* That this requirement shall not apply until November 1, 1963, to transmitters first authorized or installed prior to November 1, 1958, or to transmitters which are operationally integrated with existing radiocommunication systems which were authorized prior to November 1, 1958.

(g) The audio low-pass filter required by the provisions of the preceding paragraphs of this section shall be installed between the modulation limiter and the modulated stage and, at audio frequencies between 3 kc/s and 15 kc/s, shall have an attenuation greater than the attenuation at 1 kc by at least:

$$40 \log_{10}(f/3) \text{ decibels}$$

where "f" is the audio frequency in kilocycles. At audio frequencies above 15 kc/s the attenuation shall be at least 28 decibels greater than the attenuation at 1 kc/s.

§ 93.106 Power and antenna height.

(a) The power which may be used by a station in these services shall be no more than the minimum required for the satisfactory technical operation commensurate with the size of the area to be served and local conditions which affect radio transmission and reception. In cases of harmful interference, the Commission may order a change in power or antenna height, or both.

(b) Except where the power that may be used on a designated frequency is specifically limited to a lower value, plate power input to the final radio frequency stage will not be authorized in excess of the following tabulation:

Frequency: Mc/s	Maximum plate power input to the final radio frequency stage (watts)
30–100	500
100–500	[1] 120
500–952	([2])
Above 952	([3])

[1] In the frequency band 450–470 Mc/s, maximum plate power input in excess of 120 watts but not in excess of 600 watts may be authorized in accordance with the provision of Subpart E of this part, upon submission of the required showings.

[2] To be specified in the station authorization.

[3] As specified in § 93.111.

(c) The plate power input to the final radio frequency stage under actual operation shall not exceed by more than 10 percent the plate power input shown in the Radio Equipment List, Part C, for transmitters included in this list, or the manufacturer's rated plate power input for the particular transmitter specifically listed on the authorization.

§ 93.107 Transmitter control requirements.

(a) Each transmitter shall be so installed and protected that it is not accessible to or capable of operation by persons other than those duly authorized by the licensee.

(b) A control point is an operating position which meets all of the following conditions:

(1) The position must be under the control and supervision of the licensee;

(2) It is a position at which the monitoring facilities required by this section are installed; and

(3) It is a position at which a person immediately responsible for the operation of the transmitter is stationed.

(c) Each station shall be provided with a control point, the location of which will be specified in the license. It will be assumed that the location of the control point is the same as that of the transmitting equipment unless the application includes a request for a different location. Authority must be obtained from the Commission for the installation of additional control points.

(d) A dispatch point is any position from which messages may be transmitted under the supervision of the person at a control point who is responsible for the operation of the transmitter. Dispatch points may be installed without authorization from the Commission.

(e) At each control point the following facilities shall be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating; or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to produce radiation: *Provided, however,* That the provisions of this subparagraph shall not apply to hand-carried or pack-carried transmitters;

(2) Equipment to permit the person responsible for the operation of the transmitter to aurally monitor all transmissions originating at dispatch points under his supervision;

(3) Facilities which will permit the person responsible for the operation of the transmitter either to disconnect the dispatch point circuits from the transmitter or to render the transmitter inoperative from any dispatch point under his supervision; and

(4) Facilities which will permit the person responsible for the operation of the transmitter to turn the transmitter carrier on and off at will.

§ 93.108 Transmitter measurements.

(a) The licensee of each station shall employ a suitable procedure to determine that the carrier frequency of each transmitter, authorized to operate with a plate input power to the final radio frequency stage in excess of three watts, is maintained within the tolerance prescribed in this part. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the carrier frequency or the stability thereof;

(3) At intervals not to exceed one year, for transmitters employing crystal-controlled oscillators;

(4) At intervals not to exceed one month, for transmitters not employing crystal-controlled oscillators.

(b) The licensee of each station shall employ a suitable procedure to determine that the plate power input to the final radio frequency stage of each base sta-

tion or fixed station transmitter, authorized to operate with a plate power input to the final radio frequency stage in excess of three watts, does not exceed the maximum figure specified on the current instrument of authorization. Where the transmitter is so constructed that a direct measurement of plate current in the final radio frequency stage is not practicable, the plate power input may be determined from a measurement of the cathode current in the final radio frequency stage. When the plate input to the final radio frequency stage is determined from a measurement of the cathode current, the required record entry shall indicate clearly the quantities that were measured, the measured values thereof, and the method of determining the plate power input from the measured values. This determination shall be made, and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may increase the transmitter power input;

(3) At intervals not to exceed one year.

(c) The licensee of each station shall employ a suitable procedure to determine that the modulation of each transmitter, authorized to operate with a plate power input to the final radio frequency stage in excess of three watts, does not exceed the limits specified in this part. This determination shall be made and the results thereof entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the modulation characteristics;

(3) At intervals not to exceed one year.

(d) The determinations required by paragraphs (a), (b) and (c) of this section may, at the option of the licensee, be made by any qualified engineering measurement service, in which case, the required record entries shall show the name and address of the engineering measurement service as well as the name of the person making the measurements.

(e) In the case of mobile transmitters, the determinations required by paragraphs (a) and (c) of this section may be made at a test or service bench: *Provided*, The measurements are made under load conditions equivalent to actual operating conditions: *And provided further*, That after the installation the transmitter is given a routine check to determine that it is capable of being received satisfactorily by an appropriate receiver.

§ 93.109 Acceptability of transmitters for licensing.

(a) From time to time the Commission will publish a list of equipment entitled "Radio Equipment List, Part C". Copies of this list are available for inspection at the Commission's offices in Washington, D.C., and at each of its field offices. Equipment once placed on that list will continue to be included on the list until it is removed therefrom by Commission action in accordance with the provisions of Part 2 of this chapter.

(b) Except for transmitters used at developmental stations, each transmitter utilized by a station authorized for operation under the provisions of this part must be of a type which is included on the Commission's current Radio Equipment List, Part C, and designated for use in the Land Transportation Radio Services or be of a type which has been accepted by the Commission for use in these services. Until January 1, 1965, however, equipment presently in use may continue to be used by the licensee, his successors, or his assigns in business for operation on frequencies other than those within the bands 25–50 Mc/s and 150.8–162 Mc/s, provided the operation of such equipment does not result in harmful interference due to the failure of such equipment to comply with the current technical standards of the rules, and may continue to be used for operation on frequencies within the bands 25–50 Mc/s and 150.8–162 Mc/s in accordance with the provisions of §§ 93.102, 93.104, and 93.105.

(c) All equipment sought to be utilized under a license authorizing the use of frequencies in the bands 952 to 960, 1850 to 1990, 2110 to 2200, 2450 to 2500, 2500 to 2690, 6425 to 6575, 6575 to 6875, 10,500 to 10,680, and 12,200 to 12,700 Mc/s shall be type accepted if specified in an application filed after July 20, 1962, except that equipment authorized to be used prior thereto is permitted to continue to be used provided such operation does not result in harmful interference to other stations or systems which are conforming to the interim technical standards.

§ 93.110 Type acceptance of equipment.

(a) Any manufacturer of a transmitter to be built for use in this service may request "type acceptance" for such transmitter following the type acceptance procedure set forth in Part 2 of this chapter.

(b) Type-acceptance for an individual transmitter may also be requested by an applicant for a station authorization by following the type-acceptance procedure set forth in Part 2 of this chapter. Such transmitters, if accepted, will not normally be included in the Commission's Radio Equipment List, Part C, but will be individually enumerated on the station authorization.

(c) Additional rules with respect to type acceptance are set forth in Part 2 of this chapter. These rules include information with respect to withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based.

§ 93.111 Interim technical standards governing the use of microwave frequencies.

The interim technical standards indicated in the table in this section shall govern, beginning July 20, 1961, the issuance of authorizations for private microwave systems using frequency bands above 952 Mc/s listed in the table. However, these standards shall not be applicable to transmitting equipment (including antennas) which were authorized to be operated on these frequencies prior to July 20, 1961, or for which an authorization is issued based on an application filed with the Commission prior to July 20, 1961. Such licensees of equipment and systems not subject to these interim technical standards, including their successors or assigns in business, will be permitted to utilize such equipment provided such operation does not result in harmful interference to another station or system which is conforming to these technical standards. In case of such harmful interference, such non-conforming licensee will be required to take whatever corrective measures are necessary to alleviate the interference.

Frequency band	Power (watts)[1]	Tolerance (percent)	Bandwidth [2]	Beamwidth [3]
Mc/s				
952–960	30	0.0005	100 kc/s	20°
1850–1990	18	.02	8 Mc/s	10°
2110–2200	15	.02	[7]	10°
2450–2500 [4]	12	[5]	[5]	[5]
2500–2690	12	.02	4 Mc/s	10
6525–6575 [6]	7	.02	25 Mc/s	7°
6575–6875	7	.02	10 Mc/s	5°
10,500–10,680 [6]	5	[5]	25 Mc/s	4°
12,200–12,700	5	.05	20 Mc/s	4°
Above 16,000	5	[5]	50 Mc/s	[5]

[1] Maximum rated power output of transmitter. Power in excess of that shown herein will be authorized only under exceptional circumstances based upon a factual showing of need. For pulsed systems average power shall be limited to the values shown, peak power shall not exceed five times this limit.

[2] Maximum bandwidth (necessary or occupied, whichever is greater) which will be authorized. Except for the band 2110–2200 Mc/s, consideration will be given, on a case-by-case basis, to requests for additional adjacent channels based upon a complete and specific factual showing of unique or unusual circumstances, apart from economic considerations, requiring such additional channels. In the band 952–960 Mc/s, bandwidths up to 500 kc/s may be authorized.

[3] Maximum beamwidth of major lobe between 0.5 power points in horizontal plane. Exceptions may be granted for stations in remote areas or until harmful interference is caused to other stations operating in accordance with these provisions.

[4] Subject to no protection from ISM equipment on 2450 Mc/s.

[5] To be specified in the station authorization.

[6] Limited to mobile operations and temporary service between fixed points.

[7] Standard bandwidth to be determined later. In the meantime, bandwidth will be specified in the station authorization.

§ 93.112 Availability of microwave frequencies.

(a) The following table indicates the bands of frequencies in which frequencies are available for assignment to stations in the Land Transportation Radio Services on a shared basis with stations in other services, the classes of stations to which they are normally available, and the specific assignment limitations which are developed in paragraph (b) of this section:

Frequency band	Class of station(s)	Limitations
Mc/s		
952–960	Operational fixed	5, 6
1850–1990	do	6
2110–2200	do	6
2450–2500	Base, mobile, operational fixed, and radiolocation	2, 4, 6, 7
2500–2690	Operational fixed	6
6425–6575	Base and mobile	6
6575–6875	Operational fixed	6
8400–8500	Base, mobile, and operational fixed	1
10,500–10,550	Radiolocation	3, 6, 7
10,550–10,680	Base, mobile, and operational fixed	6
11,700–12,200	Base and Mobile	1
12,200–12,700	Operational fixed	6
13,200–13,250	Base, mobile, and operational fixed	1
17,700–19,300	do	1, 2
19,400–19,700	do	1
27,525–31,300	do	1
38,600–40,000	do	1

(b) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (a) of this section:

(1) Limited to developmental operation only with the assigned frequency and particulars specified in each authorization.

(2) Subject to no protection from interference due to the operation of industrial, scientific, and medical devices in this band.

(3) The band 10,500–10,550 Mc/s is restricted to systems using type AØ emission with a power not to exceed 40 watts into the antenna.

(4) Radiolocation land stations and Radiolocation mobile stations, including speed measuring devices, may be authorized to use frequencies in the band 2450–2500 Mc/s on the condition that harmful interference will not be caused to the fixed and mobile services.

(5) Available for assignment in accordance with the frequencies pairing plan as contained in paragraph (c) of this section.

(6) Stations authorized to operate on those frequencies above 952 Mc/s, which are not restricted to assignment for developmental operation only, shall be constructed and used in such a manner as to conform with all technical and operating requirements of Subparts C and D of this Part, unless deviation therefrom is specifically provided for in the station authorization.

(7) The frequencies 2455 and 10,525 Mc/s are available to Radiolocation land stations and Radiolocation mobile stations in these services for use by speed measuring devices only: *Provided,* That unmodulated continuous wave (AØ) emission only shall be employed and that a frequency stability of at least 0.2 percent shall be maintained. Such stations shall be exempt from the requirements of §§ 93.107(c), 93.151(d), and 93.152(a).

(c) The frequencies between 952 and 960 Mc/s are available for assignment to stations in the Land Transportation Radio Services, on a shared basis with stations in other services, as follows:

Paired frequencies

959.9—956.3 [1]	958.1—954.5
959.8—956.2 [1]	958.0—954.4
959.7—956.1	957.9—954.3
959.6—956.0	957.8—954.2
959.5—955.9	957.7—954.1
959.4—955.8	957.6—954.0
959.3—955.7	957.5—953.9
959.2—955.6	957.4—953.8
959.1—955.5	957.3—953.7
959.0—955.4	957.2—953.6
958.9—955.3	957.1—953.5
958.8—955.2	957.0—953.4
958.7—955.1	956.9—953.3
958.6—955.0	956.8—953.2
958.5—954.9	956.7—953.1
958.4—954.8	956.6—953.0
958.3—954.7	956.5—952.9 [1]
958.2—954.6	956.4—952.8 [1]

Unpaired frequencies

952.4 [1 2] 952.3 [1 2] 952.2 [1 2] 952.1 [1 2]

[1] Available on a developmental basis only for omnidirectional operation.

[2] The maximum rated power output of transmitters for omnidirectional operations authorized to operate on this frequency is 100 watts.

(d) Upon proper authorization, operation on frequency pairs authorized prior to July 20, 1961, which are not in accordance with the plan of frequency pairing set forth in paragraph (c) of this section may continue: *Provided,* That interference is not caused to the operation of systems which are utilizing channels in accordance with that plan.

Subpart D—Station Operating Requirements

§ 93.151 Permissible communications.

(a) Except as provided in § 93.502, stations licensed under this part may transmit the following types of communications:

(1) Any communication related directly to the safety of life or the protection of important property;

(2) Communications required for the efficient operation of the transportation system, as described in the application for authorization and defined in the rule of eligibility for the particular service; subject to the condition that harmful interference is not caused to safety communications of stations licensed under this part, and further subject to the condition that the transmission of each message shall be accomplished as quickly as possible and without superfluous language.

(b) A station licensed under this part may communicate with other stations without restriction as to type, service, or license when the communications to be transmitted are related directly to the safety of life or protection of important property.

(c) For transmission of all communications other than those described in paragraph (a) (1) of this section, a station licensed under this part shall communicate only as follows:

(1) Each unit of a mobile station is authorized primarily to communicate with other units of the mobile station, and with associated base stations. Secondarily, each unit of a mobile station is authorized to communicate with associated fixed stations.

(2) Each base station is authorized primarily to communicate with the units of an associated mobile station. Secondarily, each base station may communicate with an associated base station, fixed stations, or fixed receiver when:

(i) The messages to be transmitted are of immediate importance to mobile units; or

(ii) Wireline communication facilities between such points are inoperative, economically impracticable, or unavailable from communications common carrier sources;

(3) Each fixed station is authorized primarily to communicate with associated fixed stations and fixed receivers. Secondarily, each fixed station is authorized to communicate with units of an associated mobile station, and subject to the limitations of subparagraph (2) of this paragraph, with associated base stations.

(4) Subject to the other conditions of this paragraph, stations licensed under this part may communicate with stations of other licensees and with U.S. Government stations in those cases which require cooperation or coordination of activities: *Provided, however,* That where communication is desired with stations authorized to operate under the authority of a foreign jurisdiction, prior approval of this Commission must be obtained.

(d) All communications, regardless of their nature, shall be restricted to the minimum practicable transmission time, and a standard uniform operating procedure shall be employed by each licensee. Continuous radiation of an unmodulated carrier is prohibited, except when necessary for test purposes, or when specifically authorized in writing by the Commission.

(e) The licensee of any station in these services may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication without regard to the limitations of this section: *Provided,* That:

(1) As soon as possible after the beginning of such emergency use, notice be sent to the Commission in Washington, D. C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the emergency and the use to which the station is being put;

(2) The emergency use of the station shall be discontinued as soon as substantially normal communication facilities are again available, and the Commission in Washington, D. C., and the Engineer in Charge be notified immediately when such special use of the station is terminated; and

(3) The Commission may at any time order the discontinuance of such special use of the authorized facilities.

(f) Tests may be conducted by any licensed station, as required for proper station and system maintenance, but such tests shall be kept to a minimum and precautions shall be taken to avoid interference to other stations.

(g) A licensee of a station authorized under this part may use the licensed radio facilities for the transmission of messages relating to civil defense activities in connection with official tests or drills conducted by, or actual emergencies proclaimed by, the civil defense agency having jurisdiction over the area in which the station is located: *Provided,* That:

(1) The operation of the radio station shall be on a voluntary basis.

(2) [Reserved]

(3) The messages transmitted relate to the activity or activities which formed the basis of the licensee's eligibility in the radio service in which authorized except as otherwise provided in this part.

§ 93.152 Station identification.

(a) A base station or mobile station in the Land Transportation Radio Services must be identified at the end of each transmission, except that, in the event of a continued exchange of communications, identification shall be made at the end of a series of such transmissions or at the end of each 15-minute period if the exchange continues without substantial interruption.

(b) Identification shall be by assigned call letters unless a different method is specifically authorized by the Commis-

sion. Licensees may submit to the Commission's Engineer in Charge of the local area a proposal for special mobile unit designations and, upon receipt from the Commission of a notification or authorization, may identify individual mobile units by this method in lieu of the use of assigned call letters. However, this authority will not be granted in those cases where there is a possibility of harmful international interference, such as might be caused by stations operating on frequencies below 50 Mc/s or stations operating in areas within 50 miles of an international boundary, or in those instances where it appears to the Engineer in Charge that the proposed method of identification will not serve to clearly distinguish the mobile units of the applicant from the mobile units of other licensees in the area.

(c) Stations in the Railroad Radio Service may be identified, in lieu of the use of assigned call letters, by the name of the railroad and the train number, caboose number, engine number or name of fixed wayside station; or, if that is not practicable, by such other number or name as may be specified by the railroad concerned for the use of employees of the railroad to identify the fixed point or mobile unit. Where identification is made other than by train number, caboose number or engine number, a list of such identification shall be maintained by the railroad. An abbreviated name or initial letters of the railroad may be used where such name or initial letters are in general usage. In those cases where it is shown that no difficulty would be encountered in identifying the transmissions of a particular station, as for example where stations of one licensee are located in a yard isolated from other radio installations, approval may be given to a request of the licensee for permission to omit station identification.

(d) A unit designator may be used in addition to the station identification required by this section, to identify an individual unit or transmitter of a base station or a fixed station which is authorized to be operated at temporary locations.

(e) A station which is transmitting for telemetering purposes or for the actuation of devices which are employed solely as a means of attracting attention, or is retransmitting by self-actuating means a radio signal received from another radio station or stations may be granted an exemption from the requirements of paragraph (a) of this section in a specific instance upon a showing of the need for such exemption.

§ 93.153 Suspension of transmissions required.

The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization until such deviation is corrected, except for transmissions concerning the immediate safety of life or property, in which case the transmissions shall be suspended as soon as the emergency is terminated.

§ 93.154 Operator requirements.

(a) All transmitter adjustments or tests during or coincident with the installation, servicing, or maintenance of a radio station, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, who shall be responsible for the proper functioning of the station equipment: *Provided, however,* That only persons holding a radiotelegraph first- or second-class operator license shall perform such functions at radiotelegraph stations transmitting by any type of the Morse code.

(b) Except under the circumstances specified in paragraph (a) of this section, only a person holding a commercial radiotelegraph operator license or permit of any class issued by the Commission shall operate a station during the course of normal rendition of service when transmitting radiotelegraphy by any type of the Morse code.

(c) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, an unlicensed person, after being authorized to do so by the station licensee, may operate from a control point a mobile, base, or fixed station, or from a dispatch point a base or fixed station, during the course of normal rendition of service when transmitting on frequencies above 25 Mc/s.

(d) Except under circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s: *Provided, however,* That an unlicensed person, after being authorized to do so by the station licensee, may operate such a mobile station during the course of normal rendition of service when transmitting on frequencies below 25 Mc/s while it is associated with and under the operational control of a base station.

(e) Except under the circumstances specified in paragraphs (a) and (b) of this section, and except as limited by paragraphs (g) and (h) of this section, base stations and fixed stations shall be operated in accordance with the following when transmitting during the course of normal rendition of service on frequencies below 25 Mc/s:

(1) From a control point, only a person holding a commercial radio operator license or permit of any class issued by the Commission shall operate a base station or fixed station.

(2) From a dispatch point, an unlicensed person may operate a base station or fixed station after being authorized to do so by the station licensee: *Provided, however,* That such operation shall be under the direct supervision and responsibility of a person who (i) holds a commercial radio operator license or permit of any class issued by the Commission and who (ii) is on duty at a control point meeting the requirements of Subpart C of this part.

(f) Except under the circumstances specified in paragraph (a) of this section, and except as limited by paragraphs (g) and (h) of this section, no person, whether or not a licensed operator, is required to be in attendance at a station when transmitting during the course of normal rendition of service and when either (1) transmitting for telemetering purposes or (2) retransmitting by self-actuating means a radio signal received from another radio station or stations.

(g) The provisions of this section authorizing certain unlicensed persons to operate certain stations, or authorizing unattended operation of stations in certain circumstances, shall not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof) in accordance with the terms of the licenses of those stations.

(h) Notwithstanding any other provisions of this section, unless the transmitter is so designed that none of the operations necessary to be performed during the course of normal rendition of service may cause off-frequency operation or result in any unauthorized radiation, and unless the transmitter is so installed that all controls which may cause improper operation or radiation are not readily accessible to the person operating the transmitter, such transmitter shall be operated by a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission being used, issued by the Commission.

§ 93.155 Posting of operator license.

(a) The original license of each base or fixed station operator, other than an operator exclusively performing service and maintenance duties, shall be posted or kept immediately available at the place where he is on duty as an operator: *Provided, however,* That if an operator who is on duty holds a restricted radiotelephone operator permit of the card form (as distinguished from such document of the diploma form) or holds a valid license verification card (FCC Form 758–F) attesting to the existence of any other valid commercial radio operator license, he may have such permit or verification card, as the case may be, in his personal possession in lieu of complying with the above requirement.

(b) Whenever a licensed operator is required for a mobile station, the original license of each such operator, other than an operator exclusively performing service and maintenance duties, shall be kept in his personal possession whenever he performs the duties of an operator at such station: *Provided,* That in lieu of an original license of the diploma form (as distinguished from such document of the card form) he may have in his personal possession a valid verification card attesting to its existence.

(c) The original license of every station operator who exclusively performs service and maintenance duties at that

station shall be posted at the transmitter involved whenever the transmitter is in actual operation while service or maintenance work is being performed by him or under his immediate supervision and responsibility: *Provided,* That in lieu of posting his license, he may have on his person his license or a valid verification card.

§ 93.156 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each mobile station and each base or fixed station authorized to be operated at temporary locations shall be retained as a permanent part of the station records, but need not be posted. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each of such transmitters: *Provided,* That, if the transmitter is not in view of the operating position or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

(b) The current authorization (or as an alternative in the Railroad Service only a full-size photocopy of such authorization) for each base or fixed station at a fixed location shall be posted at the principal control point of the station, and a photocopy of such authorization shall be posted at all other control points listed on the authorization. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be affixed, readily visible for inspection, to each transmitter operated at a fixed location, when such transmitter is not in view of, or is not readily accessible to, the operator at the principal control point.

§ 93.157 Inspection of stations.

All stations and records of stations in these services shall be made available for inspection at any time while the station is in operation or shall be made available for inspection upon reasonable request of an authorized representative of the Commission.

§ 93.158 Inspection and maintenance of tower marking and associated control equipment.

The licensee of any radio station which has an antenna structure required to be painted or illuminated pursuant to the provisions of section 303(q) of the Communications Act of 1934, as amended, and/or Part 17 of this chapter, shall operate and maintain the tower marking and associated control equipment in accordance with the following:

(a) The tower lights shall be observed at least once each 24 hours, either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or, alternatively, there shall be provided and properly maintained an automatic alarm system designed to detect any failure of the tower lights and to provide indication of such failure to the licensee.

(b) Any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within 30 minutes, regardless of the cause of failure, shall be reported immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Agency. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(c) All automatic or mechanical control devices, indicators, and alarm systems associated with the tower lights shall be inspected at intervals not to exceed three months, to insure that such apparatus is functioning properly.

(d) All lighting shall be exhibited from sunset to sunrise unless otherwise specified in the instrument of station authorization.

(e) A sufficient supply of spare lamps shall be maintained for immediate replacement purposes at all times.

(f) All towers shall be cleaned or repainted as often as is necessary to maintain good visibility.

§ 93.159 Answers to a notice of violation.

Any licensee receiving official notice of a violation of the terms of the Communications Act of 1934, as amended, any legislative act or treaty to which the United States is a party, or the rules and regulations of the Federal Communications Commission, shall, within 10 days from such receipt or such other period as may be specified, send a written answer to the office of the Commission originating the official notice. If an answer cannot be sent, or an acknowledgment made within such period, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. The reply shall set forth the steps taken to prevent a recurrence of improper operation.

§ 93.160 Station records.

Each licensee in these services shall maintain station records in accordance with the following:

(a) For all stations, the results and dates of the transmitter measurements required by § 93.108, and the name of the person or persons making the measurements.

(b) For all stations, when service or maintenance duties are performed which may affect their proper operation, the responsible operator shall sign and date an entry in the station record concerned, giving:

(1) Pertinent details of all duties performed by him or under his supervision;

(2) His name and address; and

(3) The class, serial number, and expiration date of his license: *Provided, however,* That the information called for under subparagraphs (2) and (3) of this paragraph, so long as it remains unchanged, is not required to be repeated in the case of a person who is regularly employed on a full-time basis at the station.

(c) Except in the Railroad Radio Service, for base stations and fixed stations at which operators (either licensed or unlicensed) are required, the name or names of the persons responsible for the operation of the transmitting equipment each day, together with the period of their duty.

(d) Except in the Railroad Radio Service, for base stations at which operators (either licensed or unlicensed) are required, when they communicate with other base stations or with fixed stations:

(1) Call signal of other station;

(2) Nature of such communications; and

(3) Date, time, and approximate duration of each transmission.

(e) When a Base Station or Fixed Station has an antenna structure which is required to be illuminated, appropriate entries shall be made as follows:

(1) The time the tower lights are turned on and off each day, if manually controlled.

(2) The time the daily check of proper operation of the tower lights was made.

(3) In the event of any observed or otherwise known failure of a tower light:

(i) Nature of such failure.

(ii) Date and time the failure was observed or otherwise noted.

(iii) Date, time and nature of the adjustments, repairs, or replacements made.

(iv) Identification of the Flight Service Station (or office of the Federal Aviation Agency) notified of the failure of any code or rotating beacon light not corrected within thirty minutes, and the date and time such notice was given.

(v) Date and time notice was given to the Flight Service Station (or office of the Federal Aviation Agency) that the required illumination was resumed.

(4) Upon completion of the three-month periodic inspection required by § 93.158:

(i) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators and alarm systems.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

(f) The records shall be kept in an orderly manner, and in such detail that the data required are readily available. Key letters or abbreviations may be used if proper meaning or explanation is set forth in the record.

(g) Each entry in the records of each station shall be signed by a person qualified to do so by reason of having actual knowledge of the facts to be recorded.

(h) No record or portion thereof shall be erased, obliterated or wilfully destroyed within the required retention period. Any necessary correction may be made only by the person originating the entry, who shall strike out the

erroneous portion, initial the correction made and indicate the date of correction.

(i) Records required by this part shall be retained by the licensee for a period of at least one year.

Subpart E—Developmental Operation

§ 93.201 Eligibility.

An authorization for developmental operation in any of the services under this part will be issued only to those persons who are eligible to operate stations in such service on a regular basis.

§ 93.202 Showing required.

(a) Except as provided in paragraph (b) of this section, each application for developmental operation shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective.

(2) A point has been reached in the program where actual transmission by radio is essential to the further progress thereof.

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the radio art, or is along lines not already investigated.

(4) The program will be conducted by qualified personnel.

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities for conduct of the program as proposed; and

(6) The public interest, convenience, or necessity will be served by the proposed operation.

(b) The provisions of paragraph (a) of this section do not apply when an application is made for developmental operation solely for the reason that the frequency requested is limited to developmental use.

§ 93.203 Limitations on use.

Stations used for developmental operation shall be constructed and used in such a manner as to conform with all of the technical and operating requirements of Subparts C and D of this part, unless deviation therefrom is specifically provided in the instrument of authorization.

§ 93.204 Frequencies available for assignment.

(a) Stations engaged in developmental operation may be authorized to use a frequency or frequencies, available for the particular service in which they propose to operate. The number of channels assigned will depend upon the specific requirements of the developmental program and the number of frequencies available in the particular area where the station will be operated.

(b) The following frequency bands are available for assignment to base stations and mobile stations in any of the Land Transportation Radio Services for developmental operation only, using any type of emission other than pulsed emission: *Provided*, That the bandwidth occupied by the emission of each such station shall be contained at all times within the assigned frequency band:

Frequency bands:
33.00–33.01 Mc/s.
157.450–157.4625 Mc/s.
159.480–159.4875 Mc/s.

§ 93.205 Interference.

The operation of any station engaged in developmental work shall be subject to the condition that no harmful interference is caused to the operation of stations licensed on a regular basis under any part of the Commission's rules.

§ 93.206 Special provisions.

(a) The developmental program as described by the applicant in the application for authorization shall be substantially followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by the general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions in each case, as deemed necessary in the public interest, convenience, or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 93.207 Authorization subject to change or cancellation: Supplementary statement required.

Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

§ 93.208 Report of operation.

A report on the results of the developmental program shall be filed with and made a part of each application for renewal of authorization, or in cases where no renewal is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information, and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on the following:

(a) The final objective.
(b) Results of operation to date.
(c) Analysis of the results obtained.
(d) Copies of any published reports.
(e) Need for continuation of the program.
(f) Number of hours of operation on each frequency.

Subpart F—Motor Carrier Radio Service

§ 93.251 Eligibility for license.

(a) Authorizations for stations in the Motor Carrier Radio Service will be issued only to:

(1) Persons primarily engaged in providing a common or contract motor carrier passenger transportation service between urban areas.

(2) Persons primarily engaged in providing a common or contract motor carrier passenger transportation service within a single urban area.

(3) Persons primarily engaged in providing a common or contract motor carrier property transportation service between urban areas.

(4) Persons primarily engaged in providing a common or contract motor carrier transportation service for the local distribution or collection of property.

(5) A subsidiary corporation proposing to furnish a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in one or more of the activities set forth in subparagraphs (1) through (4) of this paragraph.

(6) A non-profit corporation or association organized for the purpose of furnishing a radiocommunication service on a cost-sharing basis to persons all of whom are actually engaged in activities set forth in subparagraphs (1) through (4) of this paragraph: *Provided*, That the frequency on which such operation is proposed is available for assignment for use by base stations or mobile stations in connection with all such transportation activities.

(b) For the purpose of establishing eligibility in this service, each applicant shall submit a statement in sufficient detail to clearly establish the extent and type of transportation activity in which engaged, describing the area or points served, and identifying the authorization under which such service is rendered (as for example, a valid certificate of public convenience or an equivalent document issued by a federal, state, territorial or local regulatory body) or stating that there is no requirement for such authorization in the area in which he operates. In the case of a non-profit corporation or association for which provision is made in this section, the application shall be accompanied by a listing of all persons to whom radiocommunication service is proposed to be furnished, together with the foregoing information with respect to each such proposed participant. Certificates, permits, or similar documents to which reference is made for the purpose of establishing eligibility need not be submitted to the Commission, unless specifically requested, but shall be clearly identified by document title and number, together with the name of the issuing jurisdiction and the date of issuance.

§ 93.252 Frequencies below 952 Mc/s available for base and mobile stations.

(a) The following frequencies are available to the Motor Carrier Radio Service for assignment to Base Stations and Mobile Stations of common and contract carriers of passengers operating between urban areas:

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
43.70	43.74	43.78	43.82
[1] 43.72	[1] 43.76	[1] 43.80	[1] 43.84

[1] Secondary frequency, see § 93.85(x).

(b) The following frequencies are available to the Motor Carrier Radio Service for assignment to base stations

and mobile stations of common and contract carriers of passengers within a single urban area.

Mc/s	Mc/s	Mc/s	Mc/s
44.46	44.50	44.54	44.58
[1] 44.48	[1] 44.52	[1] 44.56	[1] 44.60

[1] Secondary frequencies, see § 93.8(f).

(c) The following frequencies are available to the Motor Carrier Radio Service on a shared basis with other services, for assignment to base stations and mobile stations of common and contract carriers of passengers within a single urban area.

Mc/s	Mc/s
30.66	31.02
30.74	31.06
30.82	31.08
30.86	31.10
30.90	31.12
30.94	31.14
30.98	

(d) The frequencies and frequency-pairs set forth in the tables contained in this paragraph are available to the Motor Carrier Radio Service for assignment to Base and Mobile stations of common or contract carriers of property operating between urban areas: *Provided,* That each application for assignment of any of these frequencies shall be accompanied by a statement signed by the applicant in which it is agreed (1) that any authorization for the use of such frequencies will be accepted with the express understanding of the applicant that such frequencies are shared with other licensees and may be subject to interference, both local and long range, and (2) that no more than the minimum power or antenna height required for the satisfactory technical operation of the system will be employed, commensurate with the area to be served and the local conditions affecting radio transmission and reception. However, only one of these frequencies or frequency pairs may be assigned to the stations of a licensee operated in a given area except upon a showing satisfactory to the Commission that the assignment of an additional frequency or frequency pair is essential to the operation of the transportation system involved. Any licensee authorized prior to February 1, 1960, to operate on any frequency or frequencies not in accordance with these tables may be authorized to continue the use of such frequency or frequencies until not later than November 1, 1963.

SINGLE FREQUENCIES

Base and Mobile

Mc/s	Mc/s	Mc/s	Mc/s
43.96 [1]	44.10	44.24 [1]	44.38 [2]
43.98	44.12 [1]	44.26	44.40 [1 2]
44.00 [1]	44.14	44.28 [1]	44.42 [2]
44.02	44.16 [1]	44.30	44.44 [1 2]
44.04 [1]	44.18	44.32 [1]	
44.06	44.20 [1]	44.34	
44.08 [1]	44.22	44.36 [1 2]	

[1] Secondary frequency, see § 93.8.
[2] These frequencies are available to base and mobile stations for the single-frequency method of operation, or to base stations for the two-frequency method of operation.

FREQUENCY PAIRS

Base only [2]	*Mobile only*
Mc/s	Mc/s
44.36 [1]	43.86
44.38	43.88 [1]
44.40 [1]	43.90
44.42	43.92 [1]
44.44 [1]	43.94

[1] Secondary frequency, see § 93.8.
[2] These frequencies are available to base and mobile stations for the single-frequency method of operation, or to base stations for the two-frequency method of operation.

(e) The following frequencies are available for assignment to base stations and mobile stations of common or contract motor carriers of property: *Provided,* That only one of these frequencies shall be assigned to the stations of any single licensee operated in any given area unless it has been demonstrated conclusively to the Commission that the assignment of an additional frequency for the single-frequency method of operation is essential to the operation of the transportation system:

Mc/s	Mc/s	Mc/s	Mc/s
[2] 159.495	[2] 159.675	[2] 159.855	[2] 160.035
159.510	159.690	159.870	160.050
[2] 159.525	[2] 159.705	[2] 159.885	[2] 160.065
[1] 159.540	[1] 159.720	[1] 159.900	[1] 160.080
[2] 159.555	[2] 159.735	[2] 159.915	[2] 160.095
159.570	159.750	159.930	160.110
[2] 159.585	[2] 159.765	[2] 159.945	[2] 160.125
[1] 159.600	[1] 159.780	[1] 159.960	[1] 160.140
[2] 159.615	[2] 159.795	[2] 159.975	[2] 160.155
159.630	159.810	159.990	160.170
[2] 159.645	[2] 159.825	[2] 160.005	[2] 160.185
[1] 159.660	[1] 159.840	[1] 160.020	[1] 160.200

[1] Secondary frequency—see § 93.8(f).
[2] Tertiary frequency—see § 93.8(f).

(f) The following frequency pairs are available to the Motor Carrier Radio Service for assignment to base stations and mobile stations, on a shared basis with other stations in the same service: *Provided,* That a mobile station may be assigned the frequency of an associated base station, in lieu of the mobile frequency paired therewith in accordance with the following table, when the mobile service system is designed for the single frequency method of operation:

Frequency Pairs

Base only	*Mobile only*
Mc/s	Mc/s
452.65	457.65
452.70	457.70
452.75	457.75
452.80	457.80
452.85	457.85

(g) [Reserved]

(h) A common or contract carrier of passengers operating between urban areas, authorized in the Motor Carrier Radio Service prior to April 1, 1958, to use any one of the frequencies 43.86, 43.90, 43.94, 43.98, 44.02, or 44.06 Mc/s, may be authorized to operate on such frequency until March 31, 1963. During this period such licensees may modify, renew, reinstate, or assign their licenses in those cases where such assignment accompanies a change of ownership of the licensee's business to the assignee; however, they will not be authorized to expand their facilities by the addition of new base or fixed stations.

§ 93.253 Frequencies below 952 Mc/s available for operational fixed stations.

(a) [Reserved]

(b) Subject to the conditions that no harmful interference will be caused to reception of television channel No. 4 or 5, the following frequencies are available for assignment to operational fixed stations in the Motor Carrier Radio Service on a shared basis with other services:

Mc/s	Mc/s	Mc/s	Mc/s
72.02	72.82	73.62	74.42
72.06	72.86	73.66	74.46
72.10	72.90	73.70	75.46
72.14	72.94	73.74	74.50
72.18	72.98	73.78	74.54
72.22	73.02	73.82	74.58
72.26	73.06	73.86	75.42
72.30	73.10	73.90	75.50
72.34	73.14	73.94	75.54
72.38	73.18	73.98	75.58
72.42	73.22	74.02	75.62
72.46	73.26	74.06	75.66
72.50	73.30	74.10	75.70
72.54	73.34	74.14	75.74
72.58	73.38	74.18	75.78
72.62	73.42	74.22	75.82
72.66	73.46	74.26	75.86
72.70	73.50	74.30	75.90
72.74	73.54	74.34	75.94
72.78	73.58	74.38	75.98

(c) [Reserved]

(d) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. All such authorizations shall be subject, upon proper application therefor, to renewal, to modification or, in the event of a change in the ownership of the licensee's business, to assignment or transfer with the business for which they were granted. Renewal authorizations will be issued subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

§ 93.254 Frequencies below 952 Mc/s available for base, mobile, and operational fixed stations.

(a) The following frequencies are available for assignment to base, mobile, or operational fixed stations in the Motor Carrier Radio Service, on a shared basis with stations in the same service and other services, subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s, and limited to the use of transmitters having not more than 30 watts plate power input to the final radio frequency stage:

Frequencies (Mc/s)
27.235
27.245
27.255
27.265
27.275

(b) No station will be authorized to be operated on any of the frequencies listed in paragraph (a) of this section using any type of emission which occupies a bandwidth greater than 8 kc/s.

(c) Stations authorized to be operated on the frequencies listed in paragraph (a) of this section may also be authorized to be operated by self-actuating or other mechanical or electrical means not under the direct control of an individual: *Provided, however,* That whenever such unattended and uncontrolled operation is authorized, adequate means shall be provided to prevent the transmission of a carrier wave except when modulated for the purpose of transmitting authorized communications or signals.

§ 93.255 Limitations on installation and use.

Mobile units authorized in this service may be installed only in vehicles used for the carriage of passengers or property for compensation; or in vehicles used to supervise, tow, repair or maintain such vehicles or, in the case of a streetcar system, vehicles used in connection with the maintenance of associated trackage, right-of-way or electric power facilities.

§ 93.256 Amortization period.

Persons authorized prior to April 1, 1958, to use either or both of the frequencies 452.95 and 457.95 Mc/s in the Motor Carrier Radio Service may continue to renew their developmental authorizations to operate on these frequencies on a year-to-year basis until such time as these frequencies are assigned to a licensee in the Railroad Radio Service in the same area of operation; however, in no event may such operation continue beyond April 1, 1963. During this period such persons may also modify, reinstate or assign their licenses in those cases where such assignment accompanies a change of ownership of the licensee's business to the assignee; however, they will not be authorized to expand their facilities by the addition of new base stations on either of these frequencies.

Subpart G [Reserved]

Subpart H—Railroad Radio Service

§ 93.351 Eligibility.

(a) The following persons are eligible to hold authorizations to operate radio stations in the Railroad Radio Service:

(1) Railroad common carriers, including railroad express companies wholly owned by railroad common carriers, which are regularly engaged in the transportation of passengers or property when such passengers or property are transported over all or part of their route by railroad.

(2) A subsidiary corporation proposing to render a non-profit radiocommunication service to its parent corporation or to another subsidiary of the same parent where the party to be served is engaged in the activities set forth in subparagraph (1) of this paragraph.

(3) A non-profit organization or association organized for the purpose of furnishing a radiocommunication service solely to railroad common carriers who are actually engaged in the activity set forth under subparagraph (1) of this paragraph.

(b) Each application for authority to operate in the Railroad Radio Service shall be accompanied by a statement in detail sufficient to indicate clearly the applicant's eligibility under paragraph (a) of this section.

§ 93.352 Frequencies below 952 Mc/s available for base and mobile stations.

(a) Base and mobile radio stations used for end-to-end, fixed point-to-train, or train-to-train communications in connection with the operation of railroad trains over a track or tracks extending through yards and between stations upon which trains are operated by timetable, train order, or both, or the use of which is governed by block signals, may use the following frequencies:

Mc/s	Mc/s	Mc/s	Mc/s
[3] 160.215	[1] 160.560	[2 4] 160.905	[4] 161.250
160.230	[3] 160.575	[1 4] 160.920	[2 4] 161.265
[3] 160.245	160.590	[2 4] 160.935	[1 4] 161.280
[1] 160.260	[3] 160.605	[4] 160.950	[2 4] 161.295
[3] 160.275	[1] 160.620	[2 4] 160.965	[4] 161.310
160.290	[3] 160.635	[1 4] 160.980	[2 4] 161.325
[3] 160.305	160.650	[2 4] 160.995	[1 4] 161.340
[1] 160.320	[3] 160.665	[4] 161.010	[2 4] 161.355
[3] 160.335	[1] 160.680	[2 4] 161.025	[4] 161.370
160.350	[3] 160.695	[1 4] 161.040	[2 3] 161.385
[3] 160.365	160.710	[2 4] 161.055	[1 3] 161.400
[1] 160.380	[3] 160.725	[4] 161.070	[2 3] 161.415
[3] 160.395	[1] 160.740	[2 4] 161.085	[3] 161.430
160.410	[3] 160.755	[1 4] 161.100	[2 3] 161.445
[3] 160.425	160.770	[2 4] 161.115	[1 3] 161.460
[1] 160.440	[3] 160.785	[4] 161.130	[2 3] 161.475
[3] 160.455	[1] 160.800	[2 4] 161.145	[3] 161.490
160.470	[3] 160.815	[1 4] 161.160	[2 3] 161.505
[3] 160.485	160.830	[2 4] 161.175	[1 3] 161.520
[1] 160.500	[3] 160.845	[4] 161.190	[2 3] 161.535
[3] 160.515	[1 4] 160.860	[2 4] 161.205	[3] 161.550
160.530	[2 4] 160.875	[1 4] 161.220	[2 3] 161.565
[3] 160.545	[4] 160.890	[2 4] 161.235	

[1] Secondary frequency—see § 93.8(f).

[2] Tertiary frequency—see § 93.8(f).

[3] In Puerto Rico and the Virgin Islands only, these frequencies are not available to stations operating in the Railroad Radio Service.

[4] This frequency is available on a shared basis with remote pickup broadcast stations in Puerto Rico and the Virgin Islands.

(b) [Reserved]

(c) The following frequency pairs are available to the Railroad Radio Service for assignment to base or mobile stations, on a shared basis with other stations in the same service: *Provided,* That a mobile station may be assigned the frequency of an associated base station, in lieu of the mobile frequency paired therewith in accordance with the following table, when the mobile service system is designed for the single frequency method of operation:

Frequency Pairs

Base only Mc/s	Mobile only Mc/s
452.90	457.90
452.95	457.95

(d) [Reserved]

(e) Base and mobile stations operationally integrated with existing radiocommunications systems authorized prior to April 1, 1958, to operate on frequencies not currently available for assignment to such stations, other than the frequency 161.61 Mc/s, may be authorized to operate on frequencies formerly assigned the stations of the respective systems until not later than October 31, 1963. Base and mobile stations authorized as of April 1, 1958, to operate on the frequency 161.61 Mc/s may continue to be authorized for such operation on the condition that harmful interference will not be caused to the operation of any station in the maritime mobile service. During these periods, the licensees of such stations may renew, modify, reinstate, or assign their licenses in those cases where such assignment accompanies a change of ownership of the licensee's business to the assignee, and may expand existing systems when using such frequencies; however, they will not be authorized to establish any new systems using frequencies which are not currently available for assignment to such stations.

§ 93.353 Frequencies below 952 Mc/s available for operational fixed stations.

(a) Subject to the condition that no harmful interference will be caused to reception of television channel 4 or 5, the following frequencies are available for assignment to fixed stations in the Railroad Radio Service on a shared basis with other services:

Mc/s	Mc/s	Mc/s	Mc/s
72.02	72.82	73.62	74.42
72.06	72.86	73.66	74.46
72.10	72.90	73.70	74.50
72.14	72.94	73.74	74.54
72.18	72.98	73.78	74.58
72.22	73.02	73.82	75.42
72.26	73.06	73.86	75.46
72.30	73.10	73.90	75.50
72.34	73.14	73.94	75.54
72.38	73.18	73.98	75.58
72.42	73.22	74.02	75.62
72.46	73.26	74.06	75.66
72.50	73.30	74.10	75.70
72.54	73.34	74.14	75.74
72.58	73.38	74.18	75.78
72.62	73.42	74.22	75.82
72.66	73.46	74.26	75.86
72.70	73.50	74.30	75.90
72.74	73.54	74.34	75.94
72.78	73.58	74.38	75.98

(b) [Reserved]

(c) Pursuant to the provisions of § 93.8, and for the specific purpose of transmitting hydrological or meteorological data, the frequencies listed in this paragraph are available for assignment to Operational Fixed stations in this Service; *Provided, however,* That harmful interference shall not be caused to Federal Government stations: *And provided further,* That the hydrological or meteorological data is made available to interested government agencies. Notwithstanding the provisions of § 93.151, Operational Fixed stations authorized to operate on frequencies listed in this paragraph shall not communicate with or accept communications from any Mobile station or Base station unless written authorization to do so has been obtained from the Commission. Per-

sons who desire to operate stations in accordance with the provisions of this paragraph should communicate with the Commission prior to filing formal application and request instructions concerning the procedure to be followed. The following frequencies are available for assignment:

Mc/s	*Mc/s*	*Mc/s*
[2] 40.68	171.025	[1] 406.050
169.425	171.075	[1] 406.150
169.475	171.125	[1] 406.250
169.525	171.175	[1] 406.350
169.575	171.825	[1] 412.450
170.225	171.875	[1] 412.550
170.275	171.925	[1] 412.650
170.325	171.975	[1] 412.750
170.375		

[1] Primarily for use by Fixed Relay Stations.
[2] Use of the frequency 40.68 Mc/s is limited to stations located in the States of Pennsylvania and West Virginia, and is subject to no protection from interference due to the operation of industrial, scientific, and medical devices on the same frequency.

(d) Stations authorized to operate on frequencies within the band 890–940 Mc/s prior to April 16, 1958, may continue to operate in that band for the duration of the terms of their current authorizations. All such authorizations shall be subject, upon proper application therefor, to renewal, to modification or, in the event of change in the ownership of the licensee's business, to assignment or transfer with the business for which they were granted. Renewal authorizations will be issued subject to the following conditions:

(1) That the licensee accepts such interference as may be received from industrial, scientific, or medical equipment operating on the frequency 915 Mc/s;

(2) That the licensee accepts such interference as may be received from radiopositioning stations operating in the band 890–942 Mc/s; and

(3) That no harmful interference is caused to stations in the radiopositioning service operating on frequencies in the band 890–942 Mc/s.

§ 93.355 Relay and repeater stations.

(a) *General.* Relay and repeater stations are used to provide communications between other radio stations over ranges in excess of the direct communication range of such stations. For the purpose of the rules in this part, there are three types of relay and repeater stations. Mobile relay stations, mobile repeater stations, and fixed relay stations. For definitions, see § 93.6.

(b) *Mobile relay stations.* The conditions governing authorization and operation of this type of relay station are as follows:

(1) Each application for a new mobile relay station authorization shall be accompanied by a showing, satisfactory to the Commission, that the applicant has a substantial requirement for prompt mobile-to-mobile or, outside yard and terminal areas only, extended range point-to-mobile communications over ranges greater than can be realized consistently by direct communication on any mobile service frequency available for assignment to the stations involved. Except for radio systems in yard and terminal areas, range measurements obtained by use of low-power transmitters of the hand-carried or pack-carried type will not be accepted in satisfaction of the applicable requirements of this subparagraph.

(2) A mobile relay station may be authorized to operate on any frequency available for assignment to base stations in this service, subject to the condition that harmful interference shall not be caused to stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(3) Each mobile relay station authorized pursuant to the provisions of this section which is intended to be activated by signals transmitted on a frequency below 50 Mc/s shall so be designed and installed that: (i) Normally it will be activated only by means of a coded signal or signals or such other means as will effectively prevent its activation by undesired signals; and (ii) it will be deactivated upon receipt or cessation of a coded signal or signals, or shall be provided with an automatic time-delay or clock device which will deactivate the station not more than three minutes after its activation.

(4) In any case where a mobile relay station, not subject to the provisions of subparagraph (3) of this paragraph, is found to be consistently activated by undesired signals and thereby not maintained under the operational control of the licensee, the Commission may require that within 90 days the station be provided with the safeguards specified in subparagraph (3) of this paragraph for stations being activated by signals under 50 Mc/s.

(5) Each mobile relay station, regardless of the frequency or frequencies of the signals by which it is activated, shall be so designed and installed that it will be deactivated automatically when its associated receiver or receivers are not receiving a signal on the frequency or frequencies which normally activate it.

(6) A control station associated with one or more mobile relay stations, authorized pursuant to this section, may be assigned any frequency available for assignment to operational fixed stations, or may be assigned the mobile service frequency assigned to and used by the associated mobile station. In addition, a control station which is associated with one or more mobile relay stations for the purpose of extended range point-to-mobile communications outside yard and terminal areas, may be assigned any mobile service frequency available for assignment to mobile stations in this service. Use of any mobile service frequency by a control station is subject to the condition that harmful interference shall not be caused to the stations of other licensees operating in the mobile service in accordance with the table of frequency allocations as set forth in Part 2 of this chapter.

(7) Any necessary circuits between mobile relay stations, for the purpose of permitting intercommunication between other stations in their respective communication ranges, shall be provided by means of wire line or by radio stations operating on fixed service frequencies only. No control station operating on a mobile service frequency in accordance with the provisions of subparagraph (6) of this paragraph shall be used for the control of any station other than a mobile relay station.

(8) A base station which is used intermittently as a control station for one or more associated mobile relay stations of the same licensee will only be authorized to operate on a mobile service frequency which is available for assignment to base stations in the Railroad Radio Service. Special authority for such dual station classification must be shown in the station authorization.

(c) *Mobile repeater stations.* The conditions governing authorization and operation of this type of repeater station are as follows:

(1) Upon proper application, any mobile station in the Railroad Radio Service may be authorized to be operated as a mobile repeater station, subject to the requirement that harmful interference shall not be caused to the stations of any other licensee by the transmissions of the pack-carried or hand-carried transmitters with which it is associated, or by the transmissions of the mobile repeater station which are directed to such pack-carried or hand-carried units.

(2) A mobile repeater station may be used only for the purpose of extending the transmitting and receiving range of pack-carried or hand-carried units of mobile stations. Such pack-carried or hand-carried units shall be operated only on a frequency or frequencies above 150 Mc/s and the direct current input power to the vacuum tube anode or equivalent circuit of the final radio frequency stage shall not exceed 10 watts. The frequency and maximum power of the pack-carried or hand-carried transmitters which may be associated with a mobile repeater station shall be specified in the station authorization.

(3) The direct current input power to the vacuum tube anode or equivalent circuit of the final radio frequency stage of the transmitter of a mobile repeater station, when transmitting as a repeater station on the frequency used for communication with its associated pack-carried or hand-carried units, shall not exceed 10 watts except when the same frequency is also used by the same station for direct communication with vehicular mobile units or with one or more base stations.

(4) Each mobile repeater station shall be so designed and installed that, except when operating as a conventional mobile station, it will normally be activated only by means of desired signals of stations operating on frequencies above 150 Mc/s and will be deactivated upon the cessation of such desired signals.

(5) A mobile repeater station may be authorized to be operated on any mobile service frequency available for assignment to stations of the mobile service system in which it is operated, including any "base only" frequency in the 450–470 Mc/s range.

(d) *Fixed relay stations.* Fixed relay stations will be authorized to operate only on frequencies available for use by operational fixed stations.

§ 93.356 Frequencies below 952 Mc/s available for base, mobile, and operational fixed stations.

(a) The following frequencies are available for assignment to base, mobile, or operational fixed stations in the Railroad Radio Service, on a shared basis with stations in the same service and other services, subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s, and limited to the use of transmitters having not more than 30 watts plate input to the final radio frequency stage:

Frequencies
Mc/s
27.235
27.245
27.255
27.265
27.275

(b) No station will be authorized to be operated on any of the frequencies listed in paragraph (a) of this section using any type of emission which occupies a bandwidth greater than 8 kc/s.

(c) Stations authorized to be operated on the frequencies listed in paragraph (a) of this section may also be authorized to be operated by self-actuating or other mechanical or electrical means not under the direct control of an individual: *Provided, however,* That whenever such unattended or uncontrolled operation is authorized, adequate means shall be provided to prevent the transmission of a carrier wave except when modulated for the purpose of transmitting authorized communications or signals.

§ 93.357 Scope of service.

(a) Base and mobile stations in this service may be used for any communications which are necessary in connection with railroad operation or maintenance, including use in connection with the operation of land motor vehicles engaged in the pickup, delivery, or transfer between stations of property shipped, continued in, or destined for shipment by railroad common carrier; provided interference is not caused to stations authorized under the provisions of § 93.352(a).

(b) In addition to the provisions of § 93.3, a licensee of a base station in this service may install mobile units licensed to him in the vehicles of other persons furnishing to the licensee, under contract, a facility or service within the purview of paragraph (a) of this section: *Provided,* That the communications involved are exclusively in connection with such facility or service: *And provided further,* That in each case the licensee and such other person shall comply with the agreement requirements set forth in § 93.3(b)(3).

(c) Stations in this service operating on frequencies listed in § 93.352(a) may be used (1) for intercommunication between adjacent base stations, provided interference is not caused to communications involving radio stations aboard railroad rolling stock; and (2) for transmission of tone signals for signaling and control purposes where a satisfactory showing of need therefor has been made in compliance with § 93.103(b), provided interference is not caused to other stations licensed under this subpart.

Subpart I—Taxicab Radio Service

§ 93.401 Eligibility.

(a) The following persons are eligible to hold authorizations to operate radio stations in the Taxicab Radio Service:

(1) Persons regularly engaged in furnishing to the public for hire a nonscheduled passenger land transportation service not operated over a regular route or between established terminals.

(2) A nonprofit corporation or association organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged in the activity set forth under subparagraph (1) of this paragraph.

(b) Each application for authority to operate in the Taxicab Radio Service shall be accompanied by a statement in detail sufficient to indicate clearly the applicant's eligibility under paragraph (a) of this section.

§ 93.402 Frequencies below 952 Mc/s available for base and mobile stations.

(a) Not more than one Base Station frequency and one Mobile Station frequency will be assigned to a licensee, unless it clearly appears from a supplemental showing attached to the license application that the grant of an additional frequency or frequencies would be in the public interest by reason of a cooperative arrangement of local taxicab interest or other special circumstances.

(b) The following frequencies are available for assignment to Base Stations and Mobile Stations in the Taxicab Radio Service only:

Base and Mobile (*Mc/s*)	*Mobile only* (*Mc/s*)
152.27	157.53
[1] [2] 152.30	[1] [2] 157.56
152.33	157.59
[1] [2] 152.36	[1] [2] 157.62
152.39	157.65
[1] [2] 152.42	[1] [2] 157.68
152.45	157.71

[1] Secondary frequency—see § 93.8(f).

[2] These frequencies are available only for assignment to Base or Mobile Stations operating wholly within Standard Metropolitan Areas having 50,000 or more population.

(c) The following frequency pairs are available for assignment to base stations or mobile stations in the Taxicab Radio Service, on a shared basis with other stations in the same service: *Provided,* That a mobile station may be assigned the frequency of an associated base station, in lieu of the mobile frequency paired therewith in accordance with the following table, when the mobile service system is designed for the single frequency method of operation:

Frequency Pairs

Base only *Mc/s*	*Mobile only* *Mc/s*
452.05	457.05
452.10	457.10
452.15	457.15
452.20	457.20
452.25	457.25
452.30	457.30
452.35	457.35
452.40	457.40
452.45	457.45
452.50	457.50

(d) [Reserved]

§ 93.403 Special limitations.

(a) All mobile units authorized in the Taxicab Radio Service shall be permanently installed in motor vehicles, and such installation shall be made ony in vehicles used (1) for the carriage of passengers for hire, (2) by supervisory personnel in the discharge of their official duties, or (3) for the towing or repair of disabled motor vehicles of the licensee.

(b) Use of Mobile Station facilities by supervisory personnel shall be limited as follows:

(1) Communications addressed to other mobile units shall relate directly to safety of life or property, routing or rerouting of taxicabs to avoid hazards or abnormal traffic conditions, or enforcement of public laws and company instructions; and

(2) Communications addressed to the licensee's Base Station shall relate directly to safety of life or property or supervisory control of motor vehicles of the licensee.

(c) Each radio-equipped vehicle which is used by supervisory personnel in the discharge of their official duties shall be conspicuously and permanently marked with the name under which the licensee conducts his taxicab business.

(d) Mobile units installed in vehicles used by supervisory personnel in the discharge of their official duties may be authorized, upon application, to operate on Base Station frequencies.

§ 93.404 Frequencies below 952 Mc/s available for base, mobile, and operational fixed stations.

(a) The following frequencies are available for assignment to base, mobile, or operational fixed stations in the Taxicab Radio Service, on a shared basis with stations in the same service and other services, subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s, and limited to the use of transmitters having not more than 30 watts plate power input to the final radio frequency stage:

Frequencies
Mc/s
27.235
27.245
27.255
27.265
27.275

(b) No station will be authorized to be operated on any of the frequencies listed in paragraph (a) of this section using any type of emission which occupies a bandwidth greater than 8 kc/s.

(c) Stations authorized to be operated on the frequencies listed in paragraph (a) of this section may also be authorized to be operated by self-actuating or other mechanical or electrical means not under the direct control of any individual: *Provided, however,* That whenever such unattended or uncontrolled operation is authorized, adequate means shall be provided to prevent the transmission of a carrier wave except when modulated for the purpose of transmitting authorized communications or signals.

§ 93.405 Civil defense communications.

In addition to communications permitted under the provisions of § 93.151 (g) stations in the Taxicab Radio Service may be used for the transmission of the following:

(a) Messages relating to the dispatch of taxicabs which are temporarily diverted from their normal public passenger transportation activities to the performance of civil defense transportation functions.

(b) Messages relating to the activities of the civil defense agency in those cases where other communications facilities including the Radio Amateur Civil Emergency Service, Disaster, or Domestic Public Services are inoperative or inadequate, either in fact or during a simulated civil defense emergency: *Provided*, That:

(1) As soon as possible after the beginning of such use, the licensee shall send notice to the Commission in Washington, D. C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the communications being transmitted and the duration of the special use of the station. In addition, the Engineer in Charge shall be notified as soon as possible of any change in the nature of or termination of such use.

(2) In the event such use is to be a series of preplanned tests or drills of the same or similar nature which are scheduled in advance for specific times or at certain intervals of time, the licensee may send a single notice to the Commission in Washington, D.C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the communications to be transmitted, the duration of each such test, and the time scheduled for such use. Notice shall likewise be given in the event of any change in the nature or termination of any such series of tests.

(3) The Commission may, at any time, order the discontinuance of such special use of the authorized facilities.

Subpart J [Reserved]

Subpart K—Automobile Emergency Radio Service

§ 93.501 Eligibility.

(a) The following persons are eligible to hold authorizations to operate radio stations in the Automobile Emergency Radio Service:

(1) Associations of owners of private automobiles which provide a private emergency road service for disabled vehicles.

(2) Persons regularly engaged in the business of providing to the general public an emergency road service for disabled vehicles.

(3) A non-profit corporation or association organized for the purpose of furnishing a radiocommunication service solely to persons who are actually engaged in the activities set forth in either subparagraph (1) or (2) of this paragraph.

(b) Each application for authority to operate in the Automobile Emergency Radio Service shall be accompanied by a statement in detail sufficient to indicate clearly the applicant's eligibility under paragraph (a) of this section.

§ 93.502 Permissible communications.

Stations licensed under this subpart may transmit only the following types of communications:

(a) Any communication related to the safety of life or the protection of important property.

(b) Communications required for dispatching repair trucks, tow trucks, or other road service vehicles to disabled vehicles.

(c) Associations of owners of private automobiles which provide emergency road service may, on a secondary basis, transmit communications for the purpose of reporting traffic conditions on occasions of abnormal vehicular congestion. Such communications are authorized only on a non-interference basis to those authorized in paragraphs (a) and (b) of this section.

§ 93.503 Frequencies below 952 Mc/s available for base and mobile stations.

(a) The following frequencies are available for assignment to base stations and mobile stations, other than those aboard aircraft, which are operated by or on behalf of persons who provide to the general public an emergency road service for disabled vehicles: *Provided*, That only one of these frequencies shall be assigned to the stations of any licensee operating in a given area:

Frequencies
Mc/s
[1] 157.470
[2] 157.485
[1] 157.500

[1] Secondary frequency, see § 93.8(f).
[2] Tertiary frequency, see § 93.8(f).

At the discretion of the Commission the frequencies listed in this paragraph may also be assigned to base stations and to mobile stations, other than those aboard aircraft, which are operated by or on behalf of associations of owners of private automobiles upon a showing that all other frequencies available for assignment to such stations are currently assigned to other stations for use in the area concerned and that the use of the requested frequency, in each case, will be less likely to result in mutual harmful interference than would the use of a frequency otherwise available to the station.

(b) The following frequency pairs are available for assignment to base stations and mobile stations in the Automobile Emergency Radio Service which are operated by or on behalf of associations of owners of private automobiles: *Provided*, That a mobile station may be assigned the frequency of an associated base station, in lieu of the mobile frequency paired therewith in accordance with the following table, when the mobile service system is designed for the single frequency method of operation:

Base only	*Mobile only*
Mc/s	*Mc/s*
452.55	457.55
452.60	457.60

(c) The following frequencies are available for assignment to base stations and to mobile stations, other than those aboard aircraft, which are operated by or on behalf of associations of owners of private automobiles; provided, that the equipment to be used shall immediately meet the technical standards which become generally effective November 1, 1963:

Mc/s
150.905
150.935
150.965

(d) The following frequencies are available for assignment to base stations and to mobile stations, other than those aboard aircraft, which are operated by or on behalf of persons who provide to the general public an emergency road service for disabled vehicles: *Provided*, That only one of these frequencies shall be assigned to the stations of any licensee operating in a given area: *And provided further*, That the equipment to be used shall immediately meet the technical standards which become generally effective November 1, 1963:

Mc/s
150.815
150.845
150.875

(e) Persons authorized prior to April 1, 1958, to operate in the Automobile Emergency Radio Service on either the frequency 35.70 Mc/s or 35.98 Mc/s may continue to operate on such frequency until March 31, 1963: *Provided*, That the deviation of all frequency modulated transmitters of such stations shall be limited to ±5 kc/s. During this period such persons may modify, renew, reinstate, or assign their licenses in those cases where such assignment accompanies a change of ownership of the licensee's business to the assignee; however, they will not be authorized to expand their facilities by the addition of new base or fixed stations.

(f) [Reserved]

§ 93.504 Frequencies below 952 Mc/s available for base, mobile and operational fixed stations.

(a) The following frequencies are available for assignment to base, mobile or operational fixed stations in the Automobile Emergency Radio Service on a shared basis with stations in the same service and other services, subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s, and limited to the use of transmitter having not more than 30 watts plate power input to the final radio frequency stage:

Frequencies
Mc/s
27.245
27.255
27.265
27.275

(b) No station will be authorized to be operated on any of the frequencies listed in paragraph (a) of this section using any type of emission which occupies a bandwidth greater than 8 kc/s.

(c) Stations authorized to be operated on the frequencies listed in paragraph (a) of this section may also be authorized to be operated by self-actuating or other mechanical or electrical means not

under the direct control of any individual: *Provided, however,* That whenever such unattended or uncontrolled operation is authorized, adequate means shall be provided to prevent the transmission of a carrier wave except when modulated for the purpose of transmitting authorized communications or signals.

§ 93.506 Contract road service vehicles.

In addition to the provisions of § 93.3, an association of owners of private automobiles which is licensee of a base station and associated mobile units in this service may install mobile units operated under its license in the vehicles of other persons furnishing a private emergency road service to its members pursuant to a contract with the association: *Provided,* That the communications involved are exclusively in connection with such service: *And provided further,* That in each case the licensee and such other person shall comply with the agreement requirements set forth in § 93.3(b)(3).

PART 95—CITIZENS RADIO SERVICE

Subpart A—General

Subpart B—Applications and Licenses

Subpart C—Technical Regulations

Subpart D—Station Operating Requirements

AUTHORITY: §§ 95.1 to 95.121 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General

§ 95.1 Basis and purpose.

The rules and regulations set forth in this part are issued pursuant to the provisions of Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations. The rules in this part are designed to provide for private short-distance radiocommunications, radio signaling, and the control of remote objects or devices by means of radio, and to provide procedures whereby manufacturers of radio equipment to be used or operated in the Citizens Radio Service may obtain type acceptance and/or type approval of such equipment as may be appropriate.

§ 95.3 Definitions.

For the purpose of this part, the following definitions shall be applicable. For other definitions, refer to Part 2 of this chapter.

(a) Definitions of services.

Base station. A land station in the land mobile service carrying on a service with land mobile stations.

Citizens Radio Service. A radio communications service of fixed, land, and mobile stations intended for personal or business radiocommunication, radio signaling, control of remote objects or devices by means of radio, and other purposes not specifically prohibited in this part.

Fixed service. A service of radiocommunication between specified fixed points.

Mobile service. A service of radiocommunication between mobile and land stations or between mobile stations.

(b) Definitions of stations.

Class A station. A station in the Citizens Radio Service operating on an assigned frequency available to that service in the 460–470 Mc/s frequency band, with an authorized plate input power of 60 watts or less. (Class A stations are authorized to be operated as mobile stations, as base stations, or as fixed stations.)

Class B station. A mobile station in the Citizens Radio Service operating on an authorized frequency available to that service in the 460–470 Mc/s frequency band, with an authorized plate input power of 5 watts or less. (Class B stations are authorized to be operated as mobile stations only; however, they may be operated at fixed locations in accordance with other provisions of this part.)

Class C station. A mobile station in the Citizens Radio Service operating on an authorized frequency in the 26.96–27.23 Mc/s frequency band, or on the frequency 27.255 Mc/s, for the control of remote objects or devices by radio, or for the remote actuation of devices which are used solely as a means of attracting attention. (Class C stations are authorized to operate as mobile stations only; however, they may be operated at fixed locations in accordance with other provisions of this part.)

Class D station. A mobile station in the Citizens Radio Service operating on an authorized frequency in the 26.96–27.23 Mc/s frequency band, or on the frequency 27.255 Mc/s, with an authorized plate input power of 5 watts or less for radiotelephony only. (Class D stations are authorized to operate as mobile stations only; however, they may be operated at fixed locations in accordance with other provisions of this part.)

Fixed station. A station in the fixed service.

Land station. A station in the mobile service not intended for operation while in motion. (Of the various types of land stations, only the base station is pertinent to this part.)

Mobile station. A station in the mobile service intended to be used while in motion or during halts at unspecified points. (For the purposes of this part, the term includes hand-carried and pack-carried units.)

(c) Miscellaneous definitions.

Antenna structure. The term "antenna structure" includes the radiating system, its supporting structures, and any surmounting appurtenances.

Assigned frequency. The frequency appearing on a station authorization, from which the carrier frequency may deviate by an amount not to exceed that permitted by the frequency tolerance.

Authorized bandwidth. The maximum width of the band of frequencies, as specified in the authorization, to be occupied by an emission.

Bandwidth occupied by an emission. The band of frequencies comprising 99 percent of the total radiated power extended to include any discrete frequency on which the power is at least 0.25% of the total radiated power.

Harmful interference. Any emission, radiation or induction which endangers the functioning of a radionavigation service or other safety service or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with applicable laws, treaties, and regulations.

Landing area. A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used or approved for use for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Remote control. The term "remote control" when applied to the use or operation of a citizens radio station means control of the transmitting equipment of that station from any place other than

the location of the transmitting equipment, except that direct mechanical control or direct electrical control by wired connections of transmitting equipment from some other point on the same premises, craft or vehicle shall not be considered to be remote control. (Authorization for the use or operation of any transmitting equipment by remote control in the Citizens Radio Service is granted only in the case of Class A base or fixed stations.)

Station authorization. Any construction permit, license, or special temporary authorization issued by the Commission.

§ 95.5 Policy governing the assignment of frequencies.

(a) The frequencies which may be assigned to Class A stations in the Citizens Radio Service, and the frequencies which are available for use by Class B, Class C, or Class D stations, are listed in Subpart C of this part. Each frequency available for assignment to, or use by, stations in this service is available on a shared basis only, and will not be assigned for the exclusive use of any one applicant; however, the use of a particular frequency may be restricted to (or in) one or more specified geographical areas.

(b) In no case will more than one frequency be assigned to Class A stations for the use of a single applicant in any given area until it has been demonstrated conclusively to the Commission that the assignment of an additional frequency is essential to the operation proposed.

(c) All applicants and licensees in this service shall cooperate in the selection and use of the frequencies assigned or authorized, in order to minimize interference and thereby obtain the most effective use of the authorized facilities. Continuous or uninterrupted transmissions from a single station or between a number of intercommunicating stations is prohibited, except for communications involving the immediate safety of life, the immediate safety of property, or civil defense operations as provided in § 95.121.

§ 95.7 General citizenship restrictions.

A station license may not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representative thereof; or any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign government, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

Subpart B—Applications and Licenses

§ 95.11 Station authorization required.

No radio station shall be operated in the Citizens Radio Service except under and in accordance with an authorization granted by the Federal Communications Commission.

§ 95.13 Eligibility for station license.

Subject to the general restrictions of § 95.7, any person is eligible to hold authorizations to operate stations in the Citizens Radio Service: *Provided*, That if the applicant for a Class A, Class B, or Class D station authorization is an individual or partnership, such individual or each partner is eighteen or more years of age; or if the applicant for a Class C station authorization is an individual or partnership, such individual or each partner is twelve or more years of age: *And provided further*, That not more than one person shall be eligible as licensee of the same transmitting equipment.

NOTE: While the basis of eligibility in this service includes any state, territorial or local governmental entity or any organization or association operating by the authority of such governmental entity, including any duly authorized state, territorial or local civil defense organization, it should be noted that the frequencies available to stations in this service are shared without distinction between all licensees and that during periods of normal operation no protection can be afforded to the communications of any station in this service, even when involving the protection of life or property, from interference which may be caused by the operation of other authorized stations.

§ 95.15 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Citizens Radio Service are discussed in § 95.19 and may be obtained from the Washington, D.C., 20554, office of the Commission, or from any of its engineering field offices.

(b) All formal applications for Class B, Class C, or Class D station authorizations shall be submitted to the Commission's office at 334 York Street, Gettysburg, Pennsylvania, 17325. Applications for Class A station authorizations, requests for special temporary authority or other special requests, and correspondence relating to an application for any class citizens radio station authorization shall be submitted to the Commission's office at Washington, D.C., 20554, and should be directed to the attention of the Secretary. Applications involving Class C or Class D station equipment which is neither type approved nor crystal controlled, whether of commercial or home construction, shall be accompanied by supplemental data describing in detail the design and construction of the transmitter and methods employed in testing it to determine compliance with the technical requirements set forth in subpart C of this part.

(c) Unless otherwise specified, an application shall be filed at least sixty days prior to the date on which it is desired that Commission action thereon be completed. In any case where the applicant has made timely and sufficient application for renewal of license, in accordance with the Commission's rules, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

(d) Failure on the part of the applicant to provide all the information required by the application form, or to supply the necessary exhibits or supplementary statements may constitute a defect in the application.

§ 95.17 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be signed under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

§ 95.19 Standard forms to be used.

(a) *FCC Form 505, Application for Class B, C, or D Station License in the Citizens Radio Service.* This form shall be used when:

(1) Application is made for a new Class B, Class C, or Class D station authorization for any required number of transmitters to be operated as a group in a single radiocommunication system in a particular area. A separate application shall be submitted for each proposed class of station.

(2) Application is made for modification of any existing Class B, Class C, or Class D station authorization in those cases where prior Commission approval of certain changes is required (see § 95.35).

(3) Application is made for renewal of an existing Class B, Class C, or Class D station authorization, or for reinstatement of such an expired authorization.

(4) Application is made for consent to transfer of control of a corporation holding a Class B, Class C, or Class D station authorization.

(b) *FCC Form 400, Application for Radio Station Authorization in the Safety and Special Radio Services.* This form shall be used when:

(1) Application is made for a new Class A base station or fixed station authorization. Separate applications shall be submitted for each proposed base or fixed station at different fixed locations; however, all equipment intended to be operated at a single fixed location is considered to be one station which may, if necessary, be classed as both a base station and a fixed station.

(2) Application is made for a new Class A station authorization for any required number of mobile units (including hand-carried and pack-carried units) to be operated as a group in a single radiocommunication system in a particular area. An application for Class A mobile station authorization may be combined with the application for a single Class A base station authorization when such mobile units are to be operated with that base station only.

(3) Application is made for station license of any Class A base station or fixed station upon completion of construction or installation in accordance with the terms and conditions set forth in any construction permit required to be issued for that station, or application for extension of time within which to construct such a station.

(4) Application is made for modification of any existing Class A station authorization in those cases where prior Commission approval of certain changes is required (see § 95.35).

(5) Application is made for renewal of an existing Class A station authorization, or for reinstatement of such an expired authorization.

(6) Application is made for consent to transfer control of a corporation holding a Class A station authorization.

(c) *FCC Form 401–A, Description of Proposed Antenna Structure.* This form shall be submitted in triplicate when specifically requested by the Commission in a particular case. Situations in which FCC Form 401–A may be required include, but are not necessarily limited to, the following:

(1) Where the antenna structure proposed to be erected will exceed an overall height of 170 feet above ground level, or

(2) Where the antenna structure proposed to be erected will exceed an overall height of one foot above the established airport (landing area) elevation for each 200 feet of distance or fraction thereof from the nearest boundary of any such landing area.

§ 95.21 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 95.23 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 95.23 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part must be accompanied by the fees prescribed below:

Applications for new, renewed, or modified Class A radio station licenses	$10
Applications for new, renewed, or modified Class B, C, or D radio station licenses	8

(b) Fees are not required for applications filed by governmental entities, and for informal applications for special temporary authority.

§ 95.25 Amendment or dismissal of application.

(a) Any application may be amended upon request of the applicant as a matter of right prior to the time the application is granted or designated for hearing. Each amendment to an application shall be signed and submitted in the same manner and with the same number of copies as required for the original application.

(b) Any application may, upon written request signed by the applicant or his attorney, be dismissed without prejudice as a matter of right prior to the time the application is granted or designated for hearing.

§ 95.27 Transfer of license prohibited.

A station authorization in the Citizens Radio Service may not be transferred or assigned. In lieu of such transfer or assignment, an application for new station authorization shall be filed in each case, and the previous authorization shall be forwarded to the Commission for cancellation.

§ 95.29 Defective applications.

(a) If an applicant is requested by the Commission to file any documents or information not included in the prescribed application form, a failure to comply with such request will constitute a defect in the application.

(b) When an application is considered to be incomplete or defective, such application will be returned to the applicant, unless the Commission may otherwise direct. The reason for return of the applications will be indicated, and if appropriate, necessary additions or corrections will be suggested.

§ 95.31 Partial grant.

Where the Commission, without a hearing, grants an application in part, or with any privileges, terms, or conditions other than those requested, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which such grant is made, or from its effective date if a later date is specified, file with the Commission a written request, rejecting the grant as made. Upon receipt of such request, the Commission will vacate its original action upon the application and, if necessary, set the application for hearing.

§ 95.33 License period.

Unless otherwise stated in the authorization, licenses for all stations in the Citizens Radio Service will normally be issued for a term of five years from the date of original issuance, renewal or modification.

§ 95.35 Changes in authorized stations.

Authority for certain changes in authorized stations must be obtained from the Commission before the changes are made, while other changes do not require prior Commission approval. The following paragraphs describe the conditions under which prior Commission approval is or is not necessary.

(a) Proposed changes which will result in operation inconsistent with any of the terms of the current authorization require that an application for modification of license be submitted to the Commission. Application for modification shall be submitted in the same manner as an application for a new station, and the licensee shall forward his existing authorization to the Commission for cancellation immediately upon receipt of the superseding authorization. Any of the following changes to the authorized sta-

tions may be made only upon approval by the Commission.

(1) Change the permanent address of the station licensee.

(2) Change the presently authorized location of a fixed transmitter or control point.

(3) Move, change the height of, or erect an antenna structure of the type which requires prior approval from the Commission as set forth in § 95.37.

(4) Increase the overall number of transmitters authorized.

(5) Make changes of any nature which may affect the operational characteristics of the transmitting equipment.

(6) Addition or deletion of control point(s) for presently authorized transmitter.

(7) Change or increase in the area of operation of a Class A station.

(8) Change the operating frequency of a Class A station.

(b) Proposed changes which will not depart from any of the terms of the outstanding authorization for the station involved may be made without prior Commission approval. Included in such changes is the substitution of various makes of transmitting equipment at any station provided that the particular equipment to be installed is included in the Commission's "Radio Equipment List, Part C", or, in the case of a Class C or Class D station using crystal control, the substitute equipment is crystal controlled; and provided the substitute equipment employs the same type of emission and does not exceed the frequency tolerance and power limitations prescribed for the particular class of station involved.

§ 95.37 Limitation on antenna structures.

(a) No new antenna or antenna structures shall be erected for use by any station licensed or proposed to be licensed in this service, and no change shall be made in any existing antenna or antenna structures for use or intended to be used by any station licensed or proposed to be licensed in this service so as to increase its overall height above ground level, without prior approval from the Commission in any case when either:

(1) The antenna structures proposed to be erected will exceed an overall height of 170 feet above ground level, except where the antenna is mounted on top of an existing man-made structure, other than an antenna structure, and does not increase the overall height of such man-made structure by more than 20 feet; or

(2) The antenna structures proposed to be erected will exceed an overall height of one foot above the established airport (landing area) elevation for each 200 feet of distance or fraction thereof from the nearest boundary of such landing area except where the antenna does not exceed 20 feet above the ground or where the antenna is mounted on top of an existing man-made structure, other than an antenna structure, or natural formation and does not increase the overall height of such man-made structure or natural formation by more than 20 feet. Application for Commission approval, if required, shall be submitted on FCC Form 400, unless specifically requested by the Commission to be filed on FCC Form 401–A.

(b) In cases where an FCC Form 401–A is required to be filed, further details as to whether an aeronautical study and/or obstruction marking may be required, as well as specifications for obstruction marking when required, may be obtained from Part 17 of this chapter.

(c) An antenna at a fixed location to be used by a Class B, Class C, or Class D mobile station shall not exceed 20 feet in height above any man-made structure or natural formation on which it is mounted, except that when mounted on an existing antenna structure of another station the antenna shall not exceed the height of that antenna structure.

Subpart C—Technical Regulations

§ 95.41 Frequencies available.

(a) The following frequencies are available for assignment to Class A base, mobile, or fixed stations, on a shared basis with other stations in the Citizens Radio Service:

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
462.55	463.15	465.30	465.90
462.60	463.20	465.35	465.95
462.65	464.75	465.40	466.00
462.70	464.80	465.45	466.05
462.75	464.85	465.50	466.10
462.80	464.90	465.55	466.15
462.85	464.95	465.60	466.20
462.90	465.05	465.65	466.25
462.95	465.10	465.70	466.30
463.00	465.15	465.75	466.35
463.05	465.20	465.80	466.40
463.10	465.25	465.85	466.45

(b) The frequency 465.00 Mc/s is available for use by Class B mobile stations under the conditions specified in §§ 95.45, 95.47, and 95.49 on a shared basis with other stations in the Citizens Radio Service. In addition, a Class B mobile station employing equipment which has been type accepted for use by Class A citizens radio stations, is authorized to be operated on any of the frequencies listed in paragraph (a) of this section.

(c) The following frequencies are available for use by Class C mobile stations when employing amplitude tone modulation or on-off keying of the unmodulated carrier for the control of remote objects or devices by radio, or for the remote actuation of devices which are used solely as a means of attracting attention, on a shared basis with other stations in the Citizens Radio Service, subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s:

Mc/s	*Mc/s*	*Mc/s*
26.995	27.095	27.195
27.045	27.145	[1] 27.255

[1] The frequency 27.255 Mc/s is shared with stations in other services.

(d) The following frequencies are available for use by Class D mobile stations employing radiotelephony only, on a shared basis with other stations in the Citizens Radio Service, and subject to no protection from interference due to the operation of industrial, scientific, or medical devices on the frequency 27.12 Mc/s.

Mc/s	*Mc/s*	*Mc/s*	*Mc/s*
26.965	27.035	27.115	27.185
26.975	27.055	27.125	27.205
26.985	27.065	27.135	27.215
27.005	27.075	27.155	27.225
27.015	27.085	27.165	[1] 27.255
27.025	27.105	27.175	

[1] The frequency 27.255 Mc/s is shared with stations in other services.

(e) Upon specific request accompanying application for renewal of station authorization, a Class A station in this service, which prior to April 1, 1960 operated on a frequency in the 460–461 Mc/s band, may be assigned that frequency for continued use until not later than March 31, 1965, subject to all other provisions of this part.

§ 95.43 Station power.

The maximum plate power input to the anode (plate) circuit of the electron tube or tubes which supply energy to the radiating system of a station in this service shall not exceed the following values:

Class of station	*Maximum plate power input*
Class A	60 watts.
Class B	5 watts.
Class C	5 watts.[1]
Class D	5 watts.

[1] A maximum plate power input of 30 watts is permitted on the frequency 27.255 Mc only.

§ 95.45 Frequency tolerance.

The carrier frequency of a station in this service shall be maintained within the following percentage of the authorized frequency:

Class of station	Maximum authorized plate power input	Frequency tolerance	
		Fixed and base	Mobile
		Percent	*Percent*
A	3 watts or less	.001	.005
A	over 3 watts	.001	.001
B	3 watts or less		.5
B	over 3 watts		.3
C	5 watts or less [1]		.005
C	over 5 watts (27.255 Mc only)		.003
D	5 watts or less		.003

[1] Class C stations of 3 watts or less plate power input which are used solely for the remote control of objects or devices by radio (other than devices used solely as a means of attracting attention) are permitted a frequency tolerance of 0.01%.

§ 95.47 Types of emission.

(a) Except as provided in paragraph (e) of this section, Class A stations in this service will normally be authorized to transmit radiotelephony only. The authorization to use radiotelephony will be construed to include the use of tone signals or signalling devices whose sole function is to establish and maintain voice communication between stations.

(b) Class B stations in this service are authorized to use amplitude or frequency modulation, or on-off unmodulated carrier, and may be used for radiotelephony, to control remote objects or devices by means of radio, or to remotely actuate devices which are used as a means of attracting attention.

(c) Class C stations in this service are authorized to use amplitude tone modulation or on-off unmodulated carrier only, for the control of remote objects

or devices by radio or for the remote actuation of devices which are used solely as a means of attracting attention. The authorization of a Class C station shall not be construed to include authority for the transmission of any form of intelligence.

(d) Class D stations in this service are authorized to use amplitude voice modulation for radiotelephone communications only. The authorization of Type A3 emission to a Class D station shall not be construed to include authority for the transmission of any form of radiotelegraphy; however, it will be construed to include the use of tone signals or signalling devices whose sole function is to establish and maintain voice communication between stations.

(e) Other types of emission not described in paragraph (a) of this section may be authorized for Class A citizens radio stations upon a showing of need therefor. An application requesting such authorization shall fully describe the emission desired, shall indicate the bandwidth required for satisfactory communication, and shall state the purpose for which such emission is required. For information regarding the classification of emissions and the calculation of bandwidth, reference should be made to Part 2 of this chapter.

§ 95.49 Emission limitations.

(a) Each authorization issued to a Class A citizens radio station will show, as a prefix to the classification of the authorized emission, a figure specifying the maximum bandwidth to be occupied by the emission.

(b) All operation of a Class B citizens radio station (including tolerance and bandwidth occupied by the emission) shall be confined to the frequency band 462.525–467.475 Mc/s.

(c) Except in the case of Class B citizens radio stations operating only on the frequency 465.00 Mc/s (see § 95.41 (b)), the maximum authorized bandwidth of the emission of any station employing amplitude modulation (Type A2 or A3 emission) shall be 8 kilocycles, and the maximum authorized bandwidth of the emission of any station employing frequency or phase modulation (Type F2 or F3 emission) shall be 40 kilocycles. The use of Type F2 or F3 emission in the frequency band 26.96–27.28 Mc/s is not authorized.

(d) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 decibels;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth, at least the amounts indicated in the following table:

Maximum authorized plate power input to final radio frequency stage:	*Attenuation (db)*
Over 3 watts	50
3 watts or less	[1] 40

[1] In the case of Class B stations having a maximum plate power input to the final radio frequency stage of 3 watts or less, any emission appearing on any frequency within a band allocated to Industrial, scientific, and medical equipment under the provisions of Part 2 of this chapter shall be attenuated at least 30 db.

(e) When an unauthorized emission results in harmful interference, the Commission may, in its discretion, require appropriate technical changes in equipment to alleviate the interference.

§ 95.51 Modulation limitations.

(a) When the radio frequency carrier of a station in this service is amplitude modulated, such modulation shall not exceed 100 percent on positive or negative peaks.

(b) Except in the case of Class B citizens radio stations operating only on the frequency 465.00 Mc/s (see § 95.41(b)), the frequency deviation of any frequency modulated transmitter operated in this service shall not exceed ±15 kc/s and the simultaneous amplitude modulation and frequency or phase modulation of a transmitter is not authorized.

§ 95.53 Technical measurements.

Where it appears that a station in this service is not being operated in accordance with the technical standards therefor, the Commission may require the licensee to provide for such tests as may be necessary to determine whether the equipment is capable of meeting these standards.

§ 95.55 Acceptability of transmitters for licensing.

(a) From time to time the Commission will publish a list of equipment entitled "Radio Equipment List, Part C". Copies of this list are available for inspection at the Commission's offices in Washington, D. C., and at each of its field offices. Equipment once placed on that list will continue to be included on the list until it is removed therefrom by Commission action in accordance with the provisions of Part 2 of this chapter.

(b) Except for crystal-controlled transmitters used at Class C and Class D stations, each transmitter utilized by a station authorized for operation under this part must be a type which is included on the Commission's current "Radio Equipment List, Part C" and designated for use in this service.

§ 95.57 Type acceptance of equipment.

(a) Any manufacturer of a transmitter to be built for use at Class A stations in this service, or any manufacturer of a crystal-controlled transmitter to be built for use at a Class C or Class D station in this service, may request "type acceptance" for such transmitter following the type acceptance procedures set forth in Part 2 of this chapter.

(b) Type acceptance for an individual transmitter may also be requested by an applicant for a station authorization by following the type acceptance procedures set forth in Part 2 of this chapter. Such transmitters, if accepted, will not normally be included on the Commission's "Radio Equipment List, Part C", but will be individually enumerated on the station authorization.

(c) Additional rules with respect to type acceptance are set forth in Part 2 of this chapter. These rules include information with respect to withdrawal of type acceptance, modification of type-accepted equipment, and limitations on the findings upon which type acceptance is based.

§ 95.59 Submission of Class B and non-crystal controlled Class C or Class D station equipment for type approval.

(a) Manufacturers of equipment capable of being used or operated in this service may submit units of such equipment to the Commission for type approval, upon grant of request therefor made in writing by the manufacturer to the Secretary of the Commission. Such a request normally will not be granted unless at least 100 units of the model to be submitted are scheduled for manufacture. When advised by the Commission, the applicant must send a typical production model or prototype of the particular equipment complete with tubes and power supply to the Commission's laboratory at Laurel, Maryland, for tests. All instructions which are intended to be supplied to the purchaser of the equipment shall be included. Transportation of the equipment and associated documents to and from the laboratory shall be at no cost to the Government.

(b) Prior to approval or rejection of the equipment, the results of these tests will be made known only to the responsible Government officials and to the Commission. An official report of the tests will be made available only to the manufacturer involved; however, the Commission will publish from time to time lists of approved equipment.

(c) The prescribed tests may be conducted by the Federal Communications Commission or by any other cooperating Government department. In addition, field tests, as deemed necessary or desirable by the Commission, may be carried out by authorized Government personnel to determine the reliability of the equipment under operating conditions comparable to those expected to be encountered in actual service.

(d) Type approval is not required for Class C or Class D station equipment employing crystal control; however, the manufacturer of a crystal-controlled transmitter to be built for use at a Class C or Class D station may request "type acceptance" for such transmitter in accordance with the provisions of § 95.57. The licensee of a Class C or Class D station utilizing crystal-controlled equipment may be required to certify that the frequency stability of the transmitter is within the tolerance specified elsewhere in this part.

§ 95.61 Type approval of receiver-transmitter combinations.

Type approval will not be issued for transmitting equipment for op-

eration under this part when such equipment is enclosed in the same cabinet, is constructed on the same chassis in whole or in part, or is identified with a common type or model number with a radio receiver, unless such receiver has been certificated to the Commission as complying with the requirements of Part 15 of this chapter.

§ 95.63 Minimum equipment specifications.

Equipment submitted for type approval in this service shall be capable of meeting the technical specifications contained in this part for Class B, Class C, or Class D stations, and, in addition, shall comply with the following:

(a) Any basic instructions concerning the proper adjustment, use or operation of the equipment that may be necessary shall be attached to the equipment in a suitable manner and in such positions as to be easily read by the operator.

(b) A durable nameplate shall be mounted on each transmitter showing the name of the manufacturer, the type or model designation, and providing suitable space for permanently displaying the transmitter serial number, FCC type approval number, and the class of station for which approved.

(c) The transmitter shall be designed, constructed, and adjusted by the manufacturer to operate on a frequency or frequencies available to the class of station for which type approval is sought. In designing the equipment, every reasonable precaution shall be taken to protect the user from high voltage shock and radio frequency burns. Connections to batteries (if used) shall be made in such a manner as to permit replacement by the user without causing improper operation of the transmitter. Generally accepted modern engineering principles shall be utilized in the generation of radio frequency currents so as to guard against unnecessary interference to other services. In cases of harmful interference arising from the design, construction, or operation of the equipment, the Commission may require appropriate technical changes in equipment to alleviate interference.

(d) Controls which may effect changes in the carrier frequency of the transmitter shall not be accessible from the exterior of any unit unless such accessibility is specifically approved by the Commission.

§ 95.65 Test procedure.

Type approval tests to determine whether radio equipment meets the technical specifications contained in this part will be conducted under the following conditions:

(a) Gradual ambient temperature variations from 0° to 125° F.

(b) Relative ambient humidity from 20 to 95 percent. This test will normally consist of subjecting the equipment for at least three consecutive periods of 24 hours each, to a relative ambient humidity of 20, 60, and 95 percent, respectively, at a temperature of approximately 80° F.

(c) Movement of transmitter or objects in the immediate vicinity thereof.

(d) Power supply voltage variations normally to be encountered under actual operating conditions.

(e) Additional tests as may be prescribed, if considered necessary or desirable.

§ 95.67 Certificate of type approval.

A certificate or notice of type approval, when issued to the manufacturer of equipment intended to be used or operated in the Citizens Radio Service, constitutes a recognition that on the basis of the test made, the particular type of equipment appears to have the capability of functioning in accordance with the technical specifications and regulations contained in this part: *Provided*, That all such additional equipment of the same type is properly constructed, maintained, and operated: *And provided further*, That no change whatsoever is made in the design or construction of such equipment except upon specific approval by the Commission.

§ 95.69 Acceptance of composite equipment.

(a) Class B and non-crystal controlled Class C or Class D station equipment constructed by a manufacturer in lots of less than 100 units will not, in the usual case, be tested by the Commission for the purpose of granting type approval. Except as provided in paragraph (b) of this section, an applicant in this service who proposes to use or operate composite or other equipment which has not been type approved shall supply complete information showing that the equipment fully complies with appropriate station requirements, using supplementary sheets which shall accompany the standard application form. The Commission may, at its discretion, require that such equipment or a prototype thereof be made available to its laboratory at Laurel, Maryland, for testing in accordance with the procedures described elsewhere in this part, as applicable to equipment to be manufactured in lots of more than 100 units. In addition, field tests as deemed necessary or desirable may be carried out by authorized Government personnel to determine the reliability of the equipment under operating conditions comparable to those encountered in actual service.

(b) In the case of Class C or Class D equipment employing crystal control, supplemental technical information is not required to accompany the standard application form: *Provided, however*, That it is clearly indicated that the equipment employs crystal control: *And provided further*, That the Commission may require the applicant to certify that the frequency stability of the crystal-controlled transmitter is within the tolerance specified elsewhere in this part.

Subpart D—Station Operating Requirements

§ 95.81 Permissible communications.

(a) The units of any Class A, Class B, or Class D station licensed in the Citizens Radio Service are authorized primarily to communicate with other units of the same station; secondarily, units of all Class A, Class B, and Class D stations are authorized to intercommunicate with units of other stations in the Citizens Radio Service only when necessary for the exchange of substantive messages related to the business or personal activities of the individuals concerned. Communications with stations licensed or operated under the provisions of other parts of this chapter, or with United States Government or foreign stations, is prohibited except for communications relating to civil defense activities in accordance with the provisions of § 95.121.

(b) A citizens radio station may not be used for any purpose or in connection with any activity which is contrary to federal, state, or local law; or to carry communications for hire; or to carry program material of any kind for use either directly or indirectly in connection with broadcasting; or for the transmission of music; or for the transmission of any material intended solely for amusement or entertainment purposes; or for the direct transmission of any material to the public through public address systems or similar means.

(c) Except for stations which are used solely for the control of remote objects or devices by radio, or for the remote actuation of devices which are used solely as a means of attracting attention, no station in this service shall be used for the transmission of any communications or signal other than those concerning the business activities or personal affairs of the licensee, and no compensation or remuneration in any form may be accepted by the licensee from any other person for such use. Exception to the foregoing may be granted upon written request, but only upon a showing, satisfactory to the Commission, that the proposed use complies in full with the provisions of one of the subparagraphs of this paragraph and that the licensee has full access to and exclusive control over the radio equipment operated under the authority of the license held by him. In each case where compensation or remuneration is authorized to be received by the licensee, the applicable contract and records which reflect the cost of the service and its non-profit, cost-sharing basis shall be maintained by the licensee and held available at least one year for inspection by Commission representatives. The situations under which such additional authority may be granted are as follows:

(1) The licensee proposes to provide private radiocommunication facilities to some other person with whom he is engaged in a business activity on a contractual basis (other than as a partnership or association), for the sole purpose of transmitting communications of common interest concerning that activity. Any compensation or remuneration received by the licensee, if authorized, shall be governed by a contract entered into by the parties concerned, and shall not exceed the cost of providing the facilities divided on an equitable basis among all parties making use thereof.

(2) The licensee is a corporation and proposes to provide private radiocommunication facilities for the transmission of messages or signals by or on behalf of its parent corporation, another subsidiary of the same parent corporation, or

its own subsidiary. Any remuneration or compensation received by the licensee for the use of the radiocommunication facilities shall be governed by a contract entered into by the parties concerned, and the total of such compensation shall not exceed the cost of providing the facilities.

(3) The licensee proposes the joint, shared, or cooperative use of a unit of a Class A station with one or more other licensees in this service for the purpose of communicating on a regular basis with other units of their respective Class A stations. All such use of the private radiocommunication facilities shall be pursuant to a written contract which shall provide that contributions to capital and operating expenses shall be made on a non-profit, cost-sharing basis, said costs to be divided on an equitable basis among all parties to the agreement. In addition, the licensee must show a separate and independent need for the particular unit proposed to be shared, to fulfill his own communications requirements.

(d) No person operating a station in this service shall knowingly interfere with or interrupt communications of other stations which involve the immediate safety of life or the immediate protection of property.

(e) All communications, regardless of their nature, shall be restricted to the minimum practicable transmission time.

(f) Except in the case of intercommunication between units of the same station, or in the case of communications involving the immediate safety of life, the immediate protection of property, or civil defense communications as provided in § 95.121, the transmission of any Class D station or any exchange of communications between two or more such stations shall not exceed five consecutive minutes and shall be followed by a silent period of at least two minutes in order to provide other stations an opportunity to use the frequency or frequencies involved; during this silent period the station(s) originally transmitting or communicating shall monitor all frequencies involved before any further transmissions are made.

(g) Except for brief test transmissions as provided in paragraph (j) of this section, all transmissions from a Class D station licensed in this service shall be addressed to specific persons or stations within the direct groundwave coverage range. Any communication which depends primarily upon skywave reflection or any communication or transmission designed to elicit a response from random or unknown stations (such as by use of the general call "CQ" or by some similar procedure) is prohibited except in cases of emergency involving the health or safety of individuals, the protection of property, or civil defense operation as provided in § 95.121.

(h) Except for brief test transmissions as provided in paragraph (j) of this section, a citizens radio station which is used for the purpose of communication shall not emit a carrier wave except when actual communications are being transmitted.

(i) Except as provided in paragraph (j) of this section, a citizens radio station which is used to control remote objects or devices by means of radio, or to remotely actuate devices which are used as a means of attracting attention, shall not be operated in a manner which involves the radiation of energy except when actual control signals are being transmitted.

(j) A citizens radio station may transmit a brief test signal, either with or without modulation as appropriate, when necessary for tests or adjustments of the station equipment. In addition, a citizens radio station may transmit a continuous carrier, without being simultaneously modulated by any form of communication or signal, while such station is actually being used to control model aircraft in flight by means of interrupted tone modulation of its carrier.

(k) The licensee of any station in this service may, during a period of emergency in which normal communication facilities are disrupted or inadequate as a result of hurricane, flood, earthquake, enemy action, or similar disaster, utilize such station for emergency communications without regard to the provisions of paragraphs (a), (c), (d), (f), and (g) of this section, subject to the following conditions:

(1) As soon as possible after the beginning of such emergency use, notice shall be sent to the Commission in Washington, D.C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the emergency and the use to which the station is being put;

(2) The emergency use of the station shall be discontinued as soon as substantially normal communication facilities are again available, and the Commission in Washington, D.C., and the Engineer in Charge, shall be notified immediately when such special use of the station is terminated; and

(3) The Commission may at any time order discontinuance of such special use of the authorized facilities.

§ 95.87 Station identification.

The registered serial number appearing on each citizens radio station license shall be the call sign assigned to such station. A citizens radio station shall transmit its call sign at the beginning and at the termination of all communications as well as at least once every ten minutes during every transmission of more than ten minutes' duration: *Provided,* That, in the case of stations conducting an exchange of several transmissions in sequence with each transmission less than three minutes' duration, the call sign of the communicating stations need be transmitted only once every ten minutes of operation. Stations operated solely for the radio control of remote objects or devices, or to remotely actuate devices which are used solely as a means of attracting attention, are not required to identify their transmissions except upon specific instructions of the Commission.

§ 95.91 Remote control.

A Class A citizens radio base or fixed station may be authorized to be used or operated by remote control from another fixed location or from mobile units: *Provided,* That adequate means are available to enable the person using or operating the station to render the transmitting equipment inoperative from the remote control position or positions should improper operation occur. The authority for such remote control shall be shown on the station authorization.

§ 95.93 Suspension of transmissions required.

The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the rules in this part until such deviation is corrected.

§ 95.95 Operator requirements.

(a) Except for stations using manually operated telegraphy transmitting by any type of the Morse Code, no operator license is required for the operation of a citizens radio station during the course of normal rendition of service.

(b) Stations using manually operated telegraphy transmitting by any type of the Morse Code may, during the course of normal rendition of service, be operated only by the holders of either a Radiotelegraph Third Class Operator Permit or a higher class of radiotelegraph operator license (except the holders of Temporary Limited Radiotelegraph Second Class Operator Licenses).

(c) Except as provided in paragraph (d) of this section, all transmitter adjustments or tests while radiating energy during or coincident with the construction, installation, servicing, or maintenance of a radio station in this service, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission employed, and such person shall be responsible for the proper functioning of the station equipment at the conclusion of such adjustments or tests.

(d) In the case of Class C or Class D stations in this service, no commercial radio operator license is required to be held by the person performing transmitter adjustments or tests during or coincident with the construction, installation, servicing, or maintenance of such stations: *Provided,* That there is compliance with all of the following conditions:

(1) The transmitting equipment shall be crystal-controlled with a crystal capable of maintaining the station frequency within the prescribed tolerance;

(2) The transmitting equipment either shall have been factory-assembled or shall have been provided in kit form by a manufacturer who provided all components together with full and detailed instructions for their assembly by nonfactory personnel;

(3) The frequency determining elements of the transmitter, including the crystal(s) and all other components of

the crystal oscillator circuit, shall have been pre-assembled by the manufacturer, pre-tuned to a specific available frequency, and sealed by the manufacturer so that replacement of any component or any adjustment which might cause off-frequency operation cannot be made without breaking such seal and thereby voiding the certification of the manufacturer required by this paragraph;

(4) The transmitting equipment shall have been so designed that none of the transmitter adjustments or tests normally performed during or coincident with the installation, servicing, or maintenance of the station, or during the normal rendition of the service of the station, or during the final assembly of kits or partially pre-assembled units, may reasonably be expected to result in off-frequency operation, excessive plate input power, over-modulation, or excessive harmonics or other spurious emissions; and

(5) The manufacturer of the transmitting equipment or of the kit from which the transmitting equipment is assembled shall have certified in writing to the purchaser of the equipment (and to the Commission upon request) that the equipment has been designed, manufactured and furnished in accordance with the specifications contained in the foregoing subparagraphs of this paragraph:

And provided further, That, notwithstanding the foregoing provisions of this paragraph, whenever the transmitting equipment of a station is found operating contrary to any of the technical regulations contained in Subpart C of this part, all transmitter adjustments or tests while radiating energy during or coincident with the servicing of that equipment for the purpose of restoring compliance with those regulations shall be made by or under the immediate supervision and responsibility of a person holding a first- or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission employed, and such person shall be responsible for the proper functioning of the station equipment at the conclusion of such adjustments or tests.

(e) The manufacturer's certification concerning design and construction features of Class C or Class D station transmitting equipment, as required if the provisions of paragraph (d) of this section are invoked, may be specific as to a particular unit of transmitting equipment or general as to a group or model of such equipment, and may be in any form adequate to assure the purchaser of the equipment or the Commission that the conditions described in that paragraph have been fulfilled.

§ 95.101 Posting station licenses and transmitter identification cards or plates.

(a) The current authorization for each station operated at a fixed location shall be posted at a conspicuous place at the principal fixed location from which such station is controlled, and a photocopy of such authorization shall be posted at all other fixed locations from which the station is controlled. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address shall be affixed, readily visible for inspection, to each transmitter operated at a fixed location when such transmitter is not in view of, or is not readily accessible to, the operator of at least one of the locations at which the station authorization or a photocopy thereof is required to be posted.

(b) The current authorization for each station operated as a mobile station shall be retained as a permanent part of the station records, but need not be posted. In addition, an executed Transmitter Identification Card (FCC Form 452–C) or a plate of metal or other durable substance, legibly indicating the call sign and the licensee's name and address, shall be posted, readily visible for inspection, to each of such transmitters: *Provided*, That, if the transmitter is not in view of the location from which it is controlled, or is not readily accessible for inspection, then such card or plate shall be affixed to the control equipment at the transmitter operating position or posted adjacent thereto.

§ 95.103 Inspection of stations.

All stations and records of stations in the Citizens Radio Service shall be made available for inspection upon request of an authorized representative of the Commission made to the licensee or to his representative.

§ 95.105 Inspection and maintenance of tower marking and associated control equipment.

The licensee of any radio station which has an antenna structure required to be painted or illuminated pursuant to the provisions of section 303 (q) of the Communications Act of 1934, as amended, and/or Part 17 of this chapter, shall operate and maintain the tower marking and associated control equipment in accordance with the following:

(a) The tower lights shall be observed at least once each 24 hours, either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or, alternatively, there shall be provided and properly maintained an automatic alarm system designed to detect any failure of the tower lights and to provide indication of such failure to the licensee.

(b) Any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within thirty minutes, regardless of the cause of such failure, shall be reported immediately by telephone or telegraph to the nearest Air Traffic Communications Station or office of the Federal Aviation Agency. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(c) All automatic or mechanical control devices, indicators, and alarm systems associated with the tower lights shall be inspected at intervals not to exceed three months, to insure that such apparatus is functioning properly.

(d) All lighting shall be exhibited from sunset to sunrise unless otherwise specified in the instrument of station authorization.

(e) A sufficient supply of spare lamps shall be maintained for immediate replacement purposes at all times.

§ 95.111 Answers to notices of violations.

(a) Any licensee who appears to have violated any provision of the Communications Act or any provision of this chapter shall be served with a written notice calling the facts to his attention and requesting a statement concerning the matter. FCC Form 793 may be used for this purpose.

(b) Within 10 days from receipt of notice or such other period as may be specified, the licensee shall send a written answer, in duplicate, direct to the office of the Commission originating the official notice. If an answer cannot be sent nor an acknowledgment made within such period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay.

(c) The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. If the notice relates to violations that may be due to the physical or electrical characteristics of transmitting apparatus, the answer shall state fully what steps, if any, have been taken to prevent future violations, and, if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and the promised date of delivery. If the installation of such apparatus requires a construction permit, the file number of the application shall be given, or if a file number has not been assigned by the Commission, such identification shall be given as will permit ready identification of the application. If the notice of violation relates to lack of attention to or improper operation of the transmitter, the name and license number of the operator in charge shall be given.

§ 95.113 Recording of tower light inspections.

When a station in this service has an antenna structure which is required to be illuminated, appropriate entries shall be made in the station records, and retained for a period of at least one year, as follows:

(a) The time the tower lights are turned on and off each day, if manually controlled.

(b) The time the daily check of proper operation of the tower lights was made.

(c) In the event of any observed or otherwise known failure of a tower light:

(1) Nature of such failure.

(2) Date and time the failure was observed or otherwise noted.

(3) Date, time, and nature of the adjustments, repairs, or replacements made.

(4) Identification of the Flight Service Station (or office of the Federal Aviation Agency) notified of the failure of any code or rotating beacon light not corrected within thirty minutes, and the date and time such notice was given.

(5) Date and time notice was given to the Flight Service Station (or office of the Federal Aviation Agency) that the required illumination was resumed.

(d) Upon completion of the three-month periodic inspection required by § 95.105(c):

(1) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators, and alarm systems.

(2) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

§ 95.115 False signals.

No person shall transmit false or deceptive signals or communications by radio, or identify the station he is using or operating by means of a call sign or signal which has not been assigned by proper authority to that station, or refuse to properly identify himself and the radio station he is using or operating when such identification is possible under the conditions of use or operation in effect at the time such identification is requested.

§ 95.117 Station location.

(a) The specific location of each Class A base station and each Class A fixed station and the specific area of operation of each Class A mobile station shall be indicated in the application for license. Authorization will not be granted for the operation of a base station or a fixed station in this service at unspecified temporary fixed locations.

(b) A Class A mobile station authorized in this service may be used or operated anywhere in the United States subject to the provisions of paragraph (d) of this section: *Provided*, That when the area of operation is changed for a period exceeding seven days, the following procedure shall be observed:

(1) When the change of area of operation occurs inside the same Radio District, the Engineer in Charge of the Radio District involved and the Commission's office, Washington, D.C., 20554, shall be notified.

(2) When the station is moved from one Radio District to another, the Engineers in Charge of the two Radio Districts involved and the Commission's office, Washington, D.C., 20554, shall be notified.

(c) A Class B, Class C, or Class D mobile station may be used or operated anywhere in the United States subject to the provisions of paragraph (d) of this section.

(d) A mobile station authorized in this service may be used or operated on any craft or vehicle: *Provided*, That when such craft or vehicle is outside the territorial limits of the United States, the station, its operation, and its operator shall be subject to the governing provisions of any treaty concerning telecommunications to which the United States is a party, and when within the territorial limits of any foreign country, the station shall be subject also to such laws and regulations of that country as may be applicable.

§ 95.119 Control of transmitters.

All transmitters licensed in the Citizens Radio Service must at all times be under the control of the licensee. The licensee shall not transfer, assign, or dispose of, in any manner, directly or indirectly, the operating authority under his station license.

§ 95.121 Civil defense communications.

A licensee of a station authorized under this part may use the licensed radio facilities for the transmission of messages relating to civil defense activities in connection with official tests or drills conducted by, or actual emergencies proclaimed by, the civil defense agency having jurisdiction over the area in which the station is located: *Provided*, That:

(a) The operation of the radio station shall be on a voluntary basis.

(b) [Reserved]

(c) Such communications are conducted under the direction of civil defense authorities.

(d) As soon as possible after the beginning of such use, the licensee shall send notice to the Commission in Washington, D. C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the communications being transmitted and the duration of the special use of the station. In addition, the Engineer in Charge shall be notified as soon as possible of any change in the nature of or termination of such use.

(e) In the event such use is to be a series of pre-planned tests or drills of the same or similar nature which are scheduled in advance for specific times or at certain intervals of time, the licensee may send a single notice to the Commission in Washington, D.C., and to the Engineer in Charge of the Radio District in which the station is located, stating the nature of the communications to be transmitted, the duration of each such test, and the times scheduled for such use. Notice shall likewise be given in the event of any change in the nature of or termination of any such series of tests.

(f) The Commission may, at any time, order the discontinuance of such special use of the authorized facilities.

PART 97—AMATEUR RADIO SERVICE

Subpart A—General

Subpart B—Amateur Operator and Station Licenses

Subpart C—Technical Standards

Subpart D—Operating Requirements and Procedures

Subpart E—Prohibited Practices and Administrative Sanctions

PROHIBITED TRANSMISSIONS AND PRACTICES

ADMINISTRATIVE SANCTIONS

Subpart F—Radio Amateur Civil Emergency Service (RACES)

GENERAL

ORGANIZATION

STATION AUTHORIZATIONS

TECHNICAL REQUIREMENTS

OPERATING REQUIREMENTS

USE OF STATIONS

APPENDICES

AUTHORITY: §§ 97.1 to 97.227 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General

§ 97.1 Basis and purpose.

The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur radio service through rules which provide for advancing skills in both the comunication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

(e) Continuation and extension of the amateur's unique ability to enhance international good will.

§ 97.3 Definitions.

(a) *Amateur service.* A radio service carried on by amateur stations.

(b) *Amateur operator.* A person interested in radio technique solely with a personal aim and without pecuniary interest, holding a valid license issued by the Federal Communications Commission authorizing him to operate licensed amateur stations.

(c) *Amateur station.* A station used by an amateur operator, and embracing all radio transmitting apparatus at a particular location used for amateur service and operated under a single instrument of authorization.

(d) *Amateur portable station.* An amateur station that is so constructed that it may conveniently be moved about from place to place for communication, but which is not operated while in motion.

(e) *Amateur mobile station.* An amateur station that is so constructed that it may conveniently be transferred to or from a mobile unit or from one such unit to another, and is ordinarily used while such mobile unit is in motion.

(f) *Amateur radio communication.* Radio communication between amateur stations solely with a personal aim and without pecuniary interest.

(g) *Remote control.* Control of transmitting equipment of an amateur station from an operating position other than one at which the transmitter is in view and immediately accessible, except that, direct mechanical control or direct electrical control by wired connections of an amateur transmitter from a point located on board any aircraft, vessel or vehicle on which such transmitter is located shall not be considered remote control within the meaning of this definition.

(h) *Antenna structure.* The radiating system, including its supporting structures, and any surmounting appurtenances.

(i) *Aircraft landing area.* Any locality, either on land or water, including airports and intermediate landing fields, which is used, or approved for use, for landing and take-off of aircraft whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for the receiving or discharging of passengers or cargo.

Subpart B—Amateur Operator and Station Licenses

OPERATOR LICENSES

§ 97.5 Classes of operator licenses.

Amateur extra class.
Advanced class (previously class A).
General class (previously class B).
Conditional class (previously class C).
Technician class.
Novice class.

§ 97.7 Privileges of operator licenses.

(a) *Amateur extra class.* All authorized amateur privileges including such additional privileges in both communication and technical phases of the art which the Commission may consider as appropriately limited to holders of this class of license.

(b) *Advanced class.* All amateur privileges except those which may be reserved to holders of the Amateur Extra Class license.

(c) *General and Conditional classes.* All authorized amateur privileges.

(d) *Technician Class.* All authorized amateur privileges in the amateur frequency bands 50 to 54 Mc/s, 145 to 147 Mc/s and in the amateur frequency bands above 220 Mc/s.

(e) *Novice class.* Those amateur privileges as designated and limited as follows:

(1) The d. c. plate power input to the vacuum tube or tubes supplying power to the antenna shall not exceed 75 watts.

(2) Only the following frequency bands and types of emission may be used, and the emissions of the transmitter must be crystal-controlled:

(i) 3700 to 3750 kc/s, radiotelegraphy using only type A1 emission.

(ii) 7150–7200 kc/s, radiotelegraphy using only type A1 emission.

(iii) 21.10 to 21.25 Mc/s, radiotelegraphy using only type A1 emission.

(iv) 145 to 147 Mc/s, radiotelegraphy or radiotelephony using types of emission as set forth in § 97.61.

§ 97.9 Eligibility for operator license.

Persons are eligible to apply for the various classes of amateur operator licenses as follows:

(a) *Amateur extra class.* Any citizen of the United States who either (1) at any time prior to receipt of his application by the Commission has held for a period of two years or more a valid amateur operator license issued by the

Federal Communications Commission, excluding licenses of the Novice and Technician Classes, or (2) submits evidence of having held a valid amateur radio station or operator license issued by any agency of the United States Government during or prior to April, 1917.

(b) *Advanced class.* New Advanced Class amateur operator licenses will not be issued; however, Advanced Class (or Class A) licenses may continue to be renewed as set forth in § 97.13.

(c) *General class.* Any citizen of the United States.

(d) *Conditional Class.* Any citizen of the United States:

(1) Whose actual residence and amateur station location are more than 75 miles airline distance from the nearest location at which examinations are held at intervals of not more than 3 months for General Class amateur operator license.

(2) Who is shown by physician's certificate to be unable to appear for examination because of protracted disability

(3) Who is shown by certificate of the commanding officer to be in the armed forces of the United States at an Army, Navy, Air Force or Coast Guard station and, for that reason, to be unable to appear for examination at the time and place designated by the Commission.

(4) Who furnishes sufficient evidence, at the time of filing, of temporary residence for a continuous period of at least 12 months outside the continental limits of the United States, its territories or possessions, irrespective of other provisions of this paragraph.

(e) *Technician class.* Any citizen of the United States.

(f) *Novice class.* Any citizen of the United States except a former holder of an amateur license of any class issued by any agency of the United States Government, military or civilian.

§ 97.11 Application for operator license.

(a) An application (FCC Form 610) for a new operator license, including an application for change in operating privileges, which will require an examination supervised by Commission personnel, shall be submitted to the district field office of the Commission which exercises jurisdiction over the area in which the applicant resides. Upon receipt of the application, and any necessary filing fee (see § 97.55), the district field office will make arrangements for conducting the required examination either at its location or at an examination point within its area.

(b) An application (FCC Form 610) for a new operator license, including an application for change in operating privileges, which requests an examination supervised by a volunteer examiner under the provisions of § 97.29(b), shall be submitted to the Commission's office at Gettysburg, Pennsylvania, 17325. The application shall be accompanied by any necessary filing fee (see § 97.55) and by a request for the written examination material (see § 97.29(b)).

(c) An application (FCC Form 610) for renewal and/or modification of license when no change in operating privileges is involved shall be submitted, together with any necessary filing fee (see § 97.55), to the Commission's office at Gettysburg, Pennsylvania, 17325.

§ 97.13 Renewal or modification of operator license.

(a) An amateur operator license, except the Novice Class, may be renewed upon proper application in which it is stated that the applicant has lawfully accumulated, at an amateur station licensed by the Commission, a minimum total of either 2 hours operating time during the last 3 months or 5 hours operating time during the last 12 months of the license term. Such operating time, for the purpose of renewal, shall be counted as the total of all that time between the entries in the station log showing the beginning and end of transmissions as required in § 97.103(a), both during single transmissions and during a sequence of transmissions. The application shall, in addition to the foregoing, include a statement that the applicant can send by hand key, i. e., straight key or any other type of hand operated key such as a semi-automatic or electronic key, and receive by ear, in plain language, messages in the International Morse Code at a speed of not less than that which is required in qualifying for an original license of the class being renewed.

NOTE: Until further order of the Commission, the showing that the applicant actually operated an amateur radio station or stations for the periods of time specified in § 97.13 will not be required in cases where it is shown that the applicant was unable to conduct such operation because he was on active duty overseas in the armed forces of the United States or was duly enrolled as an employee of an agency of the Federal Government and in the course of such employment was on duty in a foreign country continuously during the last year of the license term: *Provided*, That any such employee of the Federal Government shall submit with his application for renewal of license a statement signed by his agency head, or the chief of the Bureau or Division in which he is employed attesting to such employment.

(b) The Novice Class license will not be renewed.

(c) The applicant shall qualify for a new license by examination if the requirements of this section are not fulfilled.

(d) Application for renewal and/or modification (change of address, etc.) of an amateur operator license shall be submitted on FCC Form 610 and shall be accompanied by the applicant's license. Unless otherwise directed by the Commission, each application for renewal of license shall be filed only during the last 60 days of the license term or within a period of grace of one year after the expiration date of such license. During this one year period of grace an expired license is not valid. A renewed license issued upon the basis of an application filed during the grace period will be dated currently and will not be backdated to the date of expiration of the license being renewed. In any case in which the licensee has, in accordance with the provisions of this chapter, made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined. In accordance with § 97.59(c), a license for modification only will be dated to expire on the same date as the license being modified.

OPERATOR LICENSE EXAMINATIONS

§ 97.19 When examination is required.

Examination is required for the issuance of a new amateur operator license, and for a change in class of operating privileges. Credit may be given, however, for certain elements of examination as provided in § 97.25.

§ 97.21 Examination elements.

Examinations for amateur operator privileges will comprise one or more of the following examination elements:

Element 1 (A): *Beginner's code test* Code test at five (5) words per minute.

Element 1 (B): *General code test.* Code test at thirteen (13) words per minute.

Element 1 (C): *Expert's code test.* Code test at twenty (20) words per minute.

Element 2: *Basic amateur practice.* Amateur radio operation and apparatus, including radiotelephone and radiotelegraph.

Element 3 (A): *Basic law.* Rules and regulations essential to beginners' operation, including sufficient elementary radio theory for the understanding of those rules.

Element 3 (B): *General regulations.* Provisions of treaties, statutes, and rules and regulations affecting all amateur stations and operators.

Element 4 (B): *Advanced amateur practice.* Advanced radio theory and operation as applicable to modern amateur techniques, including, but not limited to, radiotelephony, radiotelegraphy, and transmissions of energy for measurements and observations applied to propagation, for the radio control of remote objects and for similar experimental purposes.

§ 97.23 Examination requirements.

Applicants for original licenses will be required to pass examinations as follows:

(a) *Amateur extra class.* Elements 1 (C), 2, 3 (B) and 4 (B).

(b) *General class.* Elements 1(B), 2 and 3(B).

(c) *Conditional class.* Elements 1 (B), 2 and 3 (B).

(d) *Technician class.* Elements 1 (A), 2 and 3 (B).

(e) *Novice class.* Elements 1 (A) and 3 (A).

§ 97.25 Examination credit.

(a) An applicant for a higher class of amateur operator license who holds a valid amateur operator license issued upon the basis of an examination by the Commission will be required to pass only those elements of the higher class examination that were not included in the examination for the amateur license held when such application was filed. However, credit will not be allowed for licenses issued on the basis of an examination given under the provisions of § 97.29(b).

(b) An applicant for any class of amateur operator license, except the Extra Class, will be given credit for the telegraph code element if within five years prior to the receipt of his application by the Commission he held a commercial radiotelegraph operator license

or permit issued by the Federal Communications Commission.

(c) An applicant for Amateur Extra Class operator license will be given credit for examination elements 1 (C) and 4 (B) if he so requests and submits evidence of having held a valid amateur radio station or operator license issued by any agency of the United States Government during or prior to April 1917, and qualifies for or currently holds a valid amateur operator license of the General or Advanced Class.

(d) No examination credit, except as herein provided, shall be allowed on the basis of holding or having held any amateur or commercial operator license.

§ 97.27 Availability of Conditional Class license examinations.

The examinations for Conditional Class will be available only under one or more of the following conditions:

(a) If the applicant's actual residence and proposed amateur station location are more than 75 miles airline distance from the nearest location at which examinations are conducted by an authorized Commission employee or representative at intervals of not more than 3 months for amateur operator licenses.

(b) If the applicant is shown by physician's certificate to be unable to appear for examination because of protracted disability.

(c) If the applicant is shown by certificate of the commanding officer to be in the armed forces of the United States at an Army, Navy, Air Force, or Coast Guard station and, for that reason, to be unable to appear for examination at the time and place designated by the Commission.

(d) If the applicant demonstrates by sufficient evidence that his temporary residence is for a continuous period of at least 12 months outside the continental limits of the United States, its territories or possessions, irrespective of other provisions of this section.

§ 97.29 Manner of conducting examinations.

(a) The examinations for Extra and General Classes of amateur operator licenses will be conducted by an authorized Commission employee or representative at locations and at times specified by the Commission.

(b) Unless otherwise prescribed by the Commission, an examination for the Conditional, Technician, or Novice Class license will be conducted and supervised by a volunteer examiner selected by the applicant. A volunteer examiner shall be at least 21 years of age and shall be the holder of an Extra, Advanced, or General Class Amateur Radio operator license, or shall hold a Commercial radiotelegraph operator license issued by the Commission, or shall be employed in the service of the United States as the operator of a manually operated radiotelegraph station. The written portion of the examination shall be obtained, supervised, and submitted in accordance with the following procedure:

(1) Within ten days after passing the required code test, an applicant shall submit an application (FCC Form 610), together with any filing fee prescribed by § 97.55, to the Commission's office at Gettysburg, Pennsylvania, 17325. The application shall include a written request from the volunteer examiner for the appropriate examination papers. The examiner's written request shall include (i) the names and permanent addresses of the examiner and the applicant, (ii) a description of the examiner's qualifications to administer the examination, (iii) the examiner's statement that the applicant has passed the code test for the class of license involved under his supervision within the ten days prior to submission of the request, and (iv) the examiner's written signature. Examination papers will be forwarded only to the volunteer examiner.

NOTE: When the applicant is entitled to examination credit for the code test pursuant to § 97.25(b), an application may be submitted without regard to the ten day limitation. The examiner's request should then state that a code test was not administered for that reason. The applicant should furnish details as to the class, number, and expiration date of the Commercial radiotelegraph operator license involved.

(2) The volunteer examiner shall be responsible for the proper conduct and necessary supervision of the examination. Administration of the examination shall be in accordance with the instructions included with the examination papers and as prescribed in §§ 97.29(c) and (d), 97.31, and 97.33.

(3) The examination papers, either completed or unopened in the event the examination is not taken, shall be returned by the volunteer examiner to the Commission's office at Gettysburg, Pennsylvania within the time prescribed (normally not later than 20 days after the date when the papers are forwarded by the Commission).

(c) The code test required of an applicant for amateur radio operator license, in accordance with the provisions of §§ 97.21 and 97.23 shall determine the applicant's ability to transmit by hand key (straight key, or if supplied by the applicant, any other type of hand operated key such as a semi-automatic or electronic key) and to receive by ear, in plain language, messages in the International Morse Code at not less than the prescribed speed, free from omission or other error for a continuous period of at least 1 minute during a test period of 5 minutes counting five characters to the word, each numeral or punctuation mark counting as two characters.

(d) All written portions of the examinations for amateur operator privileges shall be completed by the applicant in legible handwriting or hand printing, and diagrams shall be drawn by hand, by means of either pen and ink or pencil. Whenever the applicant's signature is required, his normal signature shall be used. Applicants unable to comply with these requirements, because of physical disability, may dictate their answers to the examination questions and the receiving code test and if unable to draw required diagrams, may dictate a detailed description essentially equivalent. If the examination or any part thereof is dictated, the examiner shall certify the nature of the applicant's disability and the name and address of the person(s) taking and transcribing the applicant's dictation.

§ 97.31 Grading of examinations.

(a) Code tests for sending and receiving are graded separately. Failure to pass the required code test for either sending or receiving will terminate the examination.

(b) Seventy-four percent is the passing grade for written examinations. For the purpose of grading, all elements, other than element 4 (B), required in qualifying for a particular license will be considered a single examination, and element 4 (B), will be considered as a separate examination. All written examinations will be graded only by Commission personnel.

§ 97.33 Eligibility for reexamination.

An applicant who fails examination for an amateur operator license may not take another examination for the same or a higher class amateur operator license within 30 days, except that this limitation shall not apply to an examination for a General Class license following an examination conducted by a volunteer examiner for a Novice, Technician, or Conditional Class license.

§ 97.35 Additional examination for holders of Novice, Technician, or Conditional Class operator licenses.

(a) The Commission may require a licensee holding a Novice, Technician, or Conditional Class of operator license to appear for a Commission-supervised license examination at a location designated by the Commission. If the licensee fails to appear for this examination when directed to do so, or fails to pass such examination, the Novice, Technician, or Conditional Class operator license previously issued shall be subject to cancellation, and upon cancellation, a new license will not be issued for the same class operator license as that cancelled.

(b) Whenever the holder of a Novice, Technician, or Conditional Class amateur operator license is required by the Commission to restrict the operation of his amateur station, in accordance with the provisions of § 97.131, § 97.133, or § 97.135, the necessity for such restriction shall be considered sufficient grounds to require the holder of the Novice, Technician, or Conditional Class license to appear for a Commission-supervised examination.

(c) A holder of a Conditional license obtained on the basis of an examination under the provisions of § 97.29(b) is not required to be re-examined when changing residence and station location to within a regular examination area, nor when a new examination location is established within 75 miles of such licensee's residence and station location.

STATION LICENSES

§ 97.37 General eligibility for station license.

A license for an amateur station will be issued in response to proper application therefor to a licensed amateur operator who has made a satisfactory showing of control of the transmitting station for which license is desired and

of control of the specific premises upon which all of the station apparatus is to be located, at a designated fixed location. An amateur station license may also be issued to an individual, not a licensed amateur operator (other than an alien or a representative of an alien or of a foreign government), who is in charge of a proposed amateur station for recreation under military auspices (only of the Armed Forces of the United States) which is to be located in approved public quarters but not operated by the United States Government.

§ 97.39 Eligibility of corporations or organizations to hold station license.

An amateur station license will not be issued to a school, company, corporation, association, or other organization, nor for its use, except that in the case of a bona fide amateur radio organization or society, a station license may be issued to a licensed amateur operator, other than the holder of a Novice Class license, as trustee for such society.

§ 97.41 Application for station license.

(a) Each application for a station license shall be made in writing on FCC Form 610.

(b) One application and all papers incorporated therein and made a part thereof shall be submitted for each amateur station license. If the application is for station license only, it shall be filed directly with the Commission at its Gettysburg, Pa., office. If the application also contains application for any class of amateur operator license, it shall be filed in accordance with the provisions of § 97.11.

§ 97.43 Location of station.

(a) Every amateur station shall have a fixed transmitter location. Only one fixed transmitter location will be authorized and will be designated on the license for each amateur station, except that when remote control is authorized, the location of the remote control position as well as the location of the remotely controlled transmitter shall be considered as fixed transmitter locations and will be so designated on the station license. Unless remote control of the transmitting apparatus is authorized, such apparatus shall be operated only by a duly licensed amateur radio operator present at the location of such apparatus.

(b) Authority for operation of an amateur station with the licensed operator on duty at a specific remote control point in lieu of the remote transmitter location may be granted upon filing an application for a modified station license on FCC Form 610, provided that the following conditions are met:

(1) The remote control point as well as the remotely controlled transmitter, shall be located on premises controlled by the licensee.

(2) The remotely controlled transmitter shall be so installed and protected that it is inaccessible to other than duly authorized persons.

(3) In addition to the requirements of § 97.85 a photocopy of the amateur station license shall be posted in a conspicuous place at the location of the remotely controlled transmitter.

(4) Means shall be provided at the control point to permit the continuous monitoring of the emissions of the remotely controlled transmitter, and it shall be continuously monitored when in operation.

(5) Means shall be provided at the remote control point immediately to suspend the radiation of the transmitter when there is any deviation from the terms of the station license or from the Amateur Radio Service rules.

(6) In the event that operation of an amateur transmitter from a remote control point by radio is desired, an application for a modified station license on FCC Form 610 should be submitted with a letter requesting authority to operate in such a manner stating that the controlling transmitter at the remote control location will operate within amateur frequency bands 220 megacycles or higher and that there will be full compliance with subparagraphs (1) through (5) of this paragraph. Supplemental statements and diagrams should accompany the application and show how radio remote control will be accomplished and what means will be employed to prevent unauthorized operation of the transmitter by signals other than those from the controlling unit. There should be included complete data on control channels, relays and functions of each, directional antenna design for the transmitter and receiver in the control circuit and means employed for turning the main transmitter on and off from the remote control location.

(c) An amateur transmitter may be operated from a remote control point in lieu of the remote transmitter location without special authorization by the Commission when there is direct mechanical control or direct electrical control by wired connections of the transmitter from a point located in the same or closely adjoining building or structure provided there is full compliance with the conditions set forth in paragraphs (b) (1) through (5) of this section.

§ 97.45 Limitations on antenna structures.

(a) No new antenna structure shall be erected for use by any station in the Amateur Radio Service, and no change shall be made in any existing antenna structure used or intended to be used by any station in the Amateur Radio Service so as to increase its overall height above ground level, without prior approval by the Commission, in any case when either (1) the antenna structure proposed to be erected will exceed an overall height of 170 feet above ground level, except where the antenna is mounted on an existing man-made structure other than an antenna structure and does not increase the overall height of such man-made structure by more than 20 feet, or (2) the antenna structure proposed to be erected will exceed an overall height of one foot above the established airport (landing area) elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on an existing man-made structure other than an antenna structure or natural formation and does not increase the overall height of such man-made structure or natural formation by more than 20 feet as a result of such mounting. Application for Commission approval, when such approval is required, shall be submitted on FCC Form 401–A (revised), in triplicate.

(b) In cases where FCC Form 401–A (revised) is required to be filed, further details as to whether an aeronautical study and/or obstruction marking may be required, and specifications for obstruction marking when required, may be obtained from Part 17 of this chapter, "Construction, Marking and Lighting of Antenna Structures." Information regarding requirements as to inspection of obstruction marking, recording of information regarding such inspection, and maintenance of antenna structures is also contained in Part 17 of this chapter.

§ 97.47 Renewal and/or modification of station license.

Application for renewal and/or modification (change of address, etc.) of any station license shall be submitted on FCC Form 610. In every case the application should be accompanied by the applicant's license. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term or within a period of grace of one year after the expiration date of such license. During this one-year period of grace, an expired license is not valid. A renewed license issued upon the basis of an application filed during the grace period will be dated currently and will not be backdated to the date of expiration of the license being renewed. In any case in which the licensee has, in accordance with the provisions of this chapter, made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined. In accordance with § 97.59(c), a modified license will be dated to expire on the same date as the license being modified.

§ 97.49 Commission modification of station license.

(a) Whenever the Commission shall determine that public interest, convenience, and necessity would be served, or any treaty ratified by the United States will be more fully complied with, by the modification of any radio station license either for a limited time, or for the duration of the term thereof, it shall issue an order for such licensee to show cause why such license should not be modified.

(b) Such order to show cause shall contain a statement of the grounds and reasons for such proposed modification, and shall specify wherein the said license is required to be modified. It shall require the licensee against whom it is directed to appear at a place and time therein named, in no event to be less than 30 days from the date of receipt of the order to show cause why the proposed modification should not be made and the order of modification issued.

(c) If the licensee against whom the order to show cause is directed does not appear at the time and place provided in said order, a final order of modification shall issue forthwith.

Call Signs

§ 97.51 Assignment of call signs.

(a) The call signs of amateur stations will be assigned systematically by the Commission with the following exceptions:

(1) A specific unassigned call sign may be reassigned to the most recent holder thereof;

(2) A specific unassigned call sign may be assigned to a previous holder if not under license during the past 5 years;

(3) A specific unassigned call sign may be assigned to an amateur organization in memoriam to a deceased member and former holder thereof;

(4) A specific call sign may be temporarily assigned to a station connected with an event, or events, of general public interest;

(5) An unassigned "two-letter call sign" (a call sign having two letters following the numeral) may be assigned to a previous holder of a two-letter call sign the prefix of which consisted of not more than a single letter.

(b) An amateur call sign will consist of a sequence of one or two letters, a numeral designating the call sign area, and two or three letters. The call sign areas are as follows:

No.
1. Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
2. New York, New Jersey.
3. Pennsylvania, Delaware, Maryland, District of Columbia.
4. Virginia, North and South Carolina, Georgia, Florida, Alabama, Tennessee, Kentucky, Puerto Rico and Virgin Islands.
5. Mississippi, Louisiana, Arkansas, Oklahoma, Texas, New Mexico.
6. California, Hawaii and Pacific possessions except those included in area 7.
7. Oregon, Washington, Idaho, Montana, Wyoming, Arizona, Nevada, Utah, Alaska and adjacent islands.
8. Michigan, Ohio, West Virginia.
9. Wisconsin, Illinois, Indiana.
0. Colorado, Nebraska, North and South Dakota, Kansas, Minnesota, Iowa, Missouri.

Fees

§ 97.53 Payment of fees.

(a) Each formal application for which a fee is prescribed in § 97.55 must be accompanied by a remittance in the full amount of the fee. In no case will an application for which a fee is prescribed be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received, or for which an insufficient amount is received, may be returned to the applicant.

(b) Fee payments accompanying applications submitted to the Commission should be in the form of a check or money order payable to the Federal Communications Commission. The Commission will not be responsible for cash sent through the mails. All fees collected will be paid into the United States Treasury as miscellaneous receipts in accordance with the provisions of Title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140).

(c) Receipts will be furnished upon request in the case of payments made in person, but no receipts will be issued for payments sent through the mails.

(d) All fees will be charged irrespective of the Commission's disposition of the application. Applications returned to applicants for additional information or corrections will not require an additional fee when resubmitted. Refunds will be made only in the case of payments in excess of the fee prescribed in this subpart.

§ 97.55 Schedule of fees.

(a) Except as provided in paragraph (b) of this section, applications filed on or after January 1, 1964, under this part must be accompanied by the fees prescribed below:

Applications for initial license, including new class of operator license, and applications for renewal of license	$4
Applications for modification of license without renewal	2
Applications for a combination of modification and renewal of license	4
Application for a specific call sign pursuant to § 97.51(a)	20

Note: Reassignment of a specific call sign held under an expired license is not subject to the $20 fee if an application for renewal is filed within 1 year after the expiration date of the license.

(b) Fees are not required for the following types of amateur applications:

Applications for Novice license.
Applications for a license for a station for recreation under military auspices.
Applications filed in the Radio Amateur Civil Emergency Service.
Informal applications for special temporary authority.

Duplicate Licenses and License Term

§ 97.57 Duplicate license.

Any licensee requesting a duplicate license to replace an original which has been lost, mutilated, or destroyed, shall submit a statement setting forth the facts regarding the manner in which the original license was lost, mutilated, or destroyed. If, subsequent to receipt by the licensee of the duplicate license, the original license is found, either the duplicate or the original license shall be returned immediately to the Commission.

§ 97.59 License term.

(a) Amateur operator licenses are normally valid for a period of 5 years from the date of issuance of a new or renewed license, except the Novice Class which is normally valid for a period of 1 year from the date of issuance.

(b) The license for an amateur station is normally valid for a period of 5 years from the date of issuance of a new or renewed license except that an amateur station license issued to the holder of a Novice Class amateur operator license is normally valid for a period of 1 year from the date of issuance.

(c) A duplicate license or a modified license which is not being renewed shall bear the same expiration date as the license for which it is a modification or duplicate.

Subpart C—Technical Standards

§ 97.61 Authorized frequencies and types of emissions.

(a) Subject to the limitations and restrictions set forth in paragraph (b) of this section and in § 97.65, the following frequency bands and types of emissions are allocated and available for amateur station operation:

Band	Emission(s)	Limitations
kc/s		
1800 to 2000	A1, A3	1, 2, 3, 4
3500 to 4000	A1, A3, F1, F3	5
7000 to 7300	A1, A3, F1, F3	6
14000 to 14350	A1, A3, F1, F3	7
Mc/s		
21.0 to 21.45	A1, A3, F1, F3	8
28.0 to 29.7	A1, A3, F1, F3	9
50.0 to 54.0	AØ, A1, A2, A3, A4, FØ, F1, F2, F3.	10
144 to 148	AØ, A1, A2, A3, A4, FØ, F1, F2, F3.	11
220 to 225	AØ, A1, A2, A3, A4, FØ, F1, F2, F3, F4.	12, 13
420 to 450	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5.	12, 14
1215 to 1300	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5.	12
2300 to 2450	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5, P.	12, 15
3300 to 3500	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5, P.	12
5650 to 5925	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5, P.	12, 15
10000 to 10500	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5.	12
21000 to 22000	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5, P.	
Above 40000	AØ, A1, A2, A3, A4, A5, FØ, F1, F2, F3, F4, F5, P.	

(b) Explanation of the limitations appearing in the frequency tabulation of paragraph (a) of this section:

(1) Use of this band is on a shared basis with the Loran–A system of radionavigation. The amateur service may use, in any area, whichever bands, 1800–1825, 1875–1900 or 1900–1925, 1975–2000 kc/s, are not required for Loran–A in that area. The use of these frequencies by the amateur service shall not be a bar to the expansion of the radionavigation (Loran–A) service;

(2) The use of these frequencies by stations in the amateur service shall not cause harmful interference to the Loran–A system of radionavigation. If an amateur station causes such interference, the station licensee shall, as directed by the Commission, immediately cease operation on the frequencies involved.

(3) Amateur operation shall be limited to:

Area	Maximum DC plate input power in watts							
	1800–1825 kc/s		1875–1900 kc/s		1900–1925 kc/s		1975–2000 kc/s	
	Day	Night	Day	Night	Day	Night	Day	Night
Alabama	200	50	No operation		No operation		100	25
Alaska	200	50	200	50	No operation		No operation	
Arizona	100	25	100	25	100	25	500	100
Arkansas	200	50	No operation		No operation		200	50
California	No operation		No operation		200	50	500	200
Colorado	200	50	100	25	100	25	500	100
Connecticut	200	50	100	25	No operation		No operation	
Delaware	200	50	100	25	No operation		No operation	
District of Columbia	200	50	100	25	No operation		No operation	
Florida	100	25	No operation		No operation		No operation	
Georgia	100	25	No operation		No operation		No operation	
Hawaii	No operation		No operation		100	25	100	25
Idaho	100	25	200	50	200	50	500	100
Illinois	200	50	100	25	100	25	200	50
Indiana	200	50	100	25	100	25	100	25
Iowa	500	100	100	25	100	25	200	50
Kansas	500	100	100	25	100	25	200	50
Kentucky	200	50	100	25	100	25	100	25
Louisiana	200	50	No operation		No operation		100	25
Maine	500	100	100	25	No operation		No operation	
Maryland	200	50	100	25	No operation		No operation	
Massachusetts	500	100	100	25	No operation		No operation	
Michigan:								
(Upper Peninsula)	500	100	100	25	100	25	200	50
(Lower Peninsula)	500	100	100	25	100	25	100	25
Minnesota	500	100	100	25	100	25	200	50
Mississippi	200	50	No operation		No operation		100	25
Missouri	200	50	100	25	100	25	200	50
Montana:								
(West of 111° W.)	100	25	200	50	200	50	500	100
(East of 111° W.)	200	50	200	50	200	50	500	100
Nebraska	500	100	100	25	100	25	500	100
Nevada	100	25	200	50	200	50	500	200
New Hampshire	500	100	100	25	No operation		No operation	
New Jersey	200	50	100	25	No operation		No operation	
New Mexico	200	50	100	25	100	25	500	100
New York:								
(North of 42° N.)	500	100	100	25	No operation		No operation	
(South of 42° N.)	200	50	100	25	No operation		No operation	
North Carolina	200	50	No operation		No operation		No operation	
North Dakota	500	100	200	50	200	50	500	100
Ohio	200	50	100	25	100	25	100	25
Oklahoma	500	100	No operation		No operation		200	50
Oregon	No operation		No operation		200	50	500	100
Pennsylvania	200	50	100	25	No operation		No operation	
Rhode Island	200	50	100	25	No operation		No operation	
South Carolina	100	25	No operation		No operation		No operation	
South Dakota	500	100	100	25	100	25	500	100
Tennessee	200	50	No operation		No operation		100	25
Texas:								
(East of 103° W.)	500	100	No operation		No operation		200	50
(West of 103° W.)	200	50	100	25	100	25	500	100
Utah	100	25	100	25	100	25	500	100
Vermont	500	100	100	25	No operation		No operation	
Virginia	200	50	100	25	No operation		No operation	
Washington	No operation		No operation		200	50	500	100
West Virginia	200	50	100	25	No operation		No operation	
Wisconsin	500	100	100	25	100	25	200	50
Wyoming	200	50	100	25	100	25	500	100
Puerto Rico	No operation		No operation		100	25	100	25
Virgin Islands	No operation		No operation		100	25	100	25
Swan Island	500	100	No operation		No operation		100	25
Serrana Bank	500	100	No operation		No operation		100	25
Roncador Key	500	100	No operation		No operation		100	25
Navassa Island	No operation		No operation		No operation		100	25
Baker, Canton, Enderbury, Guam, Howland, Jarvis, Johnston, Midway and Palmyra Islands	No operation		No operation		500	100	500	100
American Samoa	500	200	500	200	500	200	500	200
Wake Island	500	100	500	100	No operation		No operation	

(4) Subparagraphs (1), (2), and (3) of this paragraph shall be considered as temporary in the sense that they shall remain subject to cancellation or to revision, in whole or in part, by order of the Commission without hearing whenever the Commission shall deem such cancellation or revision to be necessary or desirable in the light of the priority within this band of the Loran–A system of radio-navigation.

(5) 3500 to 4000 kc/s, type A1 emission; 3500 to 3800 kc/s, type F1 emission; 3800 to 4000 kc/s, type A3 emission and narrow band frequency or phase modulation for radiotelephony; except that frequencies 3900 to 4000 kc/s are not available to stations located within the following United States possessions in Region 3, as defined in the Geneva 1959 Radio Regulations: Baker, Canton, Enderbury, Guam, Howland, Jarvis, Palmyra, American Samoa, and Wake Islands.

(6) 7000 to 7300 kc/s, type A1 emission; 7000 to 7200 kc/s, type F1 emission; 7200 to 7300 kc/s, type A3 emission or narrow band frequency or phase modulation for radiotelephony.

(7) 14,000 to 14,350 kc/s, type A1 emission; 14,000 to 14,200 kc/s, type F1 emission; 14,200 to 14,350 kc/s, type A3 emission or narrow band frequency or phase modulation for radiotelephony.

(8) 21.00 to 21.45 Mc/s, type A1 emission; 21.00 to 21.25 Mc/s, type F1 emission; 21.25 to 21.45 Mc/s, type A3 emission and narrow band frequency or phase modulation for telephony.

(9) 28.0 to 29.7 Mc/s, type A1 emission; 28.5 to 29.7 Mc/s, type A3 emission and narrow band frequency or phase modulation for radiotelephony and, on frequencies 29.0 to 29.7 Mc/s, special emission for frequency modulation (radiotelephone transmissions and radiotelegraph transmissions employing carrier shift or other frequency modulation techniques).

(10) 50.0 to 54.0 Mc/s, type A1 emission; 50.1 to 54.0 Mc/s, type A2, A3, A4 and narrow band F1, F2 and F3 emissions; 51.0 to 54.0 Mc/s, type AØ emission; 52.5 to 54.0 Mc/s, type FØ, F1, F2, and F3 emission.

(11) 144.0 to 148.0 Mc/s, type A1 emission; 144.0 to 147.9 Mc/s, type AØ, A2, A3, A4, FØ, F1, F2, and F3 emission.

(12) In this band the amateur service shall not cause harmful interference to the government radiolocation service.

(13) In those portions of the States of Texas and New Mexico in the area bounded on the south by parallel 31°53' N., on the east by longitude 105°40' W., on the north by parallel 33°24' N., and on the west by longitude 106°40' W., the frequency band 220–225 Mc/s is not available for use by amateur stations engaged in normal amateur operation between the hours of 0500 and 1800 local time Monday through Friday inclusive of each week. However, the entire frequency band 220–225 Mc/s shall be available in all areas to those amateur stations authorized to operate in an organized civil defense network during all periods when civil defense emergencies exist and, in addition, special arrangements for civil defense drills between the hours and within the area set forth in this subparagraph may be made upon mutual agreement between the Federal Communications Commission Engineer in Charge at Dallas, Texas, and the Area Frequency Coordinator at White Sands, New Mexico, if it appears necessary to conduct such drills. Such arrangements shall specify dates and times, and will depend upon the degree of use of the frequency band at White Sands at any particular time.

(14) Within the following areas, the DC plate power input to the final stage of the transmitter shall not exceed 50 watts, unless expressly authorized by the Commission after mutual agreement, on a case-by-case basis, between the Federal Communications Commission Engineer in Charge at the applicable District Office and the Military Area Frequency Coordinator at the applicable military base:

(i) Those portions of Texas and New Mexico bounded on the south by latitude 31°53' North, on the east by longitude 105°40' West, on the north by latitude 33°24' North, and on the west by longitude 106°40' West;

(ii) The entire State of Florida, including the Key West area and the areas enclosed within a 200-mile radius of Patrick Air Force Base, Florida (latitude 28°21' North, longitude 80°43' West), and within a 200 mile radius of Eglin Air Force Base, Florida (latitude 30°30' North, longitude 86°30' West);

(iii) The entire State of Arizona;

(iv) Those portions of California and Nevada south of latitude 37°10' North,

and the areas enclosed within a 200-mile radius of the U.S. Naval Missile Center, Point Mugu, California (latitude 34°09' North, longitude 119°11' West).

(15) Operations in the frequency bands 2300 to 2450 Mc/s and 5650 to 5925 Mc/s are subject to such interference between 2400 and 2450 Mc/s and between 5775 and 5925 Mc/s, respectively, as may result from emissions of industrial, scientific and medical devices on the frequencies 2450 and 5800 Mc/s, respectively.

§ 97.63 Individual frequency not specified.

Transmissions by an amateur station may be on any frequency within any authorized amateur band. Sideband frequencies resulting from keying or modulating a carrier wave shall be confined within the authorized amateur band.

§ 97.65 Special emission limitations.

(a) Type AØ emission, where not specifically designated in the bands listed in § 97.61, may be used for short periods of time when required for authorized remote control purposes or for experimental purposes. However, these limitations do not apply where type AØ emission is specifically designated.

(b) Whenever code practice, in accordance with § 97.91(d), is conducted in bands authorized for A3 emission, tone modulation of the radiotelephone transmitter may be utilized when interspersed with appropriate voice instructions.

(c) The use of narrow band frequency or phase modulation is subject to the conditions that the band-width of the modulated carrier shall not exceed the band-width occupied by an amplitude-modulated carrier of the same audio characteristics, and that the purity and stability of such emissions shall be maintained in accordance with the requirements of § 97.73.

§ 97.67 Maximum authorized power.

Except for power restrictions as set forth in § 97.61, each amateur transmitter may be operated with a power input not exceeding 1 kilowatt to the plate circuit of the final amplifier stage of an amplifier-oscillator transmitter or to the plate circuit of an oscillator transmitter. An amateur transmitter operating with a power input exceeding 900 watts to the plate circuit shall provide means for accurately measuring the plate power input to the vacuum tube or tubes supplying power to the antenna.

§ 97.69 Radio teleprinter transmissions.

The following special conditions shall be observed during the transmission of radio teleprinter signals on authorized frequencies by amateur stations:

(a) A single channel five-unit (start-stop) teleprinter code shall be used which shall correspond to the International Telegraphic Alphabet No. 2 with respect to all letters and numerals (including the slant sign or fraction bar) but special signals may be employed for the remote control of receiving printers, or for other purposes, in "figures" positions not utilized for numerals. In general, this code shall conform as nearly as possible to the teleprinter code or codes in common commercial usage in the United States.

(b) The nominal transmitting speed of the radio teleprinter signal keying equipment shall be adjusted as nearly as possible to the standard speed of 60 words per minute and, in any event, within the range 55 to 65 words per minute.

(c) When frequency shift keying (type F1 emission) is utilized, the deviation in frequency from the mark signal to space signal, or from the space signal to the mark signal, shall be less than 900 cycles per second.

(d) When audio frequency shift keying (type A2 or type F2 emission) is utilized, the highest fundamental modulating audio frequency shall not exceed 3000 cycles per second, and the difference between the modulating audio frequency for the mark signal and that for the space signal shall be less than 900 cycles per second.

§ 97.71 Transmitter power supply.

The licensee of an amateur station using frequencies below 144 megacycles shall use adequately filtered direct-current plate power supply for the transmitting equipment to minimize modulation from this source.

§ 97.73 Purity and stability of emissions.

Spurious radiation from an amateur station being operated with a carrier frequency below 144 megacycles shall be reduced or eliminated in accordance with good engineering practice. This spurious radiation shall not be of sufficient intensity to cause interference in receiving equipment of good engineering design including adequate selectivity characteristics, which is tuned to a frequency or frequencies outside the frequency band of emission normally required for the type of emission being employed by the amateur station. In the case of A3 emission, the amateur transmitter shall not be modulated to the extent that interfering spurious radiation occurs, and in no case shall the emitted carrier wave be amplitude-modulated in excess of 100 percent. Means shall be employed to insure that the transmitter is not modulated in excess of its modulation capability for proper technical operation. For the purposes of this section a spurious radiation is any radiation from a transmitter which is outside the frequency band of emission normal for the type of transmission employed, including any component whose frequency is an integral multiple or submultiple of the carrier frequency (harmonics and subharmonics), spurious modulation products, key clicks, and other transient effects, and parasitic oscillations. When using amplitude modulation on frequencies below 144 megacycles, simultaneous frequency modulation is not permitted and when using frequency modulation on frequencies below 144 megacycles simultaneous amplitude modulation is not permitted. The frequency of the emitted carrier wave shall be as constant as the state of the art permits.

§ 97.75 Frequency measurement and regular check.

The licensee of an amateur station shall provide for measurement of the emitted carrier frequency or frequencies and shall establish procedure for making such measurement regularly. The measurement of the emitted carrier frequency or frequencies shall be made by means independent of the means used to control the radio frequency or frequencies generated by the transmitting apparatus and shall be of sufficient accuracy to assure operation within the amateur frequency band used.

Subpart D—Operating Requirements and Procedures

General

§ 97.77 Practice to be observed by all licensees.

In all respects not specifically covered by these regulations each amateur station shall be operated in accordance with good engineering and good amateur practice.

§ 97.79 Who may operate an amateur station.

An amateur radio station may be operated only by a person holding a valid amateur operator license. Such station may be operated by the licensee only in the manner and to the extent provided in his amateur operator license. Persons other than the station licensee, when operating such station, may operate it only to the extent and in the manner authorized to the licensee of the station and not exceeding the operating authority of such person's own amateur operator license. When an amateur station is used for telephony or radio teleprinter transmissions the station licensee may permit any person to transmit by voice or teleprinter, provided during such transmission call signs are announced or transmitted as prescribed by § 97.87 and a duly licensed amateur operator maintains actual control over the emissions, including turning the carrier on and off for each transmission and signing the station off after communication with each station has been completed.

§ 97.81 Authorized apparatus.

An amateur station license authorizes the use under control of the licensee of all transmitting apparatus at the fixed location specified in the station license which is operated on any frequency, or frequencies allocated to the amateur service, and in addition authorizes the use, under control of the licensee, of portable and mobile transmitting apparatus operated at other locations.

§ 97.83 Availability of operator license.

The original operator license of each operator shall be kept in the personal possession of the operator while operating an amateur station. When operating an amateur station at a fixed location, however, the license may be posted in a conspicuous place in the room occupied by the operator. The license shall be available for inspection by any authorized Government official whenever the operator is operating an amateur station and at other times upon request made by an authorized representative of the Commission, except when such license has been filed with application for modification or renewal

thereof, or has been multilated, lost or destroyed, and request has been made for a duplicate license in accordance with § 97.57. No recognition shall be accorded to any photocopy of an operator license; however, nothing in this section shall be construed to prohibit the photocopying for other purposes of any amateur radio operator license.

§ 97.85 Availability of station license.

The original license of each amateur station or a photocopy thereof shall be posted in a conspicuous place in the room occupied by the licensed operator while the station is being operated at a fixed location or shall be kept in his personal possession. When the station is operated at other than a fixed location, the original station license or a photocopy thereof shall be kept in the personal possession of the station licensee (or a licensed representative) who shall be present at the station while it is being operated as a portable or mobile station. The original station license shall be available for inspection by any authorized Government official at all times while the station is being operated and at other times upon request made by an authorized representative of the Commission, except when such license has been filed with application for modification or renewal thereof, or has been multilated, lost, or destroyed, and request has been made for a duplicate license in accordance with § 97.57.

§ 97.87 Transmission of call signs.

(a) (1) The operator of an amateur station shall transmit the call sign of the station or stations (or may transmit the generally accepted identification of the network) being called or communicated with, or shall identify appropriately any other purpose of a transmission, followed by the authorized call sign of the station transmitting:

(i) At the beginning and end of each single transmission or;

(ii) At the beginning and end of a series of transmissions between stations having established communication, each transmission of which is of less than three minutes duration (the identification at the end of such a series may be omitted when the duration of the entire series is less than three minutes), and;

(iii) At least once every ten minutes or as soon thereafter as possible during a series of transmissions between stations having established communication, and;

(iv) At least once every ten minutes during any single transmission of more than ten minutes duration.

(2) The required identification shall be transmitted on the frequency or frequencies being employed at the time and, in accordance with the type of emission authorized thereon, shall be by either telegraphy using the International Morse Code, or telephony. In addition to the foregoing, when a method of communication other than telephony or telegraphy using the International Morse Code is being used or attempted, the prescribed identification shall also be transmitted by that method.

(b) In addition to complying with the requirements of paragraph (a) of this section, an operator of an amateur station operated as a portable or mobile station using radiotelegraphy shall transmit immediately after the call sign of such station, the fraction-bar character (DN) followed by the number of the amateur call sign area in which the portable or mobile amateur station is then being operated, as for example:

Example 1. Portable or mobile amateur station operating in the third amateur call sign area calls a fixed amateur station: W1ABC W1ABC W1ABC DE W2DEF DN 3 W2DEF DN 3 W2DEF DN 3 AR.

Example 2. Fixed amateur station answers the portable or mobile amateur station: W2DEF W2DEF W2DEF DE W1ABC K.

Example 3. Portable or mobile amateur station calls a portable or mobile amateur station: W3GHI W3GHI W3GHI DE W4JKL DN 4 W4JKL DN 4 W4JKL DN 4 AR.

When telephony is used, the call sign of the station shall be preceded by the words "this is" or the word "from" instead of the letters "de," followed by an announcement of the geographical location in which the portable or mobile station is being operated.

Example 4. Portable or mobile amateur radiotelephone station operating in the third call area calls a fixed amateur station: W1ABC W1ABC W1ABC "this is" or the word "from" W2DEF W2DEF W2DEF operating portable (or mobile) 3 miles north of Bethesda, Md., over.

(c) When telephony is used, the transmission of call signs prescribed by paragraphs (a) and (b) of this section may be made by the person transmitting by voice in lieu of a duly licensed operator provided the licensed operator maintains the control required by § 97.79.

(d) When using telephony, phonetic aids to identify the call sign of the station may be employed.

(e) In addition to complying with the requirements of paragraph (a) of this section, an operator of an amateur station operated as a mobile station aboard a vessel on the high seas, or aboard an aircraft en route on an international flight, shall, when the vessel or aircraft is outside the 10 call sign areas prescribed by the Commission in § 97.51 (b), comply with the following calling procedure:

(1) Mobile operations aboard a vessel.

(i) When using telegraphy the amateur operator shall transmit immediately after the call sign of the station the fraction bar DN followed by the designator MM to indicate that the station is being operated as a mobile station aboard a vessel. In addition, the name of the vessel and its approximate geographical location shall be transmitted at the end of each transmission immediately prior to signing off. If the vessel does not have a name, the number of the vessel shall be transmitted in lieu of the name of the vessel.

(ii) When using telephony the call sign of the station shall be preceded by the words "this is", or the word "from" followed by the words "maritime mobile" to indicate that the station is being operated as a mobile station aboard a vessel. In addition the name of the vessel, and its approximate geographical location shall be transmitted at the end of each transmission immediately prior to signing off. If the vessel does not have a name, the number of the vessel shall be transmitted in lieu of the name of the vessel.

(2) Mobile operations aboard aircraft.

(i) When using telegraphy the amateur operator shall transmit immediately after the call sign of the station the fraction bar DN followed by the designator AM to indicate that the station is being operated as a mobile station aboard an aircraft. In addition, the number of the aircraft and its approximate geographical location shall be transmitted at the end of each transmission immediately prior to signing off.

(ii) When using telephony the call sign of the station shall be preceded by the words "this is", or the word "from" followed by the words "aeronautical mobile", to indicate that the station is being operated as a mobile station aboard an aircraft. In addition, the number of the aircraft and its approximate geographical location shall be transmitted at the end of each transmission immediately prior to signing off.

§ 97.89 Points of communications.

An amateur station may be used to communicate only with other amateur stations, except that in emergencies or for test purposes it may also be used temporarily for communication with other classes of stations licensed by the Commission, and with United States Government stations. Amateur stations may also be used to communicate with any radio station other than amateur which is authorized by the Commission to communicate with amateur stations. Amateur stations may be used also for transmitting signals, or communications, or energy, to receiving apparatus for the measurement of emissions, temporary observation of transmission phenomena, radio control of remote objects, and for similar experimental purposes and for the purposes set forth in § 97.91.

§ 97.91 One-way communications.

In addition to the experimental one-way transmission permitted by § 97.89, the following kinds of one-way communications, addressed to amateur stations, are authorized and will not be construed as broadcasting: (a) Emergency communications, including bona-fide emergency drill practice transmissions; (b) Information bulletins consisting solely of subject matter having direct interest to the amateur radio service as such; (c) Round-table discussions or net-type operations where more than two amateur stations are in communication, each station taking a turn at transmitting to other station(s) of the group; and (d) Code practice transmissions intended for persons learning or improving proficiency in the International Morse Code.

§ 97.93 Modulation of carrier.

Except for brief tests or adjustments, an amateur radiotelephone station shall not emit a carrier wave on frequencies below 51 megacycles unless modulated for the purpose of communication. Single audiofrequency tones may be transmitted for test purposes of short dura-

tion for the development and perfection of amateur radio telephone equipment.

STATION OPERATION AWAY FROM AUTHORIZED LOCATION

§ 97.95 Requirements for portable and mobile operation.

(a) Within the continental limits of the United States or its possessions, an amateur station may be operated as either a portable or a mobile station on any frequency authorized and available for the amateur radio service. Notice of such operation in accordance with the provisions of § 97.97 shall be given to the Engineer in Charge of the radio district in which operation is intended.

(b) When outside the continental limits of the United States, its territories, or possessions, an amateur radio station may be operated as portable or mobile only under the following conditions:

(1) Operation may not be conducted within the jurisdiction of a foreign government except pursuant to, and in accordance with express authority granted to the licensee by such foreign government. When a foreign government permits Commission licensees to operate within its territory, the amateur frequency bands which may be used shall be as prescribed or limited by that government. (See Appendix 4 of this Part for the text of treaties or agreements between the United States and foreign governments relative to reciprocal amateur radio operation.)

(2) When outside the jurisdiction of a foreign government: Operation may be conducted within Region 2 on any amateur frequency band between 7.0 Mc/s and 148 Mc/s, inclusive; and when not within Region 2, operation may be conducted only on the amateur frequency bands 14.00–14.35 Mc/s, 21.00–21.45 Mc/s, and 28.0–29.7 Mc/s.

NOTE: Region 2 is defined as follows: On the east, a line (B) extending from the North Pole along meridian 10° west of Greenwich to its intersection with parallel 72° north; thence by Great Circle Arc to the intersection of meridian 50° west and parallel 40° north; thence by Great Circle Arc to the intersection of meridian 20° west and parallel 10° south; thence along meridian 20° west to the South Pole. On the west, a line (C) extending from the North Pole by Great Circle Arc to the intersection of parallel 65°30′ north with the international boundary in Bering Strait; thence by Great Circle Arc to the intersection of meridian 165° east of Greenwich and parallel 50° north; thence by Great Circle Arc to the intersection of meridian 170° west and parallel 10° north; thence along parallel 10° north to its intersection with meridian 120° west; thence along meridian 120° west to the South Pole.

(3) Notice of such operation, in accordance with the provisions of § 97.97, shall be given to the Engineer in Charge of the district having jurisdiction of the authorized fixed transmitter location.

§ 97.97 Notice of operation away from authorized location.

Whenever an amateur station is, or is likely to be, operated for a period in excess of 48 hours away from the fixed transmitter location specified on the station license without return thereto, the licensee shall give advance written notice of such operation to the Commission office or offices specified in § 97.95 or § 97.99. A new notice is required whenever there is any change in the particulars of a previous notice or whenever operation away from the authorized station continues for a period in excess of one year. The notice required by this section shall contain the following specific information:

(a) Name of licensee.

(b) Station call sign.

(c) Authorized fixed transmitter location.

(d) Portable location(s), or mobile itinerary as specifically as possible, or temporary fixed transmitter location, or new permanent fixed transmitter location.

(e) The dates of the beginning and end of each period of operation away from the location specified in the station license.

(f) The address at which, or through which, the licensee can be readily reached.

(g) In the case of mobile operation, the official name, registry number or license number (including the name of the issuing state or territory, if any) of the aircraft, vessel, or land vehicle in which the mobile station is installed and operated.

§ 97.99 Special requirements for nonportable stations.

(a) An amateur station that has been moved from the authorized permanent location to another permanent location may be operated for a period not exceeding four consecutive months at the latter location, but in no event beyond the expiration of the license unless timely application for renewal thereof has been filed in accordance with the provisions of § 97.47 under the following conditions:

(1) Advance notice, in accordance with the provisions of § 97.97, shall be given to the Engineer in Charge of the radio district in which operation is intended; and

(2) Formal application for modification to change the permanent location shall be filed with the Commission within the above specified four-month period.

(b) The licensee of an amateur station who changes residence temporarily, but retains a permanent residence associated with the fixed transmitter location designated in the station license, and moves his amateur station to a temporary location associated with his temporary residence, or the licensee-trustee for an amateur radio society which changes the normal location of its amateur station to a different and temporary location, may operate the station at such temporary location under the condition that: Notice, in accordance with the provisions of § 97.97, shall be given to the Secretary of the Commission, Washington, D.C., 20554, and to the Engineer in Charge of the radio district in which temporary operation is intended.

(c) When the station is operated under the provisions of this section, the portable identification procedures specified in § 97.87 shall be used.

§ 97.101 Special provisions for mobile stations aboard ships or aircraft.

In addition to complying with all other applicable rules, an amateur mobile station operated on board a ship or aircraft must comply with all of the following special conditions: (a) The installation and operation of the amateur mobile station shall be approved by the master of the ship or captain of the aircraft; (b) The amateur mobile station shall be separate from and independent of all other radio equipment, if any, installed on board the same ship or aircraft; (c) The electrical installation of the amateur mobile station shall be in accord with the rules applicable to ships or aircraft as promulgated by the appropriate government agency; (d) The operation of the amateur mobile station shall not interfere with the efficient operation of any other radio equipment installed on board the same ship or aircraft; and (e) The amateur mobile station and its associated equipment, either in itself or in its method of operation, shall not constitute a hazard to the safety of life or property.

LOGS

§ 97.103 Station log requirements.

Each licensee of an amateur station shall keep an accurate log of station operation, which shall include the following:

(a) The date and time of each transmission, except that for a period of continuous mobile operation the time of each transmission may be omitted, provided that the dates and times of commencing and terminating such mobile operations are entered in the log. (The date need only be entered once for each day's operation. The expression "time of each transmission" means the time of making a call and need not be repeated during the sequence of communication which immediately follows; however, an entry shall be made in the log when signing off so as to show the period during which communication was carried on.)

(b) The signature of each licensed operator who manipulates the key of a radiotelegraph transmitter; the signature of each licensed operator who operates a transmitter of any other type; and the name of any person not holding an amateur operator license who either directly or by recording transmits by voice over a radiotelephone transmitter or operates a teleprinter keying a radiotelegraph transmitter. (The signature of the operator need only be entered once in the log, in those cases when all transmissions are made by or under the supervision of the signatory operator, provided a statement to that effect also is entered. The signature of any other operator who operated the station shall be entered in the proper space for that operator's transmission.)

(c) Call sign of the station called. (This entry need not be repeated for calls made to the same station during any sequence of communication, provided the time of signing off is given.)

(d) The input power to the oscillator, or to the final amplifier stage where an

oscillator-amplifier transmitter is employed. (This need be entered only once, provided the input power is not changed.)

(e) The frequency band used. (This information need be entered only once in the log for all transmissions until there is a change in frequency to another amateur band.)

(f) The type of emission used. (This need be entered only once until there is a change in the type of emission.)

(g) The location of the station (or the approximate geographical location of a mobile station) at the time of each transmission. (This need be entered only once provided the location of the station is not changed. However, suitable entry shall be made in the log upon changing the location. Where operating at other than a fixed location, the type and identity of the vehicle or other mobile unit in which the station is operated shall be shown.)

(h) The message traffic handled. (If record communications are handled in regular message form, a copy of each message sent and received shall be entered in the log or retained on file at the station for at least 1 year.)

§ 97.105 Retention of logs.

The log shall be preserved for a period of at least 1 year following the last date of entry. The copies of record communications and station log required by § 97.103 shall be available for inspection by authorized representatives of the Commission.

EMERGENCY OPERATIONS

§ 97.107 Operation in emergencies.

In the event of an emergency disrupting normally available communication facilities in any widespread area or areas, the Commission, in its discretion, may declare that a general state of communications emergency exists, designate the area or areas concerned, and specify the amateur frequency bands, or segments of such bands, for use only by amateurs participating in emergency communication within or with such affected area or areas. Amateurs desiring to request the declaration of such a state of emergency should communicate with the Commission's Engineer in Charge of the area concerned. Whenever such declaration has been made, operation of and with amateur stations in the area concerned shall be only in accordance with the requirements set forth in this section, but such requirements shall in nowise affect other normal amateur communication in the affected area when conducted on frequencies not designated for emergency operation.

(a) All transmissions within all designated amateur emergency comunication bands other than communications relating directly to relief work, emergency service, or the establishment and maintenance of efficient amateur radio networks for the handling of such communications, shall be suspended. Incidental calling, answering, testing or working (including casual conversation, remarks or messages) not pertinent to constructive handling of the emergency situation shall be prohibited within these bands.

(b) The Commission may designate certain amateur stations to assist in the promulgation of information relating to the declaration of a general state of communications emergency, to monitor the designated amateur emergency communications bands, and to warn noncomplying stations observed, to be operating in those bands. Such station, when so designated, may transmit for that purpose on any frequency or frequencies authorized to be used by that station, provided such transmissions do not interfere with essential emergency communications in progress; however, such transmissions shall preferably be made on authorized frequencies immediately adjacent to those segments of the amateur bands being cleared for the emergency. Individual transmissions for the purpose of advising other stations of the existence of the communications emergency shall refer to this section by number (§ 97.107) and shall specify, briefly and concisely, the date of the Commission's declaration, the area and nature of the emergency, and the amateur frequency bands or segments of such bands which constitute the amateur emergency communications bands at the time. The designated stations shall not enter into discussions with other stations beyond furnishing essential facts relative to the emergency, or acting as advisors to stations desiring to assist in the emergency, and the operators of such designated stations shall report fully to the Commission the identity of any stations failing to comply, after notice, with any of the pertinent provisions of this section.

(c) The special conditions imposed under the provisions of this section shall cease to apply only after the Commission, or its authorized representative, shall have declared such general state of communications emergency to be terminated; however, nothing in this paragraph shall be deemed to prevent the Commission from modifying the terms of its declaration from time to time as may be necessary during the period of a communications emergency, or from removing those conditions with respect to any amateur frequency band or segment of such band which no longer appears essential to the conduct of the emergency communications.

Subpart E—Prohibited Practices and Administrative Sanctions

PROHIBITED TRANSMISSIONS AND PRACTICES

§ 97.111 No remuneration for use of station.

An amateur station shall not be used to transmit or receive messages for hire, nor for communication for material compensation, direct or indirect, paid or promised.

§ 97.113 Broadcasting prohibited.

Subject to the provisions of § 97.91, an amateur station shall not be used to engage in any form of broadcasting, that is, the dissemination of radio communications intended to be received by the public directly or by the intermediary of relay stations, nor for the retransmission by automatic means of programs or signals emanating from any class of station other than amateur. The foregoing provision shall not be construed to prohibit amateur operators from giving their consent to the rebroadcast by broadcast stations of the transmissions of their amateur stations, provided, that the transmissions of the amateur stations shall not contain any direct or indirect reference to the rebroadcast.

§ 97.115 Music prohibited.

The transmission of music by an amateur station is forbidden.

§ 97.117 Codes and ciphers prohibited.

The transmission by radio of messages in codes or ciphers in domestic and international communications to or between amateur stations is prohibited. All communications regardless of type of emission employed shall be in plain language except that generally recognized abbreviations established by regulation or custom and usage are permissible as are any other abbreviations or signals where the intent is not to obscure the meaning but only to facilitate communications.

§ 97.119 Obscenity, indecency, profanity.

No licensed radio operator or other person shall transmit communications containing obscene, indecent, or profane words, language, or meaning.

§ 97.121 False signals.

No licensed radio operator shall transmit false or deceptive signals or communications by radio, or any call letter or signal which has not been assigned by proper authority to the radio station he is operating.

§ 97.123 Unidentified communications.

No licensed radio operator shall transmit unidentified radio communications or signals.

§ 97.125 Interference.

No licensed radio operator shall willfully damage, or cause or permit to be cause interference to any radio communication or signal.

§ 97.127 Damage to apparatus.

No licensed radio operator shall willfully damaged, or cause or permit to be damaged, any radio apparatus or installation in any licensed radio station.

§ 97.129 Fraudulent licenses.

No licensed radio operator or other person shall obtain or attempt to obtain, or assist another to obtain or attempt to obtain, an operator license by fraudulent means.

ADMINISTRATIVE SANCTIONS

§ 97.131 Restricted operation.

(a) If the operation of an amateur station causes general interference to the reception of transmissions from stations operating in the domestic broadcast service when receivers of good engineering design including adequate selectivity characteristics are used to receive such transmissions and this fact is made known to the amateur station licensee, the amateur station shall not be operated during the hours from 8 p. m. to 10:30 p. m., local time, and on Sunday for the

additional period from 10:30 a. m. until 1 p. m., local time, upon the frequency or frequencies used when the interference is created.

(b) In general, such steps as may be necessary to minimize interference to stations operating in other services may be required after investigation by the Commission.

§ 97.133 Second notice of same violation.

In every case where an amateur station licensee is cited within a period of 12 consecutive months for the second violation of the provisions of §§ 97.61, 97.63, 97.65, 97.71, or 97.73, the station licensee, if directed to do so by the Commission, shall not operate the station and shall not permit it to be operated from 6 p. m. to 10:30 p. m., local time, until written notice has been received authorizing the resumption of full-time operation. This notice will not be issued until the licensee has reported on the results of tests which he has conducted with at least two other amateur stations at hours other than 6 p. m. to 10:30 p. m., local time. Such tests are to be made for the specific purposes of aiding the licensee in determining whether the emissions of the station are in accordance with the Commission's rules. The licensee shall report to the Commission the observations made by the cooperating amateur licensees in relation to the reported violations. This report shall include a statement as to the corrective measures taken to insure compliance with the rules.

§ 97.135 Third notice of same violation.

In every case where an amateur station licensee is cited within a period of 12 consecutive months for the third violation of §§ 97.61, 97.63, 97.65, 97.71, or 97.73, the station licensee if directed by the Commission, shall not operate the station and shall not permit it to be operated from 8 a.m. to 12 midnight, local time, except for the purposes of transmitting a prearranged test to be observed by a monitoring station of the Commission to be designated in each particular case. The station shall not be permitted to resume operation during these hours until the licensee is authorized by the Commission, following the test, to resume full-time operation. The results of the test and the licensee's record shall be considered in determining the advisability of suspending the operator license or revoking the station license, or both.

§ 97.137 Answers to notices of violations.

Any licensee receiving official notice of a violation of the terms of the Communications Act of 1934, as amended, any legislative act, Executive order, treaty to which the United States is a party, or the rules and regulations of the Federal Communications Commission, shall, within 10 days from such receipt, send a written answer direct to the office of the Commission originating the official notice: *Provided, however,* That if an answer cannot be sent or an acknowledgment made within such 10-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. If the notice relates to some violation that may be due to the physical or electrical characteristics of transmitting apparatus, the answer shall state fully what steps, if any, are taken to prevent future violations, and if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and promised date of delivery. If the notice of violation relates to some lack of attention or improper operation of the transmitter, the name of the operator in charge shall be given.

§ 97.139 Revocation of station license and issuance of cease and desist orders.

(a) Whenever it appears that a station license should be revoked for any of the reasons set forth in section 312 (a) of the Communications Act of 1934, as amended, or a cease and desist order should be issued for any of the reasons specified in section 312 (b) of the act, the Commission will issue an order directing the licensee to show cause why an order of revocation or a cease and desist order, as the case may be, should not be issued.

(b) Any order to show cause issued in accordance with paragraph (a) of this section will contain a statement of matters with respect to which the Commission is inquiring and will call upon the licensee to appear before the Commission at a time and place stated in the order, but in no event less than thirty (30) days after the receipt of such order, and give evidence upon the matter specified therein; except that where safety of life or property is involved, the Commission may provide in the order for a shorter period.

(c) In order to avail himself of the opportunity to appear before the Commission at the time and place stated in the show cause order to give evidence upon the matter specified therein, the licensee, in person or by his attorney, shall, within 30 days of the receipt of the order, or such shorter period as may be specified therein if the safety of life and property is involved, file with the Commission, in triplicate, a written appearance stating that he will appear and present evidence on the matter specified in the order.

(d) The hearing on the matter specified in the order to show cause, and the practice and procedure in connection therewith, shall accord with the provisions of Subparts A and B of Part 1 of this chapter, except that in all such hearings the burden of proof shall be upon the Commission.

(e) If the licensee does not desire to appear before the Commission and give evidence upon the matter specified in the show cause order, he shall, within 30 days of the receipt of the order, or such shorter period as may be specified therein if the safety of life or property is involved, file with the Commission, in triplicate, a written waiver of hearing. Such waiver, which shall include the name of the licensee to whom the show cause order was addressed, the call letters of his station, if any, and the docket number of the proceeding, may be accompanied by a statement of reasons why the licensee believes that the order of revocation or a cease and desist order, as the case may be, should not be issued.

(f) If the licensee fails timely to respond to an order to show cause or fails to appear at a hearing, such failure will be deemed a waiver of hearing.

(g) If the licensee waives a hearing in accordance with the provisions of paragraph (e) of this section and fails to submit a statement therewith showing why he believes an order of revocation or a cease and desist order should not be issued, or if he is deemed to waive a hearing in accordance with the provisions of paragraph (f) of this section, the allegations specified in the order to show cause will be deemed to be admitted and a decision will be issued by the Commission invoking the sanction specified in the order to show cause. If a hearing is waived pursuant to paragraph (e) of this section but a written statement as to why an order of revocation or cease and desist order should not be issued is submitted, the Commission will, on the basis of the facts before it as supplemented by such written statement, issue a decision stating its reasons for invoking the sanction specified in the order to show cause or for dismissing the proceeding, as the case may be: *Provided,* That where the written statement contains factual allegations contrary to those upon which the show cause order was based, the Commission may call upon the submitting party to furnish additional information under oath, or, if necessary, designate the proceeding for oral hearing. The decisions of the Commission referred to in this paragraph shall have the same effect as an initial decision, and the procedure to be followed thereafter shall be the same as in the case of an initial decision issued in the course of the regular hearing procedure. (see §§ 1.204, 1.276, 1.277, 1.279, and 1.282 of this chapter).

(h) Any order of revocation or cease and desist order issued pursuant to this section shall include a statement of the findings and the grounds and reasons therefor and specify the effective date of the order, and shall be served on said licensee.

§ 97.141 Order of suspension.

No order of suspension of any operator's license shall take effect until 15 days' notice in writing thereof, stating the cause for the proposed suspension, has been given to the operator licensee who may make written application to the Commission at any time within said 15 days for a hearing upon such order. The notice to the operator licensee shall not be effective until actually received by him, and from that time he shall have 15 days in which to mail the said application. In the event that physical conditions prevent mailing of the application at the expiration of the 15-day period, the application shall then be mailed as soon as possible thereafter, accompanied by a satisfactory explanation of the delay. Upon receipt by the Commission of such application for hearing, said order of suspension shall be held in abeyance

until the conclusion of the hearing which shall be conducted under such rules as the Commission shall deem appropriate. Upon the conclusion of said hearing the Commission may affirm, modify, or revoke said order of suspension.

§ 97.143 Proceedings.

Proceedings for the suspension of an operator's license shall in all cases be initiated by the entry of an order of suspension. Respondent will be given notice thereof together with notice of his right to be heard and to contest the proceeding. The effective date of the suspension will not be specified in the original order but will be fixed by subsequent motion of the Commission in accordance with the conditions specified above. Notice of the effective date of suspension will be given respondent who shall send his operator license to the office of the Commission in Washington, D. C., on or before the said effective date, or, if the effective date has passed at the time notice is received, the license shall be sent to the Commission forthwith.

Subpart F—Radio Amateur Civil Emergency Service (RACES)

General

§ 97.161 Nature of this service.

(a) The Radio Amateur Civil Emergency Service provides a temporary phase of amateur operation for Civil Defense communications purposes only, and the rules are limited in their force and effect to the period of the present national emergency, including any emergency which may necessitate invoking of the President's War Emergency Powers under the provisions of section 606 of the Communications Act of 1934, as amended.

(b) Pursuant to the provisions of section 4 (j) of the Communications Act of 1934, as amended, records relating to the Radio Amateur Civil Emergency Service shall not be open to general public inspection.

§ 97.163 Definitions.

For the purposes of this subpart, the following definitions are applicable:

(a) *Radio Amateur Civil Emergency Service.* A temporary radio-communication service carried on by licensed amateur radio stations while operating on specifically designated segments of the regularly allocated amateur frequency bands under the direction of authorized local, regional, or federal civil defense officials pursuant to an approved civil defense communications plan.

(b) *Radio Amateur Civil Emergency Station.* An amateur radio station which is authorized to operate in the Radio Amateur Civil Emergency Service for the purpose of transmitting and receiving civil defense communications.

(c) *Civil defense communications.* Communications or signals essential to the conduct of civil defense activities of duly authorized civil defense organizations, including communications directly concerning safety of life, preservation of property, maintenance of law and order, alleviation of human suffering and need and dissemination of warnings of enemy attack to the civilian population in case of actual or impending armed attack or in any disaster or other incident endangering the public welfare. Such communications may also include transmissions necessary to establishment and maintenance of the radio system and communications essential to the training of civil defense personnel.

(d) *Civil defense authority.* The legally appointed Director of Civil Defense, or his authorized alternate or representative, for the particular geographical area (city, county, etc.) which a proposed radio station is intended to serve, and who is responsible to local govenmental authority for protection and aid to the civilian population in the event of armed attack or of any disaster or other incident endangering public safety.

(e) *Civil Defense Communications Officer.* The official of any duly constituted civil defense organization having direct responsibility under the Director of that organization for the provision, organization, maintenance, readiness, and utilization of all means of communication to be used by such civil defense organization in the performance of its lawful functions.

(f) *Civil Defense Radio Officer.* The duly designated official of a legally constituted civil defense organization who is directly responsible either to the Communications Officer or to the Director of such civil defense organization for the provision, organization, maintenance, readiness, and utilization of radio communications facilities for civil defense use.

(g) *Radio Amateur Civil Emergency Network.* All radio amateur civil emergency stations intended to be included in the civil defense communications plan of the area concerned and which operate, or are to operate, in conjunction with a single control station. Such network may be made up of several separately authorized radio amateur civil emergency stations or units of such stations, or may be made up of several units of the same station operated at different locations. In addition, the same radio amateur civil emergency station or any unit of such station may be a part of more than one network; e. g., the control station of one network may also be the control station or a member station of another network operated in conjunction therewith.

(h) *Net control station.* Any authorized Radio Amateur Civil Emergency Station unit designated by the civil defense radio officer, with the approval of the Director of Civil Defense or the Civil Defense Communications Officer, to direct the use and operation of other station units of the same Radio Amateur Civil Emergency Network.

(i) *Civil defense communications plan.* The plan under which communications facilities are provided to all branches and phases of the civil defense organization in the area concerned and for all of its activities. Such plan may be drawn up in accordance with the needs of the particular area affected and the facilities, including licensed radio operators and stations, available in that particular area. Plans need not be uniform, but to be acceptable to the Commission they must comply with the following:

(1) The plan must be clearly described in writing, and it may include diagrams and sketches. It must include a general description of the facilities and personnel available to provide communications for civil defense purposes and the expected usage to be made thereof.

(2) The plan must have been approved by the state and federal civil defense authorities having jurisdiction of the area affected.

(3) The plan must include the name, address, official title, and a statement of the qualifications of the Civil Defense Radio Officer (and of any and all alternate Radio Officers) responsible for the organization, training, and utilization of the radio amateur civil emergency station networks under that plan, and the name, address, and official title of the civil defense official responsible for the coordination of all civil defense activities of the area concerned.

(4) The plan must include a general description of each radio amateur civil emergency station network under the jurisdiction of each respective Civil Defense Radio Officer, showing location of fixed installations, purpose, area of activity to be served, an estimate of the number of radio amateur stations and independent operating units of such stations intended to be used in the network, and a description, including the location and call sign, of its control station and any alternate control station or stations.

(5) The plan must include a general statement as to the frequency bands to be used by the radio amateur civil emergency station networks and the approximate number of stations, or units of such stations, to be operated in each such band, together with a description of the method which has been adopted for liaison and coordination of frequency usage with other similar networks in the same and adjacent areas.

(6) The plan must include a statement setting forth the facilities available to the area and the procedures to be followed in determining the loyalty and general reliability of all civil defense Radio Officers, amateur radio station licensees and radio operators intended to be utilized in the implementation of that plan. (See §§ 97.173(b), 97.175(e), and 97.203(a).)

§ 97.165 Applicability of rules governing amateur radio stations and operators.

In all cases not specifically covered by the regulations contained in this subpart, licensed amateur stations authorized to be operated in the Radio Amateur Civil Emergency Service shall be governed by the provisions of the rules governing amateur radio stations and operators (Subparts A through E of this part) which are not in conflict herewith. In any case of conflict, the rules governing the Radio Amateur Civil Emergency Service shall govern in respect to any station operated in that service.

ORGANIZATION

§ 97.167 Organization of networks.

To supplement or extend other means of communication available to the civil defense organization or to provide necessary communications for which no other means exist, local radio amateur civil emergency station networks shall be organized by the civil defense authority of the area concerned and under the immediate direction of the Civil Defense Radio Officer. Such networks shall include all licensed amateur radio stations which are intended to be included in the civil defense comunications plan of the area concerned. In any particular area there may be several such networks and each network may be independent of the others. Whenever there is more than one network in the same area, all such networks must share, under a single civil defense communications plan, the available frequencies in an efficient and orderly manner. The various networks in adjacent areas shall establish proper liaison and a description of the arrangements made shall become a part of their respective civil defense communications plans. Such arrangements shall provide for the efficient sharing of frequencies, plans for operating procedure designed to avoid mutual interference, and the exchange of communications facilities upon an inter-area basis where need for such exchange may arise.

§ 97.169 Approval of civil defense communications plans.

(a) All civil defense communications plans which provide for the utilization of radio amateur civil emergency stations for civil defense purposes must be submitted to and approved by the responsible state (or territorial) and federal civil defense authorities before the licensed amateur stations intended to be used will be authorized to operate in the radio amateur civil emergency service.

(b) Material changes or modifications in such civil defense communications plans which alter the basic information required shall be submitted for approval in the same manner as the original plans.

(c) Written certification of approval by the competent state and federal civil defense authorities of each civil defense communications plan, or of any changes or modifications thereof, shall accompany the copies of such plans, changes, or modifications which are submitted to the Commission in accordance with the provisions of this part.

§ 97.171 Certification of civil defense radio officer.

(a) Certification of the Civil Defense Radio Officer shall be made on FCC Form 482. Such form shall be executed by the civil defense authority responsible for the coordination of all civil defense activities of the area concerned and show:

(1) The name, address, and area of responsibility of such civil defense radio officer,

(2) Statement by him that he has accepted such appointment and agrees to perform faithfully the duties of that office, including those prescribed by this subpart,

(3) A certification by the responsible civil defense authority that he has satisfied himself that the named civil defense radio officer is fully qualified in accordance with the provisions of § 97.173, and

(4) The effective date of the appointment of the civil defense radio officer and the name of any previous civil defense radio officer whose appointment is terminated.

(b) FCC Form 482, when completed in accordance with this section, shall be forwarded to the Commission via the responsible state and federal civil defense officials whose approval (or disapproval) shall be clearly indicated on the form.

§ 97.173 Qualifications of Civil Defense Radio Officer.

No person shall be considered qualified as a civil defense radio officer until he shall have been found to satisfy the following minimum requirements:

(a) He shall hold either (1) a valid commercial radio operator's license of either first or second class (radiotelegraph or radiotelephone) issued by the Commission, or (2) a valid amateur operator license issued by the Commission, other than the Technician or Novice Class.

(b) A determination shall have been made as to his loyalty to the United States and his general reliability, in accordance with the procedures provided in the approved civil defense communications plan of the area concerned.

(c) It shall have been determined that his technical and administrative qualifications are adequate for the proper performance of his duties.

§ 97.175 Duties of Civil Defense Radio Officer.

The duties of the Civil Defense Radio Officer shall include among such other duties as may be assigned or as may be required in accordance with the provisions of this subpart.

(a) The direction and supervision of all radio stations forming the radio amateur civil emergency networks in accordance with the approved civil defense communications plan for the area involved.

(b) Provision for adequate monitoring of all transmissions of the stations under his supervision to assure compliance with the rules and regulations of the Commission, and to guard against improper use of the radio stations and intentional or inadvertent transmissions which might jeopardize the defense or security of the United States.

(c) The recommendation to the Commission for the granting of authorizations to individual amateurs for operation in this service, and certification to the Commission as to the loyalty to the United States and reliability of such individuals and the certification required in accordance with §97.181.

(d) The recommendation to the Commission for cancellation of any authorization previously recommended or certified whenever subsequent investigation or circumstances indicate that the original recommendation or certification should not have been made.

STATION AUTHORIZATIONS

§ 97.177 Station authorization required.

No radio station may be operated in the Radio Amateur Civil Emergency Service except pursuant to an authorization for such operation issued by the Federal Communications Commission.

§ 97.179 Eligibility for station authorization.

An authorization to operate a station in the Radio Amateur Civil Emergency Service will be issued only to a person who holds an amateur radio operator license, other than Technician or Novice Class, and an appropriate amateur radio station license.

§ 97.181 Filing of application.

Each application for a station authorization or for renewal thereof shall be submitted on FCC Form 481–1, signed by the applicant and countersigned by the appropriate civil defense radio officer, who shall certify to the following:

(a) That the applicant has satisfied all requirements (both local and federal) for participation in the civil defense organization and is actually enrolled as a member of the local organization which serves the area where the station will operate.

(b) That the amateur station licensed in the name of the applicant has been approved for and, when authorized by the Commission, will actually constitute a unit of a civil defense communications network in accordance with an approved civil defense communications plan or amendment thereof.

§ 97.183 Additional data required.

Each application for a station authorization in the Radio Amateur Civil Emergency Service shall be accompanied by the following data unless such material has already been submitted to the Commission, in which case the application shall clearly identify the material previously submitted:

(a) A copy of the approved communications plan (as defined in this part) for the civil defense communications network in which the station will operate, together with a copy of each approved amendment, change or modification of that plan.

(b) The official certification of the Civil Defense Radio Officer as provided in this subpart.

§ 97.185 Single application for all equipment under one amateur station license.

Only one application need be filed for any one amateur station, including all transmitting equipment under the control of the licensee of that station, even though individual units of such station are capable of being operated and are intended to be operated independently at different locations, or as portable or mobile stations with no fixed locations. No distinction need be made between those units which are personally owned by the amateur station licensee and those units which are otherwise under his technical control for operation in this service.

§ 97.187 Issuance of station authorization.

An authorization to operate in this service will be issued in the discretion of the Commission upon satisfactory completion of all requirements of this subpart and proper certification that the requirements of the civil defense organization for which the station will be used have been or are being complied with. The station authorization (Form 481–3) will be forwarded to the Civil Defense Radio Officer for delivery to the applicant. Such authorization will be accompanied by a stub (Form 481–2) which may be retained by the civil defense radio officer for his records.

§ 97.189 Term of station authorization.

(a) Authorization to operate an amateur station in the Radio Amateur Civil Emergency Service will be issued for a term running concurrently with the term of the amateur radio station license. Application for renewal of such authorization shall be filed concurrently with application for renewal of the basic amateur radio station license.

(b) Whenever, under rules contained in Subparts A through E of this part, modification of the basic amateur station license becomes necessary, if such modification affects the information submitted with the original application for authorization in the Radio Amateur Civil Emergency Service, application for modification of the Radio Amateur Civil Emergency Service station authorization shall be submitted concurrently therewith.

(c) Nothing in this section shall be construed to alter or amend the temporary nature of a station authorization in the Radio Amateur Civil Emergency Service and the Commission's authority to cancel or amend it in accordance with the applicant's agreement as indicated on the initial application for station authorization.

§ 97.191 Cancellation of station authorization.

(a) Each authorization for operation in the Radio Amateur Civil Emergency Service shall be issued with the express provision that such authorization is subject to revocation or cancellation without hearing whenever, in the opinion of the Commission, the security of the United States or the proper functioning of the Radio Amateur Civil Emergency Service would be served thereby, or termination of the national emergency makes it unnecessary to continue the operation of stations in this service.

(b) The station authorization shall be submitted to the Commission (via the Civil Defense Radio Officer) for cancellation under the following circumstances:

(1) The station for which the authorization was issued becomes inactive for a period of three months or it is not planned to use the station in the radio amateur civil emergency network for a period of at least three months.

(2) The basic amateur radio station license of the station has expired and has not been renewed.

(3) In cases where the amateur radio station license and the radio amateur civil emergency station authorization have both been modified, the original authorization of the latter shall be submitted to the Commission immediately upon receipt by the licensee of a new or modified authorization.

TECHNICAL REQUIREMENTS

§ 97.193 Frequencies available.

(a) The following tabulation indicates the frequencies and frequency bands, within the regularly allocated amateur frequency bands, which are available for use by stations in the Radio Amateur Civil Emergency Service. These frequencies and frequency bands may be used, on a non-exclusive basis (stations authorized in the Amateur Radio Service may also, pursuant to the provisions of § 97.61, use these frequencies or frequency bands until such time as national conditions require discontinuance of regular amateur operations), by the classes of radio amateur civil emergency stations or units of such stations indicated, and only with the types of emission shown in the right-hand column.

(1) For use only by authorized stations or units of such stations which are operated under the direct supervision of duly designated and responsible officials of the civil defense organization:

Frequency band:	*Authorized emission*
1800–1825 kc/s [1]	0.1A1, 1.1F1, 6A3
1975–2000 kc/s [1]	0.1A1, 1.1F1, 6A3
3500–3510 kc/s	0.1A1, 1.1F1
3990–4000 kc/s	0.1A1, 1.1F1, 6A3, 6F3

[1] Use of frequencies in the band 1800–2000 kc is subject to the priority of the Loran system of radionavigation in this band and to the geographical, frequency, emission, and power limitations contained in § 97.61 of the rules governing amateur radio stations and operators (Subparts A through E of this part). The use of these frequencies by stations authorized to be operated in the Radio Amateur Civil Emergency Service shall not be a bar to expansion of the radionavigation (Loran) service, and such use shall be considered temporary in the sense that it shall remain subject to cancellation or to revision, in whole or in part, without hearing, whenever the Commission shall deem such cancellation or revision to be necessary or desirable in the light of the priority within this band of the Loran system of radionavigation.

(2) For use by all authorized stations only in the continental United States, except that, the bands 7245–7255 and 14,220–14,230 kc/s are also available in Alaska, Hawaii, Puerto Rico, and the Virgin Islands:

Frequency band:	*Authorized emission*
3510–3516 kc/s	0.1A1, 1.1F1.
3516–3550 kc/s [1]	0.1A1, 1.1F1.
3984–3990 kc/s	0.1A1, 1.1F1, 6A3, 6F3.
7097–7103 kc/s	0.1A1, 1.1F1.
7103–7125 kc/s [1]	0.1A1, 1.1F1.
7245–7255 kc/s [1]	0.1A1, 1.1F1, 6A3, 6F3.
14047–14053 kc/s	0.1A1, 1.1F1.
14220–14230 kc/s [1]	0.1A1, 1.1F1, 6A3, 6F3.
21047–21053 kc/s	0.1A1, 1.1F1.

[1] The availability of the frequency bands 3516–3550 kc/s, 7103–7125 kc/s, 7245–7247 kc/s, 7253–7255 kc/s, 14220–14222 kc/s and 14228–14230 kc/s for use during periods of actual civil defense emergency is limited to the initial 30 days of such emergency, unless otherwise ordered by the Commission.

(3) For use by all authorized stations:

Frequency or frequency bands:	*Authorized emission*
3997 kc/s [1]	0.1A1, 6A3.
28.55–28.75 Mc/s	0.1A1, 6A3, 6F3, 6A4.
29.45–29.65 Mc/s	0.1A1, 1.1F1, 6A3, 6A4, 40F3.
50.35–50.75 Mc/s	0.1A1, 6A2, 6F2, 6A3, 6F3, 6A4.
53.30 Mc/s [1]	40F3.
53.35–53.75 Mc/s	0.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4, 40F3.
145.17–145.71 Mc/s	0.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4, 40F3.
146.79–147.33 Mc/s	0.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4, 40F3.
220–225 Mc/s	0.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4, 40F3.

[1] For use in emergency areas when required to make initial contact with military units; also, for communication with military stations on matters requiring coordination.

(b) The selection and use of specific frequencies within the authorized frequency bands by stations in the Radio Amateur Civil Emergency Service shall be in accordance with a coordinated local area and adjacent area civil defense communications plan and applicable rules of this part.

(c) Except as provided in paragraph (d) of this section, at such time as any or all of these frequency bands are withdrawn from availability to stations operating in the Amateur Radio Service, such bands shall be jointly available to stations in the Radio Amateur Civil Emergency Service and to stations in the military services for training and tactical operations. At that time, in areas where interference might occur, local mutual arrangements shall be made regarding times of operation such as to preclude or satisfactorily alleviate interference. In time of actual civil defense emergency, stations in the Radio Amateur Civil Emergency Service shall have absolute priority.

(d) In the band 220 to 225 Mc/s, stations operating in the Radio Amateur Civil Emergency Service shall not at any time cause harmful interference to the government radiolocation service.

§ 97.195 Classification of emissions.

(a) For the purposes of this subpart, the authorized emissions, as contained in the table of § 97.193, are defined as follows:

0.1A1—Continuous wave telegraphy.
1.1F1—Frequency shift telegraphy.
6A2—Telegraphy amplitude modulated at audio frequency.
6F2—Telegraphy frequency modulated at audio frequency.
6A3—Commercial quality amplitude modulated telephony.
6F3—Narrow band frequency or phase modulated telephony.
40F3—Wide band frequency or phase modulated telephony.
6A4—Amplitude modulated facsimile.

(b) On frequencies where wide band frequency or phase modulated telephony (40F3) is authorized, narrow band frequency or phase modulated telephony (6F3) may also be employed; similarly, where commercial quality amplitude modulated telephony (6A3) is authorized, single or double sideband am-

plitude modulated telephony, with or without carrier or with reduced carrier, may also be employed.

§ 97.197 Transmitter power.

The transmitting equipment of a radio station in this service shall be adjusted in such manner as to produce the minimum radiation necessary to carry out the communications desired. No station operating in this service shall use a direct current plate power input to the vacuum tube or tubes supplying energy to the antenna in excess of that permitted to be used by a licensed amateur radio station when operated on the same frequencies or in the same frequency bands in accordance with the provisions of the rules governing amateur radio stations and operators (Subparts A through E of this part).

§ 97.199 Equipment requirements.

(a) Except under the conditions specified in paragraph (b) of this section, all stations authorized to be operated in the Radio Amateur Civil Emergency Service shall be capable of receiving on the same frequencies or frequency bands utilized for transmission.

(b) When a station in this service is operated only on a single frequency or frequency band for cross-band operation in communication with a station or stations operating on another frequency or in another frequency band, or in other services, such station shall be capable of receiving the station with which it is communicating.

(c) The direct modulation of an oscillator with a frequency stability less than that obtainable with crystal control, or the radiation of a signal having simultaneous amplitude and frequency or phase modulation, is prohibited on frequencies below 220 Mc.

§ 97.201 Alleviation of harmful interference.

(a) When emissions of stations in the Radio Amateur Civil Emergency Service, other than those necessary to carry on the desired communications, cause harmful interference to stations in this or any other service, the Commission may, in its discretion, require appropriate technical changes in the equipment to alleviate the interference.

(b) When the emissions of stations in the Radio Amateur Civil Emergency Service that are necessary to carry on the desired communications cause harmful interference to stations in other radio services, appropriate action shall be taken to alleviate such interference including, if necessary, the suspension (except during times of an actual state of civil emergency) of such emissions as cause the interference.

OPERATING REQUIREMENTS

§ 97.203 Operator requirements.

(a) No person shall operate a station in the Radio Amateur Civil Emergency Service unless (1) that person holds a valid radio operator license of the proper grade, as described in this section, and (2) that person holds a valid written certification by the chief of the local, regional, or state Civil Defense organization of the area in which he serves that he has satisfied all federal, state, and local requirements for enrollment in the Civil Defense organization as a radio operator and is actually enrolled therein. Such certification shall clearly indicate that a determination has been made as to his loyalty to the United States and general reliability in accordance with the procedures described in the approved civil defense communications plan for the area concerned. (See §§ 97.163(i) and 97.169.)

(b) The person manipulating the key of a manually operated radio-telegraph transmitter of a station authorized to operate in this service shall hold either (1) any class of amateur operator license issued by the Commission, other than the Technician or Novice Class, or (2) any class of commercial radiotelegraph operator license issued by the Commission other than the Temporary Limited Radiotelegraph Second Class Operator License, together with the certification required in accordance with the provisions of paragraph (a) of this section.

(c) Except as specifically provided in paragraphs (a) and (b) of this section, any station in the Radio Amateur Civil Emergency Service may be operated by the holder of any class of amateur or commercial radio operator license issued by the Commission other than a Temporary Limited Radiotelegraph Second Class Operator License or an Aircraft Radiotelephone Operator Authorization: *Provided*, That, when such operation is performed by the holder of a Novice Class amateur operator license or by the holder of a commercial radiotelephone or radiotelegraph third class operator license or restricted operator permit; (1) such operator shall be prohibited from making any adjustments that may result in improper transmitter operation, (2) the equipment shall be so designed and installed that none of the operations necessary to be performed during the course of the normal rendition of the service of the station may cause off-frequency operation or result in any unauthorized radiation, and (3) any needed adjustments of the transmitter that may affect the proper operation of the station shall be regularly made by or under the immediate supervision and responsibility of the holder of either an amateur operator license other than the Novice Class or a commercial radiotelephone or radiotelegraph first or second class operator license.

(d) All adjustments or tests during or coincident with the installation, servicing or maintenance of the transmitting equipment of a station in this service shall be made only by or under the immediate supervision and responsibility of the holder of either (1) an amateur operator license other than the Novice Class or (2) a commercial radiotelephone or radiotelegraph first or second class operator license issued by the Commission, who in addition holds the certification required in accordance with the provisions of paragraph (a) of this section.

§ 97.205 Operation at other than licensed location.

A station in this service, or any unit thereof, may be operated at any location in accordance with the approved civil defense communications plan for the area concerned, in the discretion of and as directed by the Civil Defense Radio Officer, without notice to the Commission and without limitation as to the length of time within which such operation takes place: *Provided*, That nothing in this section shall be construed to waive the necessity for modification of the authorization of a station in this service when the address of the licensee or the basic location of the station is changed, or for any other reason where, because of a change of the communications plan or other reason, the information heretofore furnished the Commission with the original application may be materially altered or changed.

§ 97.207 Availability of station authorizations and operator licenses.

(a) The original station authorization permitting operation of the licensed amateur station in the Radio Amateur Civil Emergency Service, or a photocopy thereof, shall be permanently attached to each transmitter of such station, including each transmitter which is capable of being operated and intended to be operated independently at different locations, if the transmitter is readily accessible, or, if the control position is located at a place other than the transmitter location, it may be posted at the control position: *Provided*, That, whenever a photocopy of the station authorization is utilized in compliance with the requirement of this paragraph, the original station authorization shall be made available for inspection upon reasonable request from any authorized representative of the Federal Government.

(b) The original radio operator license, or a verification card (FCC Form 758–F) in the case of the holder of a commercial radio operator license of the diploma type, of the operator controlling the emissions of a station authorized to be operated in this service together with the certification required by § 97.203(a), shall be carried on his person or kept immediately available at the place where he is operating the station or any independent unit of a station: *Provided*, That, whenever a verification card (FCC Form 758–F) is utilized in compliance with the requirement of this paragraph, the original operator license shall be made available for inspection upon reasonable request from an authorized representative of the Federal Government.

(c) When a licensed amateur station, or an independent unit of such station, is operated at a location other than that shown in its license in compliance with the provisions of this subpart, the basic amateur station license required by Subparts A through E of this part need not be readily available at the station or unit location, but shall be made available for inspection upon reasonable request from any authorized representative of the Federal Government.

§ 97.209 Radio station log.

(a) Except as otherwise expressly provided in this subpart, there shall be maintained at each radio amateur civil emergency station, or unit of such station, an accurate log of all operations.

The following information shall be recorded in such station log:

(1) The name and address of the station licensee, the regularly assigned call sign of the station and unit number if any, the name of the radio amateur civil emergency network or networks in which the station is normally operated, and the d.c. plate power input to the vacuum tube or tubes supplying energy to the transmitting antenna system. This information need be entered only once in the log unless there is a change in any of the items specified in this subparagraph, but the original entry and each change shall show the date on which the entry was made.

(2) The date and time of beginning and end of each period during which the station was operated, the purpose of such operation, and the frequencies or bands of frequencies on which the operation took place.

(3) The call signs or other identification of all stations or units of such stations with which communications are established or attempted during such period of operation.

(4) The signature of the licensed operator on duty and in charge of the operation of the station or unit of such station during each period of operation, and the signature of each licensed operator who manipulated the key of any manually operated radiotelegraph transmitter of such station or unit. The signature of the operator shall be entered with the date and time at the beginning and end of each period during which he performed the foregoing duties, and at least once on each page additional to the first page, covering the period for which he was the responsible operator. The signatures of any additional operators who operate the transmitter(s) during the regular watch of another operator and details to indicate the periods during which they operated the transmitter(s) shall be entered in the proper form.

(5) Upon completion of each period of operation for any purpose, there shall be entered in the log a summary of such operation describing the nature thereof and, if message traffic or other record communications were exchanged with other stations, an estimate of the amount of such traffic handled together with a report on any unusual delays which were experienced in the delivery of such messages.

(6) There shall be no erasure, obliteration, or destruction of any part of the log of any station or station unit. Corrections shall be made by striking out the erroneous portion and initialing and dating the corrections.

(b) Mobile radio amateur civil emergency stations or station units, and portable radio amateur civil emergency stations or station units, where not being operated at pre-determined fixed locations, shall be exempt from the requirements of maintaining a log to the extent that the entries required under the preceding paragraph of this section are substantially contained in the log of another station or stations operating in the same radio amateur civil emergency networks. All stations or station units operating in accordance with the provisions of this subpart shall be exempt from the requirements concerning station logs contained in Subpart D of this part whenever it is shown that compliance with these requirements would interfere with the expeditious handling of civil defense communications or communication drills.

(c) The current portion of the log shall be kept at the location of the operating or control position of the station or unit. Other portions of the log shall be retained by the licensee for a period of one year, at a place determined by the civil defense Radio Officer to be appropriate and advisable: *Provided*, That the logs of a station in this service shall be made available for inspection upon reasonable request by any authorized representative of the Federal Government: *And provided further*, That those portions of any log covering operation of a station in this service in connection with any actual condition jeopardizing the public safety or affecting the national defense or security shall not be destroyed unless prior approval for such destruction shall have been received from the Commission.

§ 97.211 Station identification.

(a) Stations operating in the Radio Amateur Civil Emergency Service shall identify themselves in the same manner and under the same conditions as prescribed in Subpart D of this part, except that:

(1) Additional designators to indicate portable or mobile operation, or to indicate operation at a location other than that specified in the station license, shall not be used.

(2) When engaged in network operation, after a station or unit has been fully identified at least once, further identification by that station or unit may be accomplished by the use of abbreviated call signs or other distinctive signals prescribed by the civil defense Radio Officer in lieu of the call signs otherwise required to be transmitted by that station or unit. A record of such abbreviated call signs or other distinctive signals shall be maintained by the Radio Officer and shall be made available for inspection upon reasonable request by any authorized representative of the Federal Government.

(b) When two or more separate units of a station, which is authorized to be operated in the Radio Amateur Civil Emergency Service, are operated independently at different locations, each unit shall separately identify itself by the addition of a unit number at the end of its call sign. When transmitting by telegraphy such additional identification shall immediately follow the basic call sign and to avoid confusion with portable or mobile indicators, shall not be separated therefrom by the use of the "slant" or fraction bar, or other punctuation mark or symbol.

§ 97.213 Tactical call signs.

Stations operating in this service, and independent units of such stations, may be assigned tactical or secret call signs by the Commission or by competent civil defense authority, and may utilize such tactical call signs in lieu of the call signs appearing on the station licenses when such use is directed by competent civil defense authority: *Provided*, That a list of all such tactical call signs assigned stations under his direction shall be maintained by the civil defense Radio Officer and shall be made available for inspection upon reasonable request by any authorized representative of the Federal Government: *And provided further*, That when such tactical call signs are intended to be used at times other than during communications in connection with actual or impending conditions which appear to jeopardize the defense or security of the United States, a list of such tactical call signs and the stations or units to which assigned shall be furnished the Commission prior to such use.

Use of Stations

§ 97.215 Limitations on use of stations.

(a) No station authorized to be operated in this service other than a control station as defined in this subpart, shall be operated for the purpose of transmitting any signal, message, or other communications except with the permission and under the operational control of the control station of the network in which it is operating: *Provided*, That nothing in the foregoing shall be construed to prohibit the transmission by any station or unit of a station of such signals as may be necessary for the purpose of alerting or making contact with the control station of the network, or for the purpose of transmitting actual emergency civil defense communications if the control station is disabled or is otherwise inoperative.

(b) Nothing in this section shall be construed to prevent the operation of a station which is authorized to be operated in this service for the purpose of brief tests or adjustments during or coincident with the installation, servicing or maintenance of such station: *Provided*, That the transmissions of that station during such tests or adjustments shall not cause harmful interference to the conduct of communications by any other station.

(c) No station in this service shall be used to transmit or to receive messages for hire, nor to transmit comunications for material compensation, direct or indirect, paid or promised.

§ 97.217 Hours of operation.

Stations in this service may be operated at such times and under such conditions as may be prescribed by the Communications Officer or other responsible official of the civil defense organization having jurisdiction over the area which the station will serve: *Provided*, That the communications of such stations shall at all times be in accordance with the permissible communications authorized in this subpart.

§ 97.219 Points of communication.

Stations in this service may communicate with each other, with stations in the Disaster Communications Service, and with stations of the United States Government which are authorized to exchange communications with stations in this service by the particular agency having control. In addition, stations in

this service may communicate, for the purpose of exchanging civil defense communications, with any other station in any service provided by the Commission's rules, whenever such station is authorized to communicate with stations in the Radio Amateur Civil Emergency Service by the provisions of the Commission's rules governing the class of station concerned or in accordance with the provisions of § 2.405 of this chapter.

§ 97.221 Permissible communications.

Stations in this service are authorized to transmit only the following types of civil defense communications:

(a) Communications for training purposes consisting of necessary drills and tests to insure establishment and maintenance of orderly and efficient operation of the radio amateur civil emergency networks and such other radio stations and networks as may be associated therewith for the conduct of civil defense communications, including communications directly concerned with the conduct of practice alerts, practice blackouts, practice mobilization, and other comparable situations as may be ordered or initiated by competent civil defense authority or by the United States governmental or military authority charged with the defense of the area concerned. All messages which are transmitted in connection with such drills, exercises and tests shall be clearly identified as such by use of any one of the words "Drill" or "Exercise" or "Test" in the body of such messages.

(b) Communications when there is an impending or actual condition jeopardizing the public safety or affecting the national defense or security:

(1) Communications directly concerning the activation of the radio amateur civil emergency station networks or such other radio stations and networks as may be associated with the networks for the conduct of civil defense communications.

(2) Communications directly concerning the conduct of service by the radio amateur civil emergency networks and such other radio stations and networks as may be associated therewith.

(3) Communications directly concerning safety of life, preservation of property, maintenance of law and order, alleviation of human suffering and need, and combating of armed attack or sabotage.

(4) Communications directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or that of other authorized governmental or relief agencies.

(5) Communications directly concerning the transaction of business essential to public welfare.

§ 97.223 Use of codes and ciphers.

Any station in this service is authorized to transmit messages in codes and ciphers and to utilize any method of secret or coded authentication of its transmissions when such method of concealing the contents of messages or such authentication procedure is prescribed by the competent civil defense authority of the area served by the station and is approved by the cognizant federal civil defense authorities.

§ 97.225 Priority of communications.

The order of priority of communications by stations in this service, when there is an impending or actual condition jeopardizing the public safety or affecting the defense or security of an area, shall be determined by the cognizant civil defense authority of the area concerned or his authorized representative.

§ 97.227 Operating procedure.

The operating procedure, and the method of circuit control by the control station of each network, shall be determined by the responsible civil defense authority of the area concerned and shall, in general, conform as nearly as possible to the operating procedure normally followed in other services in the expeditious handling of message traffic by the method of transmission in use.

APPENDICES

APPENDIX 1

EXAMINATION POINTS

Examinations for amateur radio operator licenses are conducted at the Commission's office in Washington, D.C., and at each field office of the Commission on the days designated by the Engineer in Charge of the office. Specific dates should be obtained from the Engineer in Charge of the nearest field office of the Commission.

Examinations are also given frequently, by appointment, at the Commission's offices at the following points:

Anchorage, Alaska.	San Pedro, Calif.
Beaumont, Tex.	Savannah, Ga.
Mobile, Ala.	Tampa, Fla.
San Diego, Calif.	

Examinations are also given at greater intervals at the places named below, which are visited for that purpose by Commission examiners from the field offices for such locations. For current schedules, exact time, place, and other details, inquiry should be addressed to the office conducting examinations at the chosen point.

QUARTERLY POINTS

Birmingham, Ala.	Nashville, Tenn.
Charleston, W. Va.	Oklahoma City, Okla.
Cincinnati, Ohio.	Omaha, Nebr.
Cleveland, Ohio.	Phoenix, Ariz.
Columbus, Ohio.	Pittsburgh, Pa.
Corpus Christi, Tex.	St. Louis, Mo.
Davenport, Iowa.	Salt Lake City, Utah.
Des Moines, Iowa.	San Antonio, Tex.
Fort Wayne, Ind.	Schenectady, N. Y.
Fresno, Calif.	Sioux Falls, S. Dak.
Grand Rapids, Mich.	Syracuse, N. Y.
Indianapolis, Ind.	Tulsa, Okla.
Knoxville, Tenn.	Williamsport, Pa.
Little Rock, Ark.	Winston-Salem, N. C.
Louisville, Ky.	
Memphis, Tenn.	
Milwaukee, Wis.	

SEMIANNUAL

Albuquerque, N. Mex.	Portland, Maine.
Boise, Idaho.	Roanoke, Va.
Hartford, Conn.	Spokane, Wash.
Jackson, Miss.	Tucson, Ariz.
Jacksonville, Fla.	Wichita, Kans.
	Wilmington, N. C.

ANNUAL

Amarillo, Tex.	Hilo, Hawaii
Bakersfield, Calif.	Jamestown, N. Dak.
Bangor, Maine.	Klamath Falls, Oreg.
Billings, Mont.	Lihue, Hawaii
El Paso, Tex.	Marquette, Mich.
Fairbanks, Alaska	Rapid City, S. Dak.
Great Falls, Mont.	Wailuku, Hawaii

Arrangements have also been made, including cooperation of other Federal agencies, for General Class examinations in outlying areas as follows:

Alaska: Alaska Communications System stations.

Guam: District Communications Officer, United States naval station.

Hawaii: At not exceeding one point on any island, by the Engineer in Charge (Honolulu).

APPENDIX 2

Extracts From Radio Regulations Annexed to the International Telecommunication Convention (Geneva, 1959)

ARTICLE 41—AMATEUR STATIONS

SECTION 1. Radiocommunications between amateur stations of different countries shall be forbidden if the administration of one of the countries concerned has notified that it objects to such radiocommunications.

SEC. 2. (1) When transmissions between amateur stations of different countries are permitted, they shall be made in plain language and shall be limited to messages of a technical nature relating to tests and to remarks of a personal character for which, by reason of their unimportance, recourse to the public telecommunications service is not justified. It is absolutely forbidden for amateur stations to be used for transmitting international communications on behalf of third parties.

(2) The preceding provisions may be modified by special arrangements between the administrations of the countries concerned.

SEC. 3. (1) Any person operating the apparatus of an amateur station shall have proved that he is able to send correctly by hand and to receive correctly by ear, texts in Morse code signals. Administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above 144 Mc/s.

(2) Administrations shall take such measures as they judge necessary to verify the technical qualifications of any person operating the apparatus of an amateur station.

SEC. 4. The maximum power of amateur stations shall be fixed by the administrations concerned, having regard to the technical qualifications of the operators and to the conditions under which these stations are to work.

SEC. 5. (1) All the general rules of the Convention and of these Regulations shall apply to amateur stations. In particular, the emitted frequency shall be as stable and as free from spurious emissions as the state of technical development for such stations permits.

(2) During the course of their transmissions, amateur stations shall transmit their call sign at short intervals.

APPENDIX 3

CLASSIFICATION OF EMISSIONS

For convenient reference the tabulation below is extracted from the classification of typical emissions in Part 2 of the Commission's Rules and Regulations and in the Radio Regulations, Geneva, 1959, and it includes only those general classifications which appear most applicable to the Amateur Radio Service.

Type of modulation	Type of transmission	Symbol
Amplitude	With no modulation	A0
	Telegraph without the use of modulating audio frequency (by on-off keying).	A1
	Telegraphy by the on-off keying of an amplitude modulating audio frequency or audio frequencies or by the on-off keying of the modulated emission (special case: an unkeyed emission amplitude modulated).	
	Telephony	A3[1]
	Facsimile	A4
	Television	A5
Frequency (or phase).	Telegraphy by frequency shift keying without the use of a modulating audio frequency.	F1
	Telegraphy by the on-off keying of a frequency modulating audio frequency or by the on-off keying of frequency modulated emission (special case: an unkeyed emission frequency modulated).	F2
	Telephony	F3
	Facsimile	F4
	Television	F5
Pulse		P

[1] In Part 97, unless specified otherwise, A3 includes single and double side band with full, reduced, or suppressed carrier.

APPENDIX 4

Convention Between the United States of America and Canada, Relating to the Operation by Citizens of Either Country of Certain Radio Equipment or Stations in the Other Country (Effective May 15, 1952)

ARTICLE III

It is agreed that persons holding appropriate amateur licenses issued by either country may operate their amateur stations in the territory of the other country under the following conditions:

(a) Each visiting amateur may be required to register and receive a permit before operating any amateur station licensed by his government.

(b) The visiting amateur will identify his station by:

(1) *Radiotelegraph operation.* The amateur call sign issued to him by the licensing country followed by a slant (/) sign and the amateur call sign prefix and call area number of the country he is visiting.

(2) *Radiotelephone operation.* The amateur call sign in English issued to him by the licensing country followed by the words, "fixed," "portable" or "mobile", as appropriate, and the amateur call sign prefix and call area number of the country he is visiting.

(c) Each amateur station shall indicate at least once during each contact with another station its geographical location as nearly as possible by city and state or city and province.

(d) In other respects the amateur station shall be operated in accordance with the laws and regulations of the country in which the station is temporarily located.

PART 99—DISASTER COMMUNICATIONS SERVICE

Subpart A—General

Subpart B—Station License or Authorization

Subpart C—Use of Stations

Subpart D—Operating Requirements

AUTHORITY: §§ 99.1 to 99.41 issued under 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. Subchap. I, III–VI.

Subpart A—General

§ 99.1 Basis and purpose.

(a) The basis of this part is the Communications Act of 1934, as amended, and applicable treaties and agreements to which the United States is a party. This part is issued pursuant to authority contained in Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of this part is to provide for the licensing or authorizing of radio stations to provide essential communications incident to or in connection with disasters or other incidents which involve loss of communication facilities normally available or which require the temporary establishment of communication facilities beyond those normally available.

§ 99.3 Definitions.

(a) *Disaster Communications Service.* A service of fixed, land, and mobile stations licensed, or authorized, to provide essential communications incident to or in connection with disasters or other incidents which involve loss of communications facilities normally available or which require the temporary establishment of communications facilities beyond those normally available.

(b) *Disaster.* An occurrence of such nature as to involve the health or safety of a community or large area, or the health or safety of any group of individuals in an isolated area to whom no normal means of communications are available, and include, but are not limited to, floods, earthquakes, hurricanes, explosions, aircraft or train wrecks, and consequences of armed attack.

(c) *Disaster station.* Any government or non-government radio station able to function as a fixed, land, or mobile station and authorized, if government, by its controlling federal government agency or licensed, if nongovernment, by the Federal Communications Commission to operate in the Disaster Communications Service. A single disaster station may consist of more than one unit, each capable of being operated independently as a fixed, land, or mobile station.

(d) *Associated station.* A disaster station is considered to be associated with a licensed station in some other service when both stations are licensed to the same licensee at the same location and both stations are included in at least one coordinated disaster communications plan of the area concerned. A portable station or a mobile station in the Disaster Communications Service will be considered to be associated with the station in the other service which is located at its base of operations.

(e) *Portable station.* A land station in the Disaster Communications Service which is capable of being moved from place to place and is in fact, from time to time, moved to and operated at unspecified fixed locations for the purpose of communicating with other fixed, land, or mobile stations.

(f) *Disaster communications.* Communications essential to the establishment and maintenance of communication channels to be used in connection with disasters or other incidents involving loss of communications facilities normally available or which demand the temporary establishment of communications facilities beyond those normally available, including communications necessary or incidental to drills and simulated disaster relief activity on the part of persons or organizations participating in the use of such communication channels; or communications or signals essential to the public welfare, or that of any segment of the public, including communications directly concerning safety of life, preservation of property, maintenance of law and order, and alleviation of human suffering and need, in the case of any actual or imminent disaster or other such incident.

(g) *Competent local authority.* That authority within a community or larger area which is so designated in the coordinated disaster communications plan for the area concerned, including any alternate authority who may be so designated in such plan. In the absence of the specifically designated authority, the individual in charge of the net control station, or his representative, for the organized disaster station network established in accordance with the coordinated disaster communications plan, shall be considered as competent authority for the activation of the stations of that network. Duly designated civil defense officials will be considered competent local authority in the organization or operation of disaster communications radio networks and stations, and in the coordination of disaster communications plans.

(h) *Antenna structure.* The radiating system, its supporting structures, and any surmounting appurtenances.

(i) *Aircraft landing area.* Any locality, either on land or water, including airports and intermediate landing fields, which is used, or approved for use, for landing and take-off of aircraft whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Subpart B—Station License or Authorization

§ 99.7 Eligibility.

(a) A license for a station to be operated in the Disaster Communications Service may be granted to any person eligible to hold a station license under the provisions of the Communications Act of 1934, as amended: *Provided*, That the station or proposed station is shown to constitute an element of a bona fide disaster communications network organized or to be organized and operated in accordance with a locally or regionally coordinated disaster communications plan under responsible leadership and direction. Duly designated civil defense official will be considered competent local authority in the organization or operation of disaster communications radio networks and stations, and in the coordination of disaster communications plans.

(b) Authorization for a United States Government station to operate in the Disaster Communications Service will be granted by the appropriate United States Government agency controlling that station.

§ 99.9 Organization of networks.

(a) Local disaster communication networks may be organized by any responsible local group or groups that may be in a position to provide such service. In any particular area there may be several such networks and each network may be independent of the others. Whenever there is more than one network in the same area, however, they must all share the available frequencies in an efficient and orderly manner, under a single coordinated disaster communications plan. Any particular network shall be organized and set up along such lines and in accordance with such disaster communications plan that an inspection of the written records of the network will show that there is in fact a local disaster network of definitely identified stations with appropriate and responsible leadership and rules for self government that provide for an orderly and efficient service. The various networks in adjacent areas shall establish proper liaison arrangements, which will become a part of their respective disaster communications plans, to provide for efficient use of the available frequencies and that, in case of need, communications may be handled on an inter-area basis.

(b) Each disaster communications network shall establish a basic operating procedure for the type or types of transmission to be employed; which operating procedure shall be based on a generally understood procedure in common use in other services for the types of communications and the types of transmissions to be employed.

§ 99.11 Applications.

(a) Application for construction permit and new license for a station to be operated in the Disaster Communications Service shall be submitted on FCC Form No. 525, signed by the applicant and countersigned by the competent local authority in charge of the disaster communications network in which the station is, primarily, intended to be operated. To facilitate a determination of eligibility, such application shall be accompanied by a statement describing in detail the purpose of the proposed station which shall include a copy of the locally coordinated disaster communications plan under which the station is intended to be operated unless such information has already been submitted to the Commission, in which case the application shall clearly identify that plan and the competent local authority under whose direction the station is proposed to be operated. In cases where a description of the station's antenna is required to be submitted on FCC Form No. 401–A, in accordance with the provisions of §99.13, such form shall be submitted concurrently with the application for construction permit and license.

(b) A single application for construction permit and station license may be filed to cover all transmitter units normally located or based at one specified fixed location. Separate applications must, however, be filed to cover each separate disaster station, as defined in § 99.3(c).

(c) Unless otherwise directed by the Commission, application for modification of station license in the Disaster Communications Service shall be submitted on FCC Form No. 525 in the same manner as application for construction permit and new license, whenever the license or the basic location of a licensed station is proposed to be changed.

(d) Application for renewal of station license shall be submitted on FCC Form No. 405–A. Unless otherwise directed by the Commission, each application for renewal of license shall be filed during the last 60 days of the license term. In any case in which the licensee has, in accordance with the Commission's rules made timely and sufficient application for renewal of license, no license with reference to any activity of a continuing nature shall expire until such application shall have been finally determined.

(e) In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, temporary fixed, Citizens Radio, Civil Air Patrol, or Amateur seeking a station license for a new station, a construction permit to construct a new station or to modify an existing station license in a manner which would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39°15′ N on the north, 78°30′ W on the east, 37°30′ N on the south and 80°30′ W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P. O. Box #2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 99.13 Limitation on antenna structures.

(a) No new antenna structure shall be erected for use by any station licensed or proposed to be licensed in the Disaster Communications Service, and no changes shall be made in any existing antenna structure for use or intended to be used by any station licensed or proposed to be licensed in the Disaster Communications Service so as to increase its over-all height above ground level, without prior approval by the Commission, in any case when either (1) the antenna structure proposed to be erected will exceed an overall height of 170 feet above ground level, except where the antenna is mounted on an existing man-made structure other than an antenna structure and does not increase the overall height of such man-made structure by more than 20 feet, or (2) the antenna structure proposed to be erected will exceed an overall height of one foot above the established airport (landing area) elevation for each 200 feet of distance, or fraction thereof, from the nearest boundary of such landing area, except where the antenna does not exceed 20 feet above the ground or if the antenna is mounted on an existing man-made structure other than an antenna structure or natural formation and does not increase the overall height of such man-made structure or natural formation by more than 20 feet as a result of such mounting. Application for Commission approval, when such approval is required, shall be submitted, in triplicate, on FCC Form 401–A (revised).

(b) In cases where FCC Form 401-A (revised) is required to be filed, further details as to whether an aeronautical study and/or obstruction marking may be required, and specifications for obstruction marking when required, may be obtained from Part 17 of this chapter, "Construction, Marking, and Lighting of Antenna Structures." Information regarding requirements as to inspection of obstruction marking, recording of information regarding such inspection, and maintenance of antenna structures is also contained in Part 17 of this chapter.

§ 99.15 License term.

A license to operate a radio station in the Disaster Communications Service will be issued for a term of from one to five years from the effective date of grant as the Commission may determine in each case to permit the orderly sched-

uling of renewals, and for a renewal term of four years from the effective date of renewal.

Subpart C—Use of Stations

§ 99.17 Activation of stations.

(a) All stations in the Disaster Communications Service are authorized to be operated on the frequencies and with the types of emission specified by this part only when competent local authority either (1) determines that an impending or actual disaster or other such incident warrants their activation, or (2) schedules training operations, practice drills or tests to keep the networks and associated stations alert and efficient.

(b) Except during scheduled training operations, practice drills or tests, the scene of disaster frequency shall be used only (1) by the station or stations actually located in the disaster area and those stations with which the station or stations actually in such disaster area are in direct communication, or (2) as a notification frequency, for the transmission of any authorized emission including automatic alarm signals, when a disaster is imminent or has occurred, or (3) in an impending disaster situation, as a calling frequency for preliminary contacts in establishing or alerting nets, or (4) as a calling frequency for non-net stations seeking contact with the control station of a net for disaster-related communications.

(c) Nothing in this section shall be deemed to prevent any radio station from operating on the scene of disaster frequency, using such equipment and such power as may be available or necessary, and communicating in accordance with the provisions of paragraph (b) of this section at any time the safety of life or property within the area of responsibility of that station is in danger as a result of an impending or actual disaster or other such incident.

§ 99.19 Points of communications.

All stations in the Disaster Communications Service, when activated in accordance with the provisions of § 99.17 are authorized to communicate with each other, with stations in the Amateur Radio Service, and with stations of the United States Government which are authorized by their controlling federal government agencies to communicate with stations in the Disaster Communications Service; and are further authorized to communicate with any station in any service licensed by the Federal Communications Commission whenever such station is authorized to communicate with stations in the Disaster Communications Service by the provisions of the Commission's rules governing the class of station concerned or in accordance with the provisions of § 2.405 of this chapter.

§ 99.21 Limitations on use.

(a) Stations operating in the Disaster Communications Service are authorized to transmit and to receive only those types of communications set forth in § 99.23 for:

(1) Liaison purposes for the coordination of the activities of various local or larger mutual aid organizations, between established individual or network stations authorized to operate in other services and engaged in disaster communications on their own regularly assigned service frequencies; or

(2) Direct operation as a part of a disaster communications network established for the purpose of providing disaster communications for an organization or organizations having no other frequencies available or none satisfactory for the distances or locations to be covered.

(b) Stations operating in the Disaster Communications Service are authorized to retransmit, by automatic means, authorized disaster communications being transmitted by other stations of the same disaster communications network, and to originate and transmit, by automatic means, distinctive signals, on the scene of disaster frequency only, for the alerting of the disaster communications network and/or for the actuation of selective signaling, calling or alerting devices: *Provided,* That when such automatic transmission or retransmission is employed, such stations shall not emit radio-frequency energy except when actually transmitting authorized disaster communications.

(c) Nothing in this section shall be construed to prevent the operation of a station in the Disaster Communications Service for the purpose of brief tests or adjustments during or coincident with the installation, servicing or maintenance of such station: *Provided,* That the transmissions of that station during such tests or adjustments shall not cause harmful interference to the conduct of communications by any other station.

(d) A station in the Disaster Communications Service shall not be used to transmit or to receive messages for hire, nor for communications for material compensation, direct or indirect, paid or promised.

§ 99.23 Permissible communications.

Stations in the Disaster Communications Service are authorized to transmit and to receive only the following types of disaster communications:

(a) Communications when there is no impending or actual disaster:

(1) Necessary drills and tests to insure the establishment and maintenance of efficient networks of stations in the Disaster Communications Service and other authorized services. These drills and tests may include the prearranged exchange of communications by stations of established networks with stations outside any established network where the purpose of such exchange is to provide training and practice in the establishment and maintenance of liaison and coordination between such networks and non-network stations. Such drills and tests shall not be permitted, in any way, to interfere with communications in connection with any actual or impending disaster or other such incident.

(b) Communications when there is an impending or actual disaster:

(1) Communications directly concerning:

(i) The activation of a disaster network, or

(ii) The establishment and maintenance of liaison and coordination between:

(*a*) The stations of one network and the stations of any other network, or

(*b*) Any network station and any non-network station of any agency possessed of its own system of radiocommunication which is actually engaged in averting or overcoming the effects of the disaster, or

(*c*) Any non-network station of one agency possessed of its own system of radiocommunication which is actually engaged in averting or overcoming the effects of the disaster and any non-network station of any other agency possessed of its own system of radiocommunication which is actually engaged in averting or overcoming the effects of the disaster.

(2) Communications directly concerning the conduct of service by an activated disaster network.

(3) Communications directly concerning safety of life, preservation of property, maintenance of law and order, and alleviation of human suffering and need by authorized government and relief agencies.

(4) Communications directly concerning the accumulation and dissemination of public information regarding safety of life, preservation of property, maintenance of law and order, or alleviation of human suffering and need by authorized government or relief agencies.

(5) Communications directly concerning the transaction of business essential to the public welfare.

(6) Communications concerning personal matters of individuals directly affected by the disaster.

(c) The order of priority of communications when there is an impending or actual disaster shall be as determined by the competent local authority activating the station or network, or his authorized representative.

99.25 Station identification.

(a) *Call signs.* Disaster stations licensed by the Commission will be assigned distinctive call signs consisting of four letters and one digit. Stations of the United States Government authorized to operate in the Disaster Communications Service will be assigned appropriate call signs by the appropriate United States Government agencies from the call signs available to such agencies.

(b) *Use of call signs*—(1) *Radiotelegraph.* When transmitting by radiotelegraphy, each disaster station shall transmit the call sign of the station being called followed by its own call sign at the beginning of each series of communications with the called station, at least once each fifteen minutes of such operation, and when terminating communications with the called station. One-way transmissions intended for several stations shall be identified in the same manner except that a general call may be used in place of the call signs of the several stations intended to receive the transmissions. Test transmissions of a station making adjustments shall be identified by the transmission of the sta-

tion call sign at the beginning and end of the test period and at least each 30 seconds during such period.

(2) *Radiotelephone.* When transmitting by radiotelephony, each disaster station shall identify itself and the station or stations being called in the same manner prescribed in this section for identification during radiotelegraph transmissions, except that, if there is no possibility of confusion, the name, location, or other designation of the station may be used in lieu of the call sign when that name, location, or other designation is the same as that of an associated station in some other service and is authorized to be used by such associated station when identifying itself on its regularly assigned frequencies.

(3) *Multiple units.* When two or more separate units of a station are operated at different locations, each unit shall separately identify itself by the addition of a unit name, number or other designation at the end of its call sign or other authorized means of identification. When transmitting by radiotelegraphy, such additional identification shall be separated from the call sign by use of the "slant" or fraction bar.

(4) *Additional identifications.* A list of all general or collective call signs, unit designators, and other authorized substitutes for or additions to assigned call signs used in each disaster station network shall be maintained at the control station of such network, and shall be made available for inspection upon reasonable request from any authorized representative of the federal government.

(c) *Automatic operation.* Stations which are entirely automatic in their operation, including automatic modulation of the carrier, shall be exempt from the requirements of paragraph (b) of this section.

§ 99.27 Radio station log.

(a) The licensee of each radio station licensed in the Disaster Communications Service shall keep an accurate log of all operations in the 1750–1800 kc. band, which shall include the following:

(1) Name and address of the disaster station licensee, station call sign used in the Disaster Communications Service, date of expiration of the disaster station license, and d.c. plate power input to the vacuum tube or tubes supplying energy to the transmitting antenna system. This information need be entered only once in the log unless there is a change in any of the items in this subparagraph. Each change shall be entered with the date the change is made.

(2) Date and time of beginning and end of each period during which the disaster station is operated.

(3) Signature of each licensed operator who manipulates the key of a manually operated radiotelegraph transmitter or the signature of each licensed operator who operates a transmitter using any other type of emission, and the name (or signature) of any person not holding an operator license who transmits by voice over the facilities of that station other than by automatic relay of the signal of another station or stations. The signature of the operator shall be entered with the date and time at both the beginning and the end of each period during which he is manning the controls of the disaster station and at least once on each page additional to the first page covering the period for which he is the responsible operator. The signature of any additional operator who operates the station during the regular watch of another operator shall be entered in the proper space for that additional operator's transmissions.

(4) Upon the completion of each period of operation for drill, training, liaison or test purposes and each period of operation in connection with an impending or actual disaster, there shall be entered in the log a summary of such operation describing its nature and giving pertinent details.

(5) There shall be no erasures, obliterations or destruction of any part of the disaster station log. Corrections shall be made by striking out erroneous portions and initialing and dating the correction.

(b) The current portion of the log of a licensed disaster station shall be kept at the location of the control position of such station. Other portions of the log shall be retained by the licensee for a period of at least one year, at such place as he may deem appropriate and advisable: *Provided,* That the log of a disaster station shall be made available for inspection upon reasonable request by any authorized representative of the federal government: *And provided further,* That those portions of any disaster station log covering operation of such station in connection with any actual disaster shall not be destroyed unless prior approval for such destruction shall have been received from the Commission.

(c) Stations which are entirely automatic in their operation, including automatic modulation of the carrier, shall be exempt from the requirements of paragraph (a) (2), (3) and (4) of this section, with respect to all operation of such stations which is adequately recorded in the log of any other station of the same disaster network.

Subpart D—Operating Requirements

§ 99.29 Limitations on use of frequencies.

(a) The assigned frequencies in the band 1750–1800 kc/s are available to stations in this Service upon a shared basis with the stations in the Industrial Radiolocation Service also assigned frequencies within that band: *Provided however,* That, except when transmitting in connection with an actual or imminent disaster in any area, stations in the Disaster Communications Service shall not cause harmful interference to stations in the Industrial Radiolocation Service between the times at New Orleans, Louisiana, and Los Angeles, California, respectively, of sunrise and sunset: *And provided further,* That stations in the Industrial Radiolocation Service shall not cause harmful interference to stations in the Disaster Communications Service between the times at New Orleans, Louisiana, and Los Angeles, California, respectively, of sunset and sunrise, or at any time during an actual or imminent disaster in any area.

(1) The average times of sunrise and sunset at New Orleans, Louisiana, based on central standard time, are as follows:

	Jan.	Feb.	Mar.	Apr.	May	June
Sunrise	7:00	6:45	6:15	5:30	5:15	5:30
Sunset	5:15	5:45	6:15	6:30	6:45	7:00

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Sunrise	5:15	5:30	5:45	6:00	6:30	6:45
Sunset	7:00	6:45	6:00	5:30	5:00	5:00

(2) The average times of sunrise and sunset at Los Angeles, California, based on Pacific standard time, are as follows:

	Jan.	Feb.	Mar.	Apr.	May	June
Sunrise	7:00	6:45	6:00	5:30	4:45	4:45
Sunset	5:00	5:30	6:00	6:30	6:45	7:00

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Sunrise	4:45	5:15	5:30	6:00	6:30	6:45
Sunset	7:00	6:45	6:00	5:15	4:45	4:45

(b) During the periods specified in paragraph (a) of this section when stations in the Disaster Communications Service shall not cause harmful interference to stations in the Industrial Radiolocation Service, the operation of a disaster station for the purpose of drills or tests shall not be permitted if the licensee of such station has reason to believe or has been informed that such operation might reasonably be expected to cause harmful interference to stations in the Industrial Radiolocation Service, except by mutual agreement between the licensees in both services through the channels of liaison prescribed in § 99.31. Stations in the Industrial Radiolocation Service are authorized to use frequencies in the 1750–1800 kc/s band under the condition, among others, that such use shall be limited to locations within 150 miles of the shoreline of the Gulf of Mexico, or within 15 miles inland and 150 miles offshore of that portion of the shoreline of the State of California south of 35 degrees 30 minutes North latitude.

§ 99.31 Liaison with licensees in the Industrial Radiolocation Service.

To carry into effect the requirements of § 99.29, and of § 91.611 in Part 91, Industrial Radio Services, of this chapter, including a positive means whereby operation in the Industrial Radiolocation Service can be suspended to protect stations in this Service against harmful interference during operation in connection with an actual or imminent disaster or during other hours when stations in this Service have priority on the use of frequencies in the 1750–1800 kc/s band, there shall be established an adequate and reliable system of notification and liaison between licensees in this Service and licensees in the Industrial Radiolocation Service. The extent and division of responsibility for various phases of the

notification and liaison system shall be as follows:

(a) Organization and establishment of a system of liaison within the Industrial Radiolocation Service, the devising of a system for the receipt and distribution of notification information; and the installation, operation and maintenance of such a system shall be the responsibility of licensees in the Industrial Radiolocation Service authorized to operate in the band 1750–1800 kc/s.

(b) Organization and establishment of a system of liaison within the Disaster Communications Service; and the devising of a method for the dispatch of notification information to the person or persons designated by licensees in the Industrial Radiolocation Service shall be the responsibility of licensees in the Disaster Communications Service authorized to operate in the band 1750–1800 kc/s.

(c) The responsibility for the initiation of liaison between licensees in the Industrial Radiolocation Service and the licensees in the Disaster Communications Service shall be the responsibility of the former.

(d) Once initiated, the maintenance, review and improvement of liaison between licensees in the two Services shall be the joint responsibility of both groups.

(e) Issuance of notification to suspend operation in the Industrial Radiolocation Service due to an impending or actual disaster shall be the responsibility of licensees in the Disaster Communications Service. Such notification shall be by those means which have been mutually agreed upon as sufficiently adequate, prompt and reliable to effectuate the purpose of this section. Any desired communication method or combination of methods may be utilized, and may be supplemented as necessary in case of failure of the agreed-upon method of notification.

(f) When stations in the Industrial Radiolocation Service have discontinued transmitting to protect disaster communications in connection with an imminent or actual disaster, and when the point has been reached where there is no reasonable possibility that radiolocation transmissions will cause harmful interference to the disaster communications, it shall be the responsibility of licensees in the Disaster Communications Service to communicate this information promptly to the licensees in the Industrial Radiolocation Service so that they may resume operation at will.

(g) The notification and liaison procedure hereby required to be established shall be limited to that geographical area within which there is a reasonable anticipation, determined by actual tests whenever practicable, that harmful interference may be caused by a licensee in the Industrial Radiolocation Service to licensees in the Disaster Communications Service.

§ 99.33 Assigned frequencies and authorized emissions.

(a) The following frequencies in the frequency band 1750–1800 kc/s are assigned, on a nonexclusive basis, to all stations in the Disaster Communications Service. The selection and use of these frequencies shall be in accordance with a coordinated local area and adjacent area disaster communications plan (see § 99.3(g)), the specific types of emission herein indicated, and the other applicable provisions of this part:

Channel No.	*Channel width*	*Assigned frequency*	*Authorized emission*
(1) Radiotelegraph channels			
1	1 kc/s	1750.5 kc/s	0.5A1
2	1 kc/s	1751.5 kc/s	0.5A1
3	1 kc/s	1752.5 kc/s	0.5A1
4	1 kc/s	1753.5 kc/s	0.5A1
5	1 kc/s	1754.5 kc/s	0.5A1
6	1 kc/s	1755.5 kc/s	0.5A1
7	1 kc/s	1756.5 kc/s	0.5A1
8	1 kc/s	1757.5 kc/s	0.5A1
(2) Scene of Disaster channel			
9	7 kc/s	1761.5 kc/s	0.5A1, 2.5A2, or 6A3
(3) Radiophone channels			
10	7 kc/s	1768.5 kc/s	6A3
11	7 kc/s	1775.5 kc/s	6A3
12	7 kc/s	1782.5 kc/s	6A3
13	7 kc/s	1789.5 kc/s	6A3
14	7 kc/s	1796.5 kc/s	6A3

(b) In the table in paragraph (a) of this section, a figure specifying the maximum authorized bandwidth in kilocycles to be occupied by the emission is shown as a prefix to the authorized emission classification. The specified bandwidth shall contain those frequencies upon which a total of 99 percent of the radiated power appears, and shall include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power. Any radiation in excess of the limits specified is considered to be an unauthorized emission.

(c) When an unauthorized emission results in harmful interference, the Commission may, in its discretion, require appropriate technical changes in equipment to alleviate the interference.

§ 99.35 Transmitting power.

The transmitting equipment of a radio station in the Disaster Communications Service shall be adjusted in such a manner as to produce the minimum radiation necessary to carry out the communications desired when such station is operating in the frequency band 1750–1800 kilocycles. No station in the Disaster Communications Service shall be operated on these frequencies using a direct current plate power input to the vacuum tube or tubes supplying energy to the antenna in excess of 500 watts, except when operating on the scene of disaster frequency in accordance with the provisions of § 99.17(c).

§ 99.37 Equipment requirements.

(a) All stations in the Disaster Communications Service, except those intended only for the transmission of an automatic alarm or alerting signal, shall be capable of both transmitting and receiving on the scene of disaster frequency.

(b) The carrier frequency of each licensed station in the Disaster Communications Service shall be maintained within 0.015 percent of the assigned frequency.

(c) When the radio frequency carrier of a station in the Disaster Communications Service is amplitude modulated, such modulation shall not exceed 100 percent on negative peaks.

(d) The licensee of each station in the Disaster Communications Service which is utilized for the transmission of Type A–1 or Type A–3 emission shall use adequately filtered direct-current plate power supply for the transmitter to minimize modulation from that source.

§ 99.39 Operator requirements.

(a) Except under the conditions specified in paragraph (d) of this section, one or more licensed radio operators of the class or grade specified in paragraph (b) of this section shall be on duty at the place where the transmitting apparatus of each licensed disaster station is located, or at the control position of such station if the control position is located at a place other than the location of the transmitting apparatus, and in actual charge thereof whenever it is being operated for the purpose of transmitting disaster communications, as defined in § 99.3(f), or is otherwise placed in a condition so as to produce radiation of radio frequency energy. No person shall manipulate the radiotelegraph key of a licensed disaster station for the purpose of manually transmitting radiotelegraph signals except under and in accordance with the authority of an operator license granting appropriate radiotelegraph operating privileges in accordance with the provisions of paragraph (b) of this section.

(b) Disaster stations licensed by the Federal Communications Commission may be operated, when properly transmitting in accordance with the provisions of this part, by the holders of:

(1) Any amateur radio operator license issued by the Federal Communications Commission which authorizes the holder thereof to operate an amateur radio station in the amateur segments of the 1800–2000 kc. frequency band; or

(2) Any commercial radio operator license issued by the Federal Communications Commission: *Provided,* That the holder of such commercial radio operator license shall perform or be responsible for only those operating duties and responsibilities at a disaster station which he is authorized, under the authority of such license, to perform or be responsible for at some other class of station licensed by the Commission when using the same type of emission and method of operation on a frequency or frequencies below 25 Mc/s.

(c) When a station of the United States Government is authorized by the appropriate United States Government agency concerned to be operated in the Disaster Communications Service, the operator requirements for that station will be determined by the authorizing agency.

(d) Stations which are entirely automatic in their operation, including automatic modulation of the carrier, shall be exempt from the provisions of paragraph (a) of this section during the

course of the normal rendition of the service of such stations: *Provided*, That all adjustments or tests during or coincident with the installation, servicing or maintenance of such stations shall be performed only by or under the immediate supervision and responsibility of a duly licensed operator whose license authorizes him to operate the station under those conditions in accordance with the provisions of paragraph (b) of this section: *And provided further*, That the station shall be so designed and installed as to be inaccessible to unauthorized personnel and incapable of any unauthorized transmission.

§ 99.41 Availability of station and operator licenses.

(a) The original station license for a station in the Disaster Communications Service, or a photocopy thereof, shall be permanently attached to each transmitter of such station if the transmitter is readily accessible, or permanently posted at the control position of such station if the control position is located at a place other than the location of the transmitter.

(b) The original radio operator license or verification card (FCC Form No. 758-F) of the operator controlling the emissions of a licensed station in the Disaster Communications Service shall be carried on his person or kept immediately available at the place where he is operating the station.

(c) Whenever the original station license is not posted in accordance with the provisions of paragraph (a) of this section, or whenever the original operator license is not readily available at the place where the operator is on duty, such original license shall be made available for inspection upon reasonable request from any authorized representative of the federal government.

[F.R. Doc. 63-13275; Filed, Dec. 20, 1963; 8:48 a.m.]