

775 013

GHQ/SCAP Records (RG 331, National Archives and Records Service)

Description of contents

- (1) Box no. 2904
- (2) Folder title/number: (17)
Application for the Partial Release of the Equipments Designated for Custody and Control of the Shipbuilding Yard

(3) Date: Oct. 1946

(4) Subject:

Classification	Type of record
9230, 9621	c

(5) Item description and comment:

Kanagawa

(6) Reproduction: Yes No

(7) Film no. Sheet no.

(Compiled by National Diet Library)

773 013

4

61

APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.

October 28th, 1946

TOSHIO TETSUKA
DIRECTOR
KAWASAKI SHIPBUILDING YARD
(KANSEN FACTORY)
KAWASAKI HEAVY INDUSTRIES, LTD.

775 013

APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.

October 28th, 1946

T. Tetsuka
TOSHIO TETSUKA
DIRECTOR
KAWASAKI SHIPBUILDING YARD
(KANSEN FACTORY)
KAWASAKI HEAVY INDUSTRIES, LTD.

775 013

APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.

(No.1 Electric Machinery Department)

October 28th, 1946

KAWASAKI SHIPBUILDING YARD
(KANSEN FACTORY)

775 013

1946 - 10 - 28

List of Equipment Applied

List of Equipment Applied for

1946 - 10 - 28

Name of Equipments Applied for Release	Kind of equipment		Building applied for release		(1) Total Number of machine set	Machineries and Equipments		
	No. of house	Floor area sq.m	No. of house	Floor area sq.m		E. dept	B. dept	E. dept
No.1 Electric Machine shop	1	* 4,875.49	1		221	126	-	-
No.2 "	1	* 1,830.98	1		26	15	-	-
No.5 & No.6 Machine shop	1	19,602.30	1		589	133	3	-
No.7 "	1	11,598.10	1		647	140	-	-
No.1 "	5	10,394.69	5		372	57	90	4
No.2 "	-	Bldg. Unnecessary	-		48	-	4	-
Erecting shop	5	7,064.46	5		38	13	14	-
No.1 Tool shop	2	1,565.36	2		214	24	16	3
No.2 "	1	1,072.60	1		71	9	3	-
Boiler shop	12	16,133.79	12		336	47	98	-
Forge shop	2	1,719.02	2		73	6	6	-
Foundry Containing Pattern shop	10	9,089.30	10		149	27	21	-
No.1 Pipe shop	2	2,367.78	2		44	5	3	-
Material laboratory	1	284.96	1		31	9	5	-
Misc. machineries	-	-	-		-	3	-	-
Blue printing room	-	Building unnecessary	-		1	-	-	1
No.1 Substation	1	304.03	1		-	-	-	-
No.2 "	1	301.31	1		-	-	-	-
No.3 "	1	737.69	1		-	-	-	-
No.2 Air-compressor room	1	403.31	1		-	-	-	-
Equipment of Power plant	-	-	-		860	36	24	44
Equipment of transportation	-	-	-		34	-	1	12
TOTAL	48 (46)	** 89,286.27 (82,579.30) sq.m			3,504	650	293	64

Machineries & equipments are in the next item, "Equipment Plant"

775 013

List of Equipment Applied for Partial Release

Kawasaki Shipbuilding Yard.

Machineries and Equipments						
(1) Total Number of machine set	Number of machine applied for release			(2) Total set	Percentage of (2) to (1)	Note
	E. dep't	B. dept	E & B dept			
221	126	-	-	126	57%	E dep't means Elect. Machinery
26	15	-	-	15	58%	Department,
589	133	3	-	136	23%	B dep't means Boiler and
647	140	-	-	140	40%	Chemical Engineering Dep't.
372	67	90	2	159	41%	
48	-	4	-	4	8%	* Buildings of No.1 & No.2
33	13	14	-	27	31%	Elect. Machine shop will be
214	24	16	3	43	20%	unnecessary if we can use
71	9	3	-	12	24%	No.5, No.6, and No.7 Machine shop
336	47	98	-	145	43%	being able to contain machi-
73	6	6	-	12	16%	neries of them.
149	27	21	-	48	32%	(32,579.30)
44	5	3	-	8	18%	** Percentage of 39,236.27 sq.m
31	9	5	-	14	45%	to 173,148.39 sq.m, total sum
-	3	-	-	3	-	of floor area in our all plant.
necessary 1	-	-	1	1	100%	: 51% (48%)
) Machineries & equipments are included - *** Percentage of 1,007 sets						
) in the next item, "Equipment of Power - to 4,382 sets, total sum of						
) Plant" - machineries & equipments in						
860	36	24	44	104	12%	our all plant : 23%
34	-	1	12	13	38%	
q.m 3,504	650	293	64	1,007	29%	() indicates total number excluding No.1 & No.2 Elect. Machine shop.

775 013

APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.

(Electric Machinery Department)

----- Contents -----

	Page
(1) Name of the company and factory designated for custody	1
(2) Location of the equipment designated for custody	1
(3) Equipment applied for partial release	1
(4) Location of the equipment applied for release	3
(5) Commencement of the operation for the equipment applied for release	3
(6) History of the equipment applied for release	3
(7) Detail of works in the equipment applied for release	7
a. Items and Numbers of annual products 1934-1936	7
b. Items and Numbers of annual products 1937-1945	8
c. Detail of works after the termination of the war	9
d. Production schedule	10
e. Percentage ratio of our monthly production to the total production in Japan	12
(8) The reason for the application for release	13
(9) General condition of the equipments applied for release ..	15
A. No.1 Electric Machine shop	15
B. No.2 Electric Machine shop	20
C. No.5 and No.6 Machine shop	21
D. No.7 Machine shop	24
E. No.1 Machine shop	27
F. Erecting shop	30
G. No.1 Tool shop	32

H. No.2 Tool shop 34
I. Boiler shop 35
J. Forge shop 38
K. Foundry (Containing Pattern shop) 39
L. No.1 Pipe shop 41
M. Material laboratory 42
N. Miscellaneous machineries and equipments 43
O. Blue printing room 44
P. Facilities for power plant 44
Q. Equipment for transportation 48

- E N D -

775 013

(1) Name of the company and factory designated for custody,
 Kawasaki Heavy Industries, Ltd.
 Kawasaki Shipbuilding Yard. (Kansen Factory)

(2) Location:
 No.14, 2-chome, Higashikawasaki-cho, Ikuta-ku,
 Kobe.

(3) Equipment applied for partial release:
 (See the map attached.)

Name of equip- ment applied for release	Kind of Equipment applied for release, and percentage ratio of release				Note
	Building applied for release	Per- cent- age	Machine- ry appli- ed for release	Per- cent- age	
No.1 Electric machine shop	Floor area 4,875.49 sq.m 1 house	(100%)	126 sets	57%	Buildings of No.1 & No.2 Elect. machine shop will be unnecessary if we can use No.5 No.6 & No.7 Machine shop, being able to contain machine- ries of them.
No.2 Electric machine shop	1,830.98 sq.m 1 house	(100%)	15 sets	58%	
No.5 & No.6 Machine shop	19,602.30 sq.m 1 house	100%	133 sets	22%	
No.7 Machine shop	11,598.10 sq.m 1 house	100%	140 sets	40%	
No.1 Machine shop	10,394.69 sq.m 5 houses	100%	61 sets	16%	Buildings are used by the both Elect. Machinery Dep't & Boiler & Chemi- cal Engineering Department.

775 013

Erecting shop	7,064.46 sq.m 5 houses	100%	13 sets	16%	Buildings are used by the both Elect. Machinery Dep't & Boiler & Chemical Engineering Dep't
No.1 Tool shop	1,565.86 sq.m 1 house	100%	27 sets	13%	
No.2 Tool shop	1,072.60 sq.m 1 house	100%	9 sets	19%	"
Boiler shop	16,183.79 sq.m 12 houses	100%	47 sets	14%	"
Forge shop	1,719.02 sq.m 2 houses	100%	6 sets	8%	"
Foundry Containing pattern shop	9,029.30 sq.m 10 houses	100%	27 sets	21%	"
No.1 Pipe shop	2,367.78 sq.m 2 houses	100%	5 sets	11%	"
Material laboratory	261.46 sq.m 1 house	100%	9 sets	29%	"
Misc. machineries	-	-	3 sets	-	"
Blue printing room	Building is unnecessary	-	1 set	100%	used by the above both dep'ts.
No.1 Substation	304.03 sq.m 1 house	100%	} Machineries & equipments are contained in the next item, "Equipments of power plant."	}	facilities for power, used by the both dep'ts.
No.2 Substation	301.91 sq.m 1 house	100%			"
No.3 Substation	737.69 sq.m 1 house	100%			"
No.2 Air- compressor room	403.31 sq.m 1 house	100%			"
Equipments of power plant	-	-	80 sets	9%	44sets: used by the both, 36sets: used by Electric Machinery Dep't only.
Equipments of transportation	-	-	12 sets	35%	used by the above both dep'ts.

Note

- a. Percentage of release is the percentage of the equipment now applied for release of this department to the entire equipment of such shop.
- b. In the equipment applied for release of this department various shops for machine manufacturing are included, however these shops are now engaged in the works for the electric machinery department and to supplement the machinery and equipment of the electric machinery department they are mostly needed and are necessary for the continuation of this electric machinery department.

(4) Location of the equipment applied for release:

No.14, 2-chome, Higashikawasaki-cho, Ikuta-ku,
Kobe.

(5) Commencement of the operation for the equipment applied now for release:

Between 1914 and 1918

(6) History of the equipment applied for release:

1. History of Kawasaki Shipbuilding Yard:

1886: Commenced by the personal management of the late Shoze Kawasaki.

1896: Reorganization was planned and the Kawasaki Dockyard Co., Ltd. with a capital of ¥2,000,000 (¥1,000,000 paid up) was inaugurated.

- 1902: The capital increased to ¥4,000,000.
- 1906: The capital increased to ¥10,000,000.
- 1916: The capital increased to ¥20,000,000.
- 1919: The capital increased to ¥45,000,000.
- 1921: The capital increased to ¥90,000,000.
- 1932: The capital decreased to ¥18,000,000.
- 1933: The capital increased to ¥80,000,000.
- 1939: The capital increased to ¥200,000,000.
and the name of the firm was changed to
Kawasaki Heavy Industries, Ltd.
- 1943: The capital increased to ¥600,000,000
(¥400,000,000 paid up).
- 1944: Designated as a munition company.
- 1945: By the termination of war the designation
of munition company was released.
- July 8th, 1946:
Permit was given for the reconversion of
Kawasaki Shipbuilding Yard for the
civilian production.
- Sept. 2nd, 1946:
The equipment of Kansen Factory was desig-
nated for custody for the possible repara-
tions.

2. History of Electric Machinery Department:

- 1914: Separated from the machine manufacturing
department and became independent as the
electric machinery design and work depart-
ment.
- 1919: With the contract of Stone and Co. of
England we got the license for the train
lighting apparatus and started the manufact-
uring of turbo generator and generator for
train lighting. After various investigation
and improvement thereon, we became the sole
manufacturer of the above-mentioned train
lighting apparatus and also this plant became
manufacturers of electric components for the

railroad cars, thus having a special standing in the manufacturing of electric appliances. Up to the end of the war 1945 we have the production record of about 13,000 turbo-generators and 12,000 generators for train lighting.

1942: By the enlargement of the business of this department with the plan of making independent company divorced from the shipbuilding yard, the organization was made as the electric machinery plant.

1945: After the end of the war, by the shrinkage of the organization of the entire shipbuilding yard, this electric machinery plant became again the electric machinery department, however for the urgent rehabilitation system of the country the products of this department is more heavily demanded and we are now engaged in the manufacturing of every kind of electric appliances for railroad cars, motor for electric cars and other electric components, wireless apparatus for fishing boats, etc.

775 013

775 013

(7) Detail of works in the equipments applied for release

(Items & numbers of production & repairing)

a. Items & Numbers of annual products 1934 - 1936
(unit of amount: ¥1,000)

Item	1934		1935		1936	
	Number	Amount	Number	Amount	Number	Amount
Turbo generator	700	315	1,800	810	1,800	810
Train lighting dynamo	600	450	700	525	750	630
Traction motor for loco.	39	585	0		18	280
Master controller	14	2	8	2	8	2
Reverser	14	14	8	8	8	8
Traction motor for car	0		72	360	28	195
Generator for ships	10	20	15	28	25	50
Electric motor for ships	800	98	1,120	1,100	1,200	1,200
Wireless apparatus	12	25	14	28	18	36
Motor Generator for wireless	16	16	18	18	23	23
General electric motor	180	36	200	38	200	40
Total		1,561		2,917		3,282

775 013

b. Items and Numbers of annual products 1937 - 1945 (Unit of amount)

I t e m	1937		1938		1939		1940		1941	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Turbo generator	900	450	900	450	950	525	1000	650	1100	715
Train lighting dynamo	800	640	900	720	900	900	900	900	800	960
Panel of Regulator										
Air Conditioning apparatus for above	4	232	1	70			3	300		
Traction Motor for elec.locomotive	18	324	4	72	32	640	26	520	46	1,150
Meter blower for elect.locomotive					14	54	10	40	18	72
Meter generator					14	63	10	45	18	94
Meter Controller	8	2	2	2	14	6	10	4	18	8
Reverser	8	13	2	3	14	28	10	20	18	45
Traction Meter for elect. Car	16	144	16	144	30	300	30	300	30	330
Automatic Cam- Controller for elec. car					2	10	3	15	3	20
SUM		1,805		1,461		2,526		2,794		3,394
General electric Motor	200	50	200	60	250	90	250	90	200	85
Electric Motor for ships	1150	1,200	1250	1,902	1250	1,944	1500	1,098	2000	2,676
Generator for ships	20	25	30	40	30	50	10	18	10	20
Wireless appara- tus	22	44	24	50	30	100	37	130	40	200
Meter Generator for Wireless	29	29	35	40	40	60	49	75	60	170
SUM		349		2,092		2,244		1,411		3,151
TOTAL SUM		3,154		3,553		4,770		4,205		6,545

775 013

Products 1937 - 1945 (Unit of amount: ¥1,000)

1939		1940		1941		1942		1943		1944		1945	
Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
950	525	1000	650	1100	715	1100	1,073	1200	1,500	600	1,963	100	650
900	900	900	900	800	960	700	840	600	900	300	2,223	30	510
						600	180	500	660	300	1,830	50	700
		3	300										
32	640	26	520	46	1,150	24	600	24	600	20	500	6	720
14	54	10	40	18	72	12	48	8	32	10	40	2	82
14	63	10	45	18	94	12	62	8	42	10	52	2	200
14	6	10	4	18	8	12	5	8	4	10	5	2	44
14	25	10	20	18	45	12	30	8	20	10	25	2	20
30	300	30	300	30	330	30	330	10	110	10	110	0	0
2	10	3	15	3	20	3	20						
	2,526		2,794		3,394		3,138		3,868		6,753		2,926
250	90	250	90	200	85	150	50	150	80	150	90	10	65
250	1,944	1500	1,098	2000	2,676	2300	4,138	2600	6,340	2600	12,455	500	10,075
30	50	10	18	10	20	30	65	100	210	100	240	-	-
30	100	37	130	40	200	63	500	88	750	174	1,500	115	1,100
40	60	49	75	60	170	99	200	110	130	196	250	125	195
	2,244		1,411		3,151		4,953		8,010		14,535		11,435
	4,770		4,205		6,545		8,141		11,878		21,293		14,361

775 013

c. Detail of works after the termination of war (Number of monthly essential civilian commodities) (Unit of amount: ¥1,000)

I t e m	1946 Jan.		Feb.		Mar.		Apr.		Num
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	
Type T - 9 Turbe generator					213	3,195	56	340	1
Train lighting dynamo									1
Electric fan for passenger car									
Air conditioning apparatus for passenger car									
Reverser for above									
Traction motor for electric car							2	320	
Motor generator for above					5	500			
Type CS5 Automatic cam-controller for above									1
Type CS9 Automatic cam-controller for above									2
Wireless apparatus for fishing boat							4	600	6
Repairing of traction motor for electric car					50	750	4	60	7
Repairing of general electric motor					100	300	15	45	8
Switches					170	255			27
Type KS Regulator					51	714			
S U M						5,714		1,865	

775 013

Production of war (Number of monthly products after reconversion to
 peacetime) (Unit of amount: ¥1,000)

Product	Mar.		Apr.		May		June		July		Aug.	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
	213	3,195	56	340	113	1,695	119	1,785	124	1,860	121	1,815
					15	255	20	340	23	476	57	969
									210	672	110	352
							6	3,713			4	2,475.4
											2	
			2	320			2	320	4	640	3	1,280
	5	500					2	200			2	200
					1	117	2	234			4	468
					2	47.2					1	23.6
			4	600	6	900	6	900	2	300	6	900
	50	750	4	60	7	105	5	75	5	75	3	120
	100	300	15	45	20	60	25	75	25	75	30	90
	170	255			275	412.5	200	300	100	150	115	172.5
	51	714							25	350	40	560
		5,714		1,865		3,591.7		7,942		4,593		9,425.4

775 013

d. Production schedule (Sept. 1946 - Aug. 1947) (Unit of amount: ¥)

I t e m	1946		Oct.		Nov.		Dec.		1947		Mar.			
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount		
Type T-9 Turbo generator	100	1,620	100	1,500	100	1,500	100	1,500	80	1,200	80	1,200	80	1,200
Train lighting dynamo	60	1,020	100	1,700	100	1,700	100	1,700	100	1,700	100	1,700	100	1,700
Type KS2 Regulator	100	1,400	100	1,400	100	1,400	100	1,400	100	1,400	100	1,400	100	1,400
Type KS1 Regulator	30	420	60	840	60	840	60	840	60	840	60	840	60	840
Electric fan for passenger car	70	224	100	320	100	320	100	320	100	320	100	320	100	320
Air conditioning apparatus for passenger car	-	-	2	1,237	3	1,856	-	-	4	2,475	4	2,475	4	2,475
Traction motor for electric locomotive	6	1,920	6	1,920	6	1,920	6	1,920	6	1,920	6	1,920	6	1,920
Motor blower for above	4	160	10	400	12	480	14	560	14	560	14	560	14	560
Motor controller for above	2	42	6	126	6	126	14	294	14	294	14	294	14	294
Reverser for above	6	60	10	100	12	120	14	140	14	140	14	140	14	140
Traction motor for electric car	3	1,230	3	1,230	3	1,230	3	1,230	3	1,230	3	1,230	3	1,230
Motor generator for above	2	200	3	300	3	300	3	300	3	300	3	300	3	300

775 013

- Aug. 1947) (Unit of amount: ¥1,000)

1947		1947		1947		1947		1947		1947		1947		1947			
Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount
80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
1,500	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
-	4	4	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2
-	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475	2,475
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920	1,920
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300

775 013

I t e m	1946				1947			
	Sep. Number Amount	Oct. Number Amount	Nov. Number Amount	Dec. Number Amount	Jan. Number Amount	Feb. Number Amount	Mar. Number Amount	
CS5 Automatic cam- Controller for above	2 234	4 468	4 468	4 468	4 468	4 468	4 468	
CS9 Automatic cam- controller for above				3 70.8	3 70.8	3 70.8	3 70.8	
Switches	48 72	48 72	48 72	48 72	48 72	48 72	48 72	
Wireless apparatus for fishing boat	6 900	10 1,500	10 1,500	10 1,500	10 1,500	10 1,500	10 1,500	
Motor generator for fishing boat	7 84	10 120	10 120	10 120	10 120	10 120	10 120	
Repairing for general induction motor	35 35	35 35	35 35	35 35	35 35	35 35	35 35	
Repairing for motor of elect. car	5 75	5 75	5 75	5 75	5 75	5 75	5 75	
Repairing for general motor	30 90	30 90	30 90	30 90	30 90	30 90	30 90	
TOTAL	9,836	13,483	14,202	12,684	14,909	14,909	14,909	

775 013

e. Percentage ratio of our monthly production to the total production in Japan (in Aug. 1946)

(Unit of Amount: ¥1,000)

I t e m	Monthly products of all Japan		Monthly products of our factory		Per-centage
	Number	Amount	Number	Amount	
T-9 Turbe generator	121	1,815	121	1,815	100 %
Train lighting dynamo	57	2,125	57	2,125	"
Type KS2 Regulator	57	798	57	798	"
Type KS1 Regulator	40	560	40	560	"
Electric fan for passenger car	110	352	110	352	"
Air conditioning apparatus for passenger car	4	2,475	4	2,475	"
MT 30 Tra Ctien motor for electric car	86	13,760	8	1,280	9.3%
MG Motor generator for above	31	3,100	2	800	6.5%
CS5 Automatic cam-controller	17	1,989	4	470	23.5%
CS9 Automatic cam-controller	1	24	1	24	100 %
Switches	400	600	115	173	28.8%
TOTAL		27,598		10,272	38 %

(8) The reason for the application of release:

- A. The electric engineering department of this shipbuilding yard is now an independent manufacturing department not connected with the shipbuilding in its work. Just because of the ease of management, it is included in the organization of the shipbuilding yard and therefore function of this department as the accessory of the shipbuilding plant is only 10 - 20% of the whole function while after the war it is only 2 - 3% of the capacity.
- B. This department has a very peculiar existence as the manufacturer of various electric components for railroad cars and we are the only manufacturers of the following items in Japan.
Turbo-generators for steam locomotive, generators for train lighting, air-conditioning apparatus for passenger cars, electric fans for passenger cars.
- C. This department is regarded as the most important plant as the manufacturer of electric apparatus for the restoration of the Japanese transportation system and the Director of Railroads of the Ministry of Transportation recommended the release of this department from the factories designated for reparations.
- D. Other electric apparatus beside the railroad apparatus are also necessary and indispensable for the restoration of Japanese industry.

3. From above various points it is our belief that this department is a very peculiar unit as the electric engineering attached to a shipbuilding yard and it is necessary and indispensable for the reconstruction of Japanese civilian industry.

775 013

(9) General condition of equipments applied for release

A. No.1 Electrical machine shop

Detail of works

Working up of machinery, Manufacturing of commutator, Manufacturing of Jig gauge, Dry-chamber, laboratory

- a. Building area 4,668.72 sq.m
- Floor area 4,875.49 sq.m
- Structure Steel frame, sheet iron roof, flat, 1 house

(This building will be unnecessary if No.5 }
 (6, and 7 Machine shops are used.)

b. Kind of machineries and equipments,
 Capacity and Number.

775 013

Name	Capacity	Number
Lathe	Bed Length 4.5 feet	3
"	" 6 "	3
"	" 7 "	1
"	" 8 "	15
"	" 10 "	7
"	" 12 "	3
"	" 15 "	1
"	" 20 "	1
"	" 24 "	1
"	" 27 "	1
Turret lathe	" 6 "	1
"	" 8 "	1
Boring & turning lathe	Swing 1,000 m/m	1
"	" 1,800 "	1
Radial Drilling Machine	Max. Drilling Dia. 60 m/m	1
"	" 50 "	2
Vertical drilling machine	" 5/8 inch	2
"	" 1 "	4
"	" 3/4 "	7
"	" 1 "	2
"	" 1 1/2 "	1

775 013

Name	Capacity	Number
Vertical drilling machine	Max. Drilling Dia. 2 inch	1
Horizontal drilling machine	" 2 1/2 "	1
Boring machine	Max. Boring Dia. 300 m/m	3
"	" 500 m/m	3
"	" 550 "	2
Vertical milling machine	Max. Longitudinal feed 500 m/m	1
"	" 260 "	2
"	" 300 "	3
"	" 330 "	1
"	" 530 "	1
Horizontal grinding machine	Wheel Dia. 300 m/m	1
"	" 305 "	1
Surface grinding machine	" 15 inch	1
Horizontal milling machine	Max. Longitudinal feed 200 m/m	2
Planer	Table width 1,430 m/m	1
"	" 3,700 "	1
Slotter	Max. Stroke 7 inch	2
"	" 8 "	1
"	" 9 "	1

775 013

Name	Capacity		Number
	Max. Stroke		
Slotter	15 inch		1
"	28 "		1
Shaper	16 "		1
"	14 "		1
"	18 "		1
"	24 "		2
Punching machine	37 "		1
"	45 "		1
"	50 "		4
"	100 "		1
"			3
Shearing machine	Max. Shearing Capacity	1/32 inch	2
"	"	1/16 "	1
"	"	3/16 "	1
Punching machine	Max. Stroke	25 m/m	1
"	"	30 "	2
Electric furnace			5
Hydraulic Press	50 tons		1
"	5 "		3
Drying furnace			2
Arc welding machine			1

775 013

Name	Capacity	Number
Vernishing machine		1
Working Table	L x W x H 72,170x10,930x160	1
Marking Table	1,800x4,900x190	1
"	3,000x3,610x350	1
TOTAL		126

775 013

B. No.2 Electrical machine shop

Detail of works

Assembling for motor of electric locomotive,
 Assembling for motor of electric car,
 Assembling for Train lighting dynamo,
 Assembling for Turbo generator,
 Assembling for Air Conditioning apparatus of
 passenger car, Electric ceiling,
 Assembling for general motor.

- a. Building area 1,383.97 sq.m
- Floor area 1,830.98 sq.m
- Structure Steel frame, sheet iron roof flat, one house

(This building will be unnecessary if No.5)
 (6, and 7 Machinery shops are used.)

- b. Kind of machineries and equipments,
 Capacity and Number.

Name	Capacity	Number
Hydraulic Press	10 tons	1
"	5 "	2
Coil winding machine		12
TOTAL		15

C. No.5, 6 Machine shop

Detail of works

Working up and Assembling for Turbo generator
and side of it's turbine,
Assembling and testing for Air conditioning
appatatus of passenger car and parts of
machine, Working up for misc. machine,
Staff room of Electrical designing Section.

- a. Building area 10,675.22 sq.m
Floor area 19,602.30 sq.m
Structure Steel frame, slate roof,
three stories,
one house
- b. Kind of machinerics and equipments,
Capacity and Number.

775 013

Name	Capacity	Number
Lathe	Bed length 20 feet	1
"	" 18 feet - 12 feet	4
"	" 10 " - 4 "	50
Face lathe	Facing Dia. 1250 - 450 m/m	1
Horizontal Boring machine	No. 4 - No. 1	5
Radial Drilling Machine	Arm Length 800 - 2500 m/m	5
Horizontal Drilling Machine	Spindle Dia 46 - 154 m/m	1
Plane grinder	Working Surface 700 ϕ - 800 ϕ	2
Hobbing Machine	" 1500 m/m	1
Vertical Drilling machine	Spindle Dia. 25 - 75 m/m	2
Gear Shaper	Max. Cutting Dia.	1
Turret lathe	Max. Dia. of work 50 ϕ	9
Planer	Stroke 10 feet	1
Shaper	" 12 - 26 inch	2
Slotting Machine	" 24 inch	3
Milling Machine	Type No. 1 - No. 4	19
Internal grinder	Height of Centers 100 - 500 m/m	3

775 013

Name	Capacity	Number
Shaft grinder	Max. Grinding Dia 460 m/m Max. Grinding Length 4,300 m/m	3
Travelling Crane	Lifting Capacity 40 - 80 tons	1
"	" 20 - 30 "	2
"	" 1 - 10 "	7
Motor Hoist	0.5 - 3 tons	1
Lift	1 - 3 tons	3
Marking Table	Working Surface 10,000 x 3,000m/m	1
"	4,000 x 2,000	1
"	2,000 x 1,500	3
Dynamical balancing machine	Max weight of subject 10 tons	1
TOTAL		133

D. No.7 Machine Shop**Detail of works**

Working up of machine, Assembling for regulator
of Train lighting dynamo,
Assembling for automatic cam-controller of electric
locomotive and car,
Assembling for wireless apparatus,
Assembling for motor generator of electric car,
Repairing and testing for motor of electric car
and general motor.

- a. Building area 5,920.02 sq.m
Floor area 11,598.10 sq.m
Structure Steel frame, slate roof
 three stories,
 one house
- b. Kind of machineries and equipments,
Capacity and Number.

775 013

Name	Capacity	Number
Face lathe	Max.Facing Dia. 1,300 m/m	2
Lathe	Bed Length 12 feet	4
"	" 10 "	9
"	" 8 "	28
"	" 6 "	20
Vertical Drilling machine	Max.Drilling Dia. 1 1/2 inch	1
Horizontal milling machine		1
Shaper	Stroke Ø 20 inch	2
Vertical lathe	Max.Facing Dia. 6 feet	1
Boring machine	Type No.4	1
"	" No.2	5
Vertical Milling Machine	" No.4	1
"	" No.2	5
Horizontal milling machine	" No.2	1
Slotter	Ø Stroke 24 1/2 inch	1
"	Ø " 410 m/m	2
"	Ø " 220 "	2
Shaper	Ø " 16 inch	2
"	Ø " 18 "	2

775 013

Name	Capacity	Number
Radial drilling machine	Max. Arm Length 2200 m/m	1
" "	" 1250 "	2
Horizontal drilling machine	" 1050 " Spindle dia 50"	1
Upright drilling machine	Working Surface 4400m/m	1
" "	" 22 inch ϕ	3
" "	" 420 "	2
Planer	ϕ ^{stroke} 3380 m/m	1
" "	ϕ " 2860 "	1
Grinder		2
Hobbing machine		1
Travelling crane	Lifting Capacity 1 ton	7
" "	" 5 "	3
" "	" 20 "	1
" "	" 25 x 5 tons	3
" "	" 100 x 15 tons	1
Punching machine		1
Coil winding machine		4
Working Table	Working surface 10,000 x 7,000	1
Marking Table	2,000 x 3,000	10
" "	4,000 x 2,000	3
TOTAL		140

E. No.1 Machine Shop

Detail of works

Manufacturing and working up for Motor of electric locomotive, electric car and etc.,

Feed water heater for locomotive, Feed water pump for locomotive and parts of car.

Casting of white compound metal.

Welding for repair.

a. Building area	10,394.69 sq.m
Floor area	10,394.69 sq.m
Structure	Steel frame, galv. sheet roof, flat, 5 houses

- b. Kind of machineries and equipments,
Capacity and Number.

⌘ indicates the number of machineries used by the both departments, Electric Machinery and Boiler and Chemical Engineering Department.

775 013

Name	Capacity	Number
Lathe	Bed Length 18 - 18 feet	10
" "	" 10 - 6 "	4
Face lathe	Max. Facing Dia 1250 - 450 m/m	3
Vertical Turning lathe	Working Table Dia. 1500	2
Horizontal Boring Machine	Type No. 4	2
" "	" No. 3	3
Radial Drilling Machine	Max. Arm Length 800 - 2500 m/m	4
Turret lathe	Max. Working Dia 50 ϕ	2
Portable Drilling Machine	Spindle Dia. 40 - 70 m/m	2
Planer	ϕ ^{Stroke} 10 feet	2
" "	ϕ " 10 "	2
Horizontal Drilling Machine	Spindle Dia. 45 - 154 m/m	3
Vertical Drilling Machine	" 25 - 75 "	1
Shaper	ϕ ^{Stroke} 12- 26 inch	1
Slotting Machine	ϕ " 24 inch	2
" "	ϕ " 24 inch under	1
Milling Machine	Type No. 2 - No. 4	3
Plate Miller	ϕ ^{Stroke} 2000 - 2400 m/m	1

775 013

Name	Capacity	Number
Portable Milling Machine	Spindle Dia. 95 m/m	3
Jig Boring Machine		* 1
Travelling Crane	Max.Lifting Capacity 40 - 80 tons	1
w	20 - 30 w	1
w	1 - 10 w	1
Motor Hoist	0.5 - 3 tons	1
D.C. Electric Welding Machine	50 KW	1
Working table	Working Surface 9,200 x 19,420	X 1
w	13,300 x 10,520	X 1
w	15,450 x 5,400	X 1
Marking Table	3,050 x 7,780	1
TOTAL		61

F. Erecting Shop**Detail of works**

Assembling and testing of Turbo generator for steam locomotive, Air conditioning apparatus, Feed water pump and heating of locomotive. Assembling and balance testing for part of car, etc.,

- a. Building area 7,064.46 sq.m
Floor area 7,064.46 sq.m
Structure Steel frame, galv. sheet roof, flat,
5 houses
- b. Kind of machineries and equipments,
Capacity and Number.

775 013

Name	Capacity	Number
Yellow water tube boiler	Working pressure 275 lbs/inch ² Heating surface 4180 sq.ft.	1
Weir feed water pump	Cylinder Dia x stroke 10 - 14 inch x 10 inch	1
Washington pump	" 10 x 5 inch	2
Travelling crane	Lifting capacity 1.5 - 5 tons	2
Winch	Working capacity 3 tons	1
Dynamical balancing machine	Max. Weight of subject 10 tons	1
Condenser	Condensing surface 1425 sq.ft.	1
Boiler fan	427 Cub.m. per min	1
Spring balance	20 tons	1
Working table	Working surface 3,350 x 4,900	1
"	3,350 x 2,450	1
"	5,000 x 2,450	1
TOTAL		13

G. No.1 Tool shop

Detail of works

Every kind of tools manufacturing and repairing
for working up of articles

a. Building area 1,565.86 sq.m

Floor area 1,565.86 sq.m

Structure Steel frame, galv. sheet roof,
flat,
2 houses

b. Kind of machineries and equipments,

Capacity and Number.

* Indicates the number of machineries
used by the both department, Electric
Machinery and Boiler and Chemical
Engineering Department.

775 013

Name	Capacity	Number
Lathe	Bed Length 10 feet	5
Milling Machine	Type No. 2 - No. 5	4
Shaft grinder	Max. working Dia. x Length 165 m/m x 1,050 m/m	2
Plane grinder	Dia. of working surface 250 - 360 m/m	1
Internal grinder	Dia Length 270 x 150 m/m	* 1
Centerless grinder	Dia. of grinder x width 400 x 200 m/m	* 1
Hob grinder	Center height x Bet. Center 160 x 650 m/m	* 1
Tool grinder	" 125 x 550 m/m	4
Metal cutting circular sawing machine	Max. Dia of work 6 inch	1
Speed change gear	7½ HP - 2 HP	4
Air hammer	Capacity 250Kg	2
Fan	Capacity 25 CubM/Min	1
TOTAL		27

775 013

H. No.2 Tool shop

Detail of works

Manufacturing for spring and gauges,

(Manufacturing and repairing of various table)
(for working up articles.)

Dealing by heat of various parts.

a. Building area 1,072.60 sq.m

Floor area 1,072.60 sq.m

Structure Steel frame, galv. sheet roof,
flat,
1 house

b. Kind of machineries and equipments,

Capacity and Number.

Name	Capacity	Number
File cutting machine	File Length 10 - 16 inch	1
Band Saw Grinder	Max.grinding Length 3 feet	1
Band Saw Setting Machine	Max.band Length 30 feet	1
File Shaping Machine	Stroke 20 inch	1
Bevel Gear Shaper	Max.Dia.of work 700 mm	1
Electric Heating furnace	65 - 100 KW	2
Motor Hoist	Lifting capacity 1 ton	1
Speed Change Gear	15 HP - 10 HP	1
TOTAL		9

I. Boiler Shop

Detail of works

Tank car, Covers of reduction gear for motor,
 Various works of steel sheets, etc.

- a. Building area 14,905.32 sq.m
- Floor area 16,133.79 sq.m
- Structure Steel frame, galv. sheet roof,
 flats and **partialy** two stories
 12 houses
- b. Kind of machineries and equipments,
 Capacity and Number.

775 013

Name	Capacity	Number
Radial Drilling machine	Arm Length 9 feet 4 inch	1
Steel plate Bending Roller	No. of roller 3 Dia of roller 6 inch Length of plate 6 - 12 feet Max. thickness of plate 1/2 - 1 inch	1
Hydraulic press	500 - 50 tons	3
Hydraulic Riveter	180 - 40 tons Rivet Dia. 1/2 - 1 5/8 inch	2
Hydraulic Pump	120 - 75 HP 1500 lbs/	1
Hydraulic Accumulator	1500 lbs/	1
Air compressor	100-20 HP 100 lbs/	3
Direct current welding machine	60 - 10 KW	5
Alternating current welding machine	26 - 5 KVA	20
Travelling crane	Lifting Capacity 25 - 40 tons	1
"	" 3 - 5 tons	1
Hydraulic jib crane	" 3 - 5 tons	1
Marking Table	Working surface 316 x 8,500 m/m	1
Working Table	2,300 x 4,500	1
"	2,000 x 4,800	1
Bee hive Table	1,520 x 3,040	1

775 013

Name	Capacity	Number
Bee hive Table	Working surface 1,220 x 2,450	3
TOTAL		47

775 013

J. Forging Shop

Detail of works

Shaft, Various parts of forging articles
and screws etc.

- a. Building area 1,1719.502 sq.m
- Floor area 1,1712.602 sq.m
- Structure Steel frame, galv. sheet roof,
flat,
2 houses

- b. Kind of machineries and equipments,
Capacity and Number.

Name	Capacity	Number
Steam hammer	1 - 1/5 tons	3
Drop hammer	1/2 tons	1
Hydraulic press	50 tons	1
Motor Hoist	Lifting Capacity 2 tons	1
TOTAL		6

K. Foundry (containing Pattern shop)

Detail of works

Manufacturing of wooden pattern and casting
(casting iron, casting steel, compound metal,
etc.) for:

various parts of Motor of electric locomotive
and electric car, Feed water pump for locomotive,
Turbo generator of steam locomotive,
Air-conditioning apparatus,
Feed water heater, etc.

- a. Building area 8,585.28 sq.m
Floor area 9,029.50 sq.m
Structure Steel frame, galv. sheet roof,
flat,
two stories partially,
10 houses
- b. Kind of machineries and equipments,
Capacity and Number.

775 013

Name	Capacity	Number
Wood lathe	Bed Length 4 feet	1
	" 15 "	1
Circular Saw	Dia. of Saw 20 inch	1
Pattern machine	Working Table 2'-3" x 2'-8"	1
Wood planer	Width 12 inch	1
Travelling crane	Lifting Capacity 20 - 35 tons	2
"	" 5 tons	1
Lift	" 30 tons	1
Motor Hoist	" 1/2 - 3 tons	5
Cupola	Capacity 1 - 5 tons/charge	2
Electric Arc furnace	Basic process 3 tons/charge	1
Automatic coal ^{feeder} center	Coal feed capacity 500 lbs/h	1
Fan	160 & 70 cub.M/min	2
Sand mixer	Mill Dia. 4 feet	2
Sand mill	" 5'-10"	1
Mortal miner	Capacity 150 l/charge	1
Ladle	" 1 - 10 tons	3
TOTAL		27

775 013

L. No.1 Pipe Shop

Detail of works

Bending works of pipe, Flating and welding for various industrial machines.

- a. Building area 2,367.78 sq.m
- Floor area 2,367.78 sq.m
- Structure Steel frame, galv. sheet roof, flat, 2 houses

- b. Kind of machinerics and equipments, Capacity and Number.

Name	Capacity	Number
Eccentric Press	H x L x W 5'-6" x 2'-4" x 16"	1
Air compressor	Capacity 18 cub.m/min Pressure 5 lbs/	1
Motor Hoist	Lifting Capacity 1 ton	1
Hydraulic machine	Pressure 50 tons	1
Winch	Lifting Capacity 5 tons	1
TOTAL		5

775 013

M. Material ^{laboratory} Levelatory

Detail of works

Various physical test of materials, physical test of spring, precise inspection of Screws, Precise inspection of pressure gauge and other gauges

- a. Building area 142.48 sq.m
 Floor area 284.96 sq.m
 Structure Brick structure, slate roof, two stories, one house

b. Kind of machineries and equipments, Capacity and Number.

N a m e	Capacity	Number
Universal testing machine	Max. testing Load 50 tons	1
I zed Impact testing machine	Load 17 KgM	1
Brinell Hardness testing machine	" 3000 Kg	1
Spring testing machine	Ansler type Max. testing Load 50 Kg	1
Tool maker's microscope	Length 150 m/m - 4 m/m	1
Measuring Machine	" 1,220 m/m	1
Pressure gauge testing machine	Testing Range 0 - 1500 Kg/ mm ² 0 - 100 Kg/ mm ²	2
Shore Hardness testing machine		1
TOTAL		9

775 013

N. Misc. machineries and equipments

Name	Capacity	Number	Location
Punching machine		1	Setting for No.2 pipe shop
Shearing machine		1	"
Shearing machine	Max. shearing Capacity steel 4 m/m	1	Setting for No.1 sheet metal shop.
TOTAL		3	

775 013

O. Blue printing room

Work: Blue printing

- a. Building area 39.6 sq.m
- Floor area 39.6 sq.m

(This room is contained in Drawing shop, and not applied for release.)

b. Machinery

Number

Blue printing machine

1

(This machine is used also by Boiler & chemical Engineering Dep't.)

P. Facilities of Power Plant

- a. Buildings (used also by Boiler and chemical Engineering Dep't)

Name	No. of house	Structure	Building area	Floor area	Detail of works
No.1 Substation	1	Brick structure two stories	181.14 sq.m	304.03 sq.m	Receiving of elect. power, first substation
No.2 Substation	1	Brick structure 1st	301.91	301.91	"
No.3 Substation	1	Reinforced concrete, two stories	383.33	737.69	"
No.2 Air-compressor room	1	"	269.31	403.31	Manufacturing of compressed air

775 013

b. Machinerics and equipments

Following list includes machinerics and equipments used by the both Elect. machinery Dep't, and at the same time includes them used only by Elect. machinery Dep't.

Name	Capacity	Number	Location
* Special high voltage transformer	1,500 KVA	3	No.1 Substation
D.C. Motor generator	75 KW	1	" "
"	1,000 KW	2	No.2 "
Special high voltage transformer	2,000 KVA	1	No.3 "
"	200 "	15	Every shops applied for release
"	75 "	3	"
"	50 "	3	"
"	30 "	2	"
"	25 "	2	"
"	20 "	3	"
"	15 "	4	"
D.C. Motor generator	60 KW	3	"
Elect. Air-compressor	500 HP	2	No.2 & No.3 Air-compressor room

(above equipments are used by the both Dep'ts)

775 013

Name	Capacity	Number	Location
D.C. Motor generator	1,500 KW	1	No.1 Elect. machi- ene shop
Starter for above		1	"
D.C. Motor generator	100 KW	1	"
A.C. " "	25KVA	2	"
D.C. Motor generator with switch board	10 KW	1	"
D.C. Elect. Motor	25 HP	1	"
"	15 HP	1	"
D.C. Generator	60 KW	1	"
Testing transformer	5KVA	1	"
Switch board		1	"
A.C. Motor generator	50 HP	1	"
"	40 HP	1	"
D.C. Motor generator with switch board	25 KW	1	No.7 Machine shop
D.C. Elect. motor	20 HP	1	"
Main shaft motor	10 - 15 KW	3	No.1 Machine shop
"	25 - 40 KW	3	"
Motor	up to 30 HP	1	Erecting shop
Main shaft motor	up to 20 HP	1	Boiler shop
"	5 - 40 HP	3	Foundry

Name	Capacity	Number	Location
Motor (spare)	12 - 43 HP	3	Boiler shop
"	13 - 50 HP	4	Erecting shop
"	7.5- 35 HP	3	No.1 Machine shop
(above equipments are used only by Elect. machinery dep't)			
Total		80	

* indicates the machine borrowed from Kansai Haiden K.K.

775 013

Q. Equipments of transportation

Name	Capacity	Number	Note
Locomotive crane	5 tons	4	used by the both Elect. machinery, and Boiler & chemical Engineering Dep't.
Battery car	5 tons	3	
Battery car	2 tons	1	"
Yard crane	15 tons	3	"
Crane (fixed)	2 tons	1	"
Total		12	

- END -

775 013

APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.

(No.2 Boiler and Chemical)
(Engineering Department.)

October 28th, 1946

KAWASAKI SHIPBUILDING YARD.
(KANSEN FACTORY)

775 013

**APPLICATION FOR THE PARTIAL RELEASE OF
THE EQUIPMENTS DESIGNATED FOR CUSTODY
AND CONTROL OF THE SHIPBUILDING YARD.**

(Boiler and Chemical)
(Engineering Department.)

----- Contents -----

	Page
(1) Name of the company and factory designated for custody ..	1
(2) Location of the equipment designated for custody	1
(3) Equipment applied for partial release	1
(4) Location of the equipment applied for release	4
(5) Commencement of the operation for the equipment applied for release	4
(7) Detail of works in the equipment applied for release	6
A. Details of works from 1934 to 1936	6
B. Detail works from 1937 to 1945	7
C. The work after the war termination	8
D. The future production plan	10
(8) The reason for the application for release	11
(9) General condition of the equipment applied for release	13
A. No.1 Machine shop	13
B. No.5 and No.6 Machine shop	17
C. Erecting shop	18
D. No.2 Machine shop	20
E. No.1 Tool shop	21
F. No.2 Tool shop	23
G. Boiler shop	24
H. Forge shop	28
I. Foundry (Including Patter shop)	29

J. No.1 Pipe shop 31

K. Material laboratory 32

L. Blue printing room 33

M. Equipments of power plant 34

N. Equipments of transportation 37

Separate list No.1
Specification of production from 1934 to 1945 38

Separate list No.2
Specification of goods in process for fertilizer
manufacturing apparatus, "\$3,400,000", Sept. 2nd 1946 ... 43

--- E N D ---

775 013

(1) Name of the company and factory designated for custody:

Kawasaki Heavy Industries, Ltd.

Kawasaki Shipbuilding Yard. (Kansen Factory)

(2) Location:

No.14, 2-chome, Higashikawasaki-cho, Ikuta-ku,
Kobe.

(3) Equipment applied for partial release:

(See the map attached,)

Name of equipment applied for release	Kind of equipment applied for release, and Percentage ratio of release				Note
	Building applied for release	per-centage	Machineries applied for release	per-centage	
No.1 Machine shop	Floor area 10,394.69 sq.m 5 houses	100%	94 sets	25%	Building is used by the both Boiler & Chemical Engineering Dep't and Elect. Machinery Dep't
No.5 & No.6 Machine shop	19,602.30 sq.m 1 house	(100%)	3 sets	0.5%	Building is used by Elect. Machinery Dep't. Boiler & Chemical Engineering Dept wants 2 sets of machine.
Electing shop	7,064.46 sq.m 5 houses	100%	146 sets	17%	Building is used by the both Boiler & Chemical Engineering Dep't and Elect. Machinery Dep't
No.2 Machine shop	Building unnecessary	-	4 sets	6%	

775 013

No.1 Tool shop	1,565.35 sq.m 2 houses	100%	19 sets	9%	Building is used by the both Boiler & Chemical Engineering Dep't and Elect. Machinery Dep't
No.2 Tool shop	1,072.69 sq.m 1 house	100%	8 sets	17%	"
Boiler shop	16,433.72 sq.m 12 houses	100%	98 sets	29%	"
Forge shop	1,719.02 sq.m 2 houses	100%	5 sets	8%	"
Foundry <i>containing Pattern shop</i>	9,029.30 sq.m 10 houses	100%	21 sets	16%	"
No.1 Pipe shop	2,367.55 sq.m 2 houses	100%	3 sets	7%	"
Material laboratory	284.29 sq.m 1 house	100%	5 sets	16%	"
Blue printing room	Building unnecessary	-	1 set	100%	used by the above both dep'ts.
No.1 Substation	307.25 sq.m 1 house	100%	} Machinerics are included in the next item "Equip-ment of power plant"		facilities for power, used by the both dep'ts.
No.2 Substation	301.91 sq.m 1 house	100%		"	
No.3 Substation	737.69 sq.m 1 house	100%		"	
No.2 Air-com- pressor room	403.31 sq.m 1 house	100%		"	

775 013

Equipment of power plant	-	-	50 sets	3%	44 sets are used by the both, 24 sets only by Boiler & Chemical Engineering Dep't.
Equipment of transportation	-	-	13 sets	33%	12 sets are used by the both, 1 set only by Boiler & Chemical Engineering Dep't.

Note

- a. Percentage of release means the percentage of the equipment applied for release of this department in comparison with the entire equipment of the shop.
- b. The reason why the Machine Manufacturing Shops are included in the equipment applied for release of this department is that these shops are engaged in the related work of the boiler making and Chemical Engineering department and equipments of these shops are indispensable for the working of this department.

- (4) Location of the equipment applied for release:
No.14, 2-chome, Higashikawasaki-cho. Ikuta-ku,
Kobe.
- (5) Commencement of the operation for the equipment
applied now for release:
Between 1896 and 1942.
- (6) History of the equipment applied for release:
1. History of Kawasaki Shipbuilding Yard:
 - 1886: Commenced by the personal management of
the late Shozo Kawasaki.
 - 1896: Reorganization was planned and the
Kawasaki Dockyard Co., Ltd. with a
capital of ¥2,000,000 (¥1,000,000 paid
up) was inaugurated.
 - 1902: The capital increased to ¥4,000,000.
 - 1906: The capital increased to ¥10,000,000.
 - 1916: The capital increased to ¥20,000,000.
 - 1919: The capital increased to ¥45,000,000.
 - 1921: The capital increased to ¥90,000,000.
 - 1932: The capital decreased to ¥18,000,000.
 - 1933: The capital increased to ¥80,000,000.
 - 1939: The capital increased to ¥200,000,000,
and the name of the firm was changed to
Kawasaki Heavy Industries, Ltd.
 - 1943: The capital increased to ¥600,000,000
(¥400,000,000 paid up).

1944: Designated as a munition company.

1945: By the termination of war the designation of munition company was released.

July 8th, 1946:

Permit was given for the reconversion of Kawasaki Shipbuilding Yard for the civilian production.

Sept. 2nd, 1946:

The equipment of Kansen Factory was designated for custody for the possible reparations.

2. History of Boiler and Chemical Engineering Department.

1915: Started as a Boiler Department being separated from the Machine Manufacturing Department and is engaged in the manufacture of land boiler, gas tanks, hydro-electric penstocks, rotary kiln and mills, chemical engineering furnaces, high pressure cylinder, etc. and after the long experience of our technique and the completion of various equipment, this department became a special unit of the industry in this country.

1942: For the purpose of enlarging the Chemical Engineering Department, new department named "Chemical Engineering Department" was made independent separated from Boiler Department and started the manufacturing of fertilizer machines and other chemical engineering machines.

1945: After the termination of war by the shrinkage of the organization of the entire shipbuilding yard the Boiler Department and Chemical Engineering Department were amalgamated with the Machine Manufacturing Department; however, the work developed by these two departments was succeeded and work is still being done for various fertilizer machinery, thus helping the rehabilitation of the basic industries of this country and at the same time this department is engaged in the air-conditioning, heating and water works for the billets of the Occupation Forces.

775 013

(7) Detail works in the equipments applied for release (Name & Names of products in the list A, B, are specifically noted

A. Details of works from 1934 to 1936.

Name	Year		1934		1935	
	No.	Amount	No.	Amount	No.	Amount
Steam Boilers & Boiler Plants for Civilian Industry				¥		¥
Gas Tanks	1	52,000	1	231,300		
Penstock for Hydro electric Power Plant	1	7,800	1	1,200,00		
Retary Kirns & Mills	12	450,213	3	410,00		
Equipments & Machinerics for Chemical Industry	4	48,525				
Equipments & Machinerics for Fertilizer Production						
Total	18	558,543	5	1,841,300		

Remark: Average amount of annual production from 1934 to 1936

775 013

equipments applied for release (Name & Number of Production or repairing) the list A, B, are specifically noted in the attached "Separate list No.1" from 1934 to 1936.

r t	1934		1935		1936		Total	
	No.	Amount ¥	No.	Amount ¥	No.	Amount ¥	No.	Amount ¥
	1	52,000	1	231,300			2	283,300
	1	7,800	1	1,200,000	1	60,820	3	1,268,620
	12	450,213	3	410,000	6	476,370	21	1,536,583
	4	48,525					4	48,525
	18	558,543	5	1,341,800	7	537,190	30	2,937,533

annual production from 1934 to 1936 was about 1,000,000 yens.

775 013

B. Detail works from 1937 - 1945

Name	1937		1938		1939		1940		1941	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Steam Boiler & Boiler Plants for Civilian Industry		¥		¥	5	1,389,800	2	150,000		¥
Gas Tanks			1	588,700			2	1,143,947		
Penstock for Hydro-electric Power Plant	2	1,228,214	1	310,000	7	445,540	3	1,401,994		
Rotary Kilns & Mills	23	1,840,116	4	1,064,130	6	2,646,661	6	949,421	2	1,397,000
Equipments & Machineries for Chemical Industry					9	2,707,284			6	169,300
Equipments & Machineries for Fertilizer Production										
Total	25	3,068,330	6	1,962,330	27	7,189,285	13	3,645,362	3	1,566,000

Remarks: Average amount of annual production from 1937 to 1940 was about 3,

775 013

1939	1940		1941		1942	1943	1944		1945		Total	
Amount	No.	Amount	No.	Amount			No.	Amount	No.	Amount	No.	Amount
¥ 339,800	2	¥ 150,000		¥			8	¥ 1,810,979		¥	24	¥ 6,389,800
								9	¥ 3,539,021			
	2	1,143,947									3	1,732,647
45,540	3	1,401,994					10	2,400,000			23	5,735,748
646,661	6	949,421	2	1,397,000							41	7,897,328
707,234			6	169,300					16	5,001,980	31	7,879,064
							11	303,132	4	1,620,000	15	1,923,132
189,285	3	1,566,800					33	6,139,111			137	32,112,719
13	3,645,362							25	3,541,001			

from 1937 to 1940 was about 3,450,000 yens.

C. The work after the war termination.

We have made new reconstruction plan of the ammonium-sulphate fertilizer plant in Hokkaido which was under construction during the war notwithstanding many difficulties immediately after the war termination, and we proceeded it strenuously. At the same time we have completed the restoration of another fertilizer plant which was bombed out, and also we started one work for factory enlarging work. Also because of the urgent social need we were engaged in 8 different works of salt-manufacturing, oil-refining, and other fertilizer production factories. We also get orders for the heating system of the billets for the Occupation Forces stationed in Kobe, and water piping and sanitation works, thus trying to co-operate with the Allied Forces.

The Detail of the work in this Period are as follows.

Production I t e m	Amount of works done from the termination of war to Aug. of this year. (¥)	Amount of goods in process on 2nd Sep. (¥)
Equipment and Machine- ries for Fertilizer Production etc.	402,000.-	3,400,000.-
Heating, Cooling & Sanitary Accommodators of Buildings and Habitations	7,275,800.-	1,500,000.-

Details of 3,400,000.- is noted in Attached
sheets No.2 at the end of this document.

D. The future production plan:

We got the reconversion permits for the following as of July 1946, which will be the future production aim for this plant, and we will be engaged in the manufacture of our exclusive products mentioned in Paragraphs A. B. above, succeeding the work conducted by our Chemical Engineering Department. The products for which the reconversion permits were given:-

Boiler and machinery and parts thereof;

Cooling and heating equipment; High-pressure vessels for chemical industries; rotary kilns for cement manufacture.

Monthly Production: ¥ 3,000,000

(3) The reason for the application of release:

- A. Although the Boiler and Chemical Engineering Department of this Yard developed from part of the Ship-building equipment and still locates in the same compounds with the Dockyard, it is an independent and non-related manufacturing department which has no connection with the machine manufacturing equipment of the Dockyard.
- B. This department as narrated in Paragraph 6 is well advanced in the manufacturing of chemical engineering machinery and is quite superior in its manufacturing equipment and technique of the large size chemical engineering machines, especially in technique of welding in manufacturing high pressure cylinders, etc. The chief products of this department, kiln and mill for cement manufacturing, chemical engineering furnace, high pressure cylinders and penstocks are most indispensable for the reconstruction of the Japanese civilian industry.
- C. With the view of importance of this department and of rarity of similar plants in Japan that elimination of such plant would have bad effect on the production of chemical fertilizer in this country, the Chief of the Bureau of Engineering of the Ministry of Commerce and Industry recommended the release of this plant from reparation use.

D. From above various points it is our belief that this department is a special manufacturing department entirely unrelated with the shipbuilding facilities and the continuation of its technique and equipment is most indispensable for the restoration of Japanese industry.

(9) General condition of equipments applied for release:

A. No.1 Machine shop

Detail of works

Apparatus for salt manufacturing,
 Apparatus for artificial fertilizer manufacturing,
 Various pumps, Blowers, and Valves,
 Working up for the parts of general industrial
 machine. Casting of white compound metals.
 Welding for repair.

- a. Building area 10,394.69 sq.m
- Floor area 10,394.69 sq.m
- Structure Steel frame, galv. sheet roof,
 flat,
 5 houses

- b. Kind of machineries and equipments,
 Capacity and Number.

* Indicates the number of machines used
 also by Electric Machinery Department.

775 013

Name	Capacity	Number
Lathe	Bed Length 20 feet or more	7
"	18 - 12 feet	7
"	10 - 6 "	12
Face lathe	Facing Dia. 1250 - 450 m/m	2
Vertical Turning lathe	Working Table Dia. 1500 m/m	2
Horizontal Boring Machine	Type No.4	2
"	" No.3	4
Radial Drilling Machine	Arm Length 800 - 2500 m/m	5
Vertical Drilling Machine	Spindle Dia. 25 - 75 m/m	1
Horizontal Drilling Machine	" 46 - 154 m/m	4
Hobbing Machine	Working Table Dia. up to 1500 m/m	2
Turret lathe	Max.Dia. of work 50 m/m	8
Tapping Machine	Max.Tapping capacity 1114 m/m Dia.	1
Sawing ^{Machine} grinder	Sawing capacity	1
Jigs Boring Machine		* 1

Name	Capacity	Number
Portable Drilling Machine	Spindle Dia. 40 - 70 m/m	1
Planer	Stroke 10 feet or more	2
"	" 10 feet	1
Shaper	" 12 - 26 inch	1
Slotting Machine	" 24 inch over	1
"	" up to 24 inch	4
Milling Machine	Type No. 2 - No. 4	4
Planer Miller	Max. Longitudinal feed 2000 - 2400 m/m	1
Portable Milling Machine	Spindle Dia. 95 m/m	1
Shaft grinder	Max. grinding Dia 460 length 4300	1
Unit Boring Machine	Max. Boring Dia. 1000 m/m	2
Wall Planner	Working surface 12 feet x 9 feet	1
Travelling Crane	Lifting Capacity 40 - 80 tons	1
"	" 20 - 30 "	1
"	" 1 - 10 "	3
Motor Hoist	" 0.5 - 2 "	2
Winch	" 1 - 3 "	1

775 013

Name	Capacity	Number
Electric Arc Welder	15 KVA	2
Marking table	Working surface 3,300 x 9,700 m/m	1
"	3,040 x 5,840 "	1
Working table	9,200 x 19,420 "	* 1
"	13,300 x 10,520 "	* 1
"	15,450 x 5,400	* 1
TOTAL		9 4

775 013

B. No.5 and No.6 Machine shop

Detail of works

Same as A. No.1 Machine shop

- a. Building area 10,675.22 sq.m
- Floor area 19,602.30 sq.m
- Structure Steel frame, slate roof,
three stories,
1 house

(This shop building is used by)
(Electric Machinery Department.)

- b. Kind of machineries and equipments,
Capacity and Number.

Name	Capacity	Number
Vertical turning lathe	Facing Dia. 1500 m/m	1
Hobbing machine	" "	1
Dynamical balancing machine	Max weight of subject 10 tons	1
TOTAL		3

775 013

c. Erecting shop

Detail of works

Apparatus for salt manufacture,

Manufacture of apparatus for fertilizer,

Erecting and inspection for parts of industrial machine and valves etc.

Erecting and test for blowers and pumps.

- a. Building area 7,064.46 sq.m
- Floor area 7,064.46 sq.m
- Structure Steel frame, galv. sheet roof, flat, 5 houses

- b. Kind of machineries and equipments, Capacity and Number.

775 013

Name	Capacity	Number
Yellow water tube boiler	Pressure 275 lbs/sq.inch Heating surface 3145 sq.ft.	1
Weir feed water pump	cylinder Dia. x Ø 14 inch x 10 inch	1
Washington pump	10 " x 5 "	1
Centrifugal pump	100 - 300 cub.m/h	1
Travelling crane	Lifting capacity 125 tons	1
"	" 40 - 80 tons	1
"	" 1.5 - 5 "	2
Air compressor	Pressure 80 Lx/sq.cm. Capacity 1200 cub.m/h	1
Dynamical balancing machine	Max. Testing of work 10 tons	1
Condenser ^s	Condensing surface ^s 2045 sq.ft.	1
Boiler fan	Capacity 427 cub.m/min	1
Spring scale ^w	Weighting to 100 tons " 50	1 1
Working table	Working surface 4,550 x 7,000	1
"	3,200 x 3,400	1
TOTAL		14

775 013

D. No.2 Machine shop

Detail of works

Same as C. Erecting shop

- a. Building area 5,861.84 sq.m
- Floor area 5,861.84 sq.m
- Structure Steel frame, galv. sheet roof,
 flat,
 1 house

(This shop building is not applied)
(for release.)

- b. Kind of machineries and equipments,
 Capacity and Number.

Name	Capacity	Number
Travelling crane	Lifting capacity 40 - 80 tons	2
Water Dynamometer	Up to 3,000 HP	1
Air compressor	Pressure 60 Kg/sq. cm. Capacity 1200 cub m/h	1
TOTAL		4

775 013

E. No.1 Tool shop

Detail of works

Manufacturing and repairing of every kind of tools for working up of articles.

- a. Building area 1,565.86 sq.m
- Floor area 1,565.86sq.m
- Structure Steel frame, galv. sheet roof, flat, 2 houses

- b. Kind of machineries and equipments, Capacity and Number.

* Indicates the number of machines used also by Electric Machinery Department.

775 013

Name	Capacity	Number
Latho	Bed Length up to 10 feet	5
Milling Machine	Type No. 3 - No. 5	2
Shaft grinder	Max. grinding Dia. x Length 165 x 1,050 m/m	1
Plane grinder	Working surface 280 - 360 m/m	1
Internal grinder	Max. grinding Dia. x Length 270 x 150 m/m	* 1
Centerless grinder	Grinding wheel Dia. x width 400 x 200 m/m	* 1
Hob grinder	Center height x bet. Center 160 x 650 m/m	* 1
Tool grinder	" up to 125 x up to 550	2
Air hammer	up to 250 Kgs.	1
Electric furnace	65 KW	1
Sewing machine	Max. working Dia. 14 inch	1
Speed change gear	5 - 2 HP	2
TOTAL		19

775 013

F. No.2 Tool shop

Detail of works

Manufacturing of springs and gauges,
 Manufacturing and repairing of various tools
 for working up of articles,
 Dealing by heat of articles,

- a. Building area 1,072.60 sq.m
- Floor area 1,072.60 sq.m
- Structure Steel frame, galvan. sheet roof,
flat,
1 house
- b. Kind of machineries and equipments,
Capacity and Number.

Name	Capacity	Number
Bevel gear shaper	Max. Dia. of work 700	1
Band saw grinding machine	Working range 20 - 30 feet	1
Filing machine	" 10 - 16 inch	1
Band saw setting machine	" up to 30 feet	1
File shaping machine	Stroke 20 inch	1
Blower	capacity 25 cub.m./min	1
Hoist	Lifting capacity 1 ton	1
Speed change gear	up to 15 HP	1
TOTAL		8

G. Boiler shop

Detail of works

Apparatus for salt manufacture,
 Manufacture of apparatus for fertilizer,
 Industrial machine and equipment,
 Boiler and tank

- a. Building area 14,905.32 sq.m
- Floor area 16,133.79 sq.m
- Structure Steel frame, galv. sheet roof,
 flat and partialy,
 two stories,
 12 houses
- b. Kind of machineries and equipments,
 Capacity and Number.

775 013

Name	Capacity	Number
Lathe	Bed Length 10 - 6 feet	1
Face lathe	Facing Dia. 7 "	1
Screw cutting machine	Bed Length 18 - 12 feet	3
Elliptical Machine	" 6'-7"	1
Radial Drilling machine	Arm Length 9'-4"	5
Horizontal Drilling machine	Spindle Dia. 40 - 70 m/m	1
Portable Drilling machine	" 75 m/m	2
Steel cutting grinder	Wheel Dia. Stroke 14 inch	1
Planer	Ø 10 feet or more	1
Edge planer	" Ø 30 feet	1
Shearing Machine	Roller type Max.thickness of shearing 5/16 inch	1
"	Length of blade 8'-4" Max.thickness of shearing 3/4 - 3/8 inch	1
Shearing punching machine	" 1.1/2 inch	2
Steel plate Bending Roller	3 Roller Dia 6.5/8" Length 6 - 12 feet Max.thickness of sheet 3/4 inch	1
Steel plate Straightener machine	5 Roller Dia 9.3/4inch Length 8 feet Max.thickness of sheet 3/8 inch	1

775 013

Name	Capacity	Number
Hydraulic Bending Machine	Max. width of sheet 12 feet	1
Hydraulic Press	500 - 50 tons	3
Hydraulic Riveter	Pressure 180 - 40 tons Rivet Dia. 1/4 - 1.5 inch	1
Hydraulic Pump	120 - 75 HP 1500 lbs/sq. inch	2
Hydraulic Accumulator ^u	1500 lbs/sq. inch	1
Universal oxygen-jet cutting machine	Delta type No. 25	1
Air compressor	100-20 HP 100 lbs/sq. inch	4
Flash Butt Welding machine	300 to 200 KVA	1
Direct current welding machine	60 to 10 KW	5
Alternating current welding machine	25 to 5 KVA	22
Travelling Crane	Lifting capacity 25 - 40 tons	4
" "	" 3 - 5 "	1
Jib Crane	" 15 "	1
Triplet Crane	" 15 "	1
Hydraulic jib crane	" 3 to 5 tons	2
Electric motor hoist	" 1 ton	1
Winch	Winding capacity 1 to 5 tons	5
Marking table	Working surface 2,150 x 6,000 m/m	1

Name	Capacity	Number
Marking table	Working surface 3,000 x 3,000 m/m	1
Working table	1,530 x 3,050 "	10
Bee hive working table	1,500 x 3,000 "	6
Acetylene Gas generator	7.36 cub.m	1
TOTAL		98

H. Forge shop

Detail of works

Forging of shaft, screws and various parts of forging articles.

- a. Building area 1,719.02 sq.m
- Floor area 1,719.02 sq.m
- Structure Steel frame, galv. sheet roof, flat, two houses.
- b. Kind of machineries and equipments,
Capacity & Number.

Name	Capacity	Number
Steam hammer	1 ton to 1/5 tons	3
Drep hammer	1 ton	1
Hydraulic press	140 tons	1
Meter hoist	Lifting Capacity 2 tons	1
Total		6

I. Foundry (Containing pattern shop)**Detail of works**

Manufacturing of wooden patterns, Casting (casting iron, casting steel, compound metal, etc.) apparatus for salt manufacture, Apparatus for manufacturing of artificial fertilizer, Various pumps, Manufacturing of wooden patterns and casting (casting iron, casting steel, compound metal, etc.) for parts of industrial machines.

- a. Building area 8,585.28 sq.m
Floor area 9,029.30 sq.m
- b. Kind of machineries and equipments,
Capacity and Number.

775 013

Name	Capacity	Number
Wood lathe	Bed Length 4'-0"	1
Band Saw	Max. Sawing thickness 8"	1
Wood planer	Width up to 12"	1
Automatic feed wood planer	2'-0"	1
Travelling crane	Lifting Capacity 20 - 40 tons	2
"	" 5 tons	2
Motor hoist	" 1/2 to 3 tons	3
Cupola	Capacity 1 to 5 tons	1
Fan	" 70 Cub m/min	2
Sand mixer	Mill Dia 4'-0"	1
Sand Mill	" 5'-10" to 10' inches	2
Dumpling Barrel	Dia x length 500 x 200 m/m	1
Ladle	Capacity 1 to 10 tons	3
Total		21

J. No.1 Pipe shop

Detail of works

Bending works of pipes, Plating and welding for various industrial machines.

- a. Building area 2,367.78 sq.m
 Floor area 2,367.78 sq.m
 Structure Steel frame, galv. sheet roof,
 flat, 2 houses.

- b. Kind of machineries and equipments,
 Capacity and Number.

Name	Capacity	Number
Horizontal Drilling Machine	Max.drilling Dia.3/4"	1
Motor hoist	Lifting Capacity 1 ton	1
Electric welding machine	A.C. 12 KW	1
Total		3

K. Material laboratory

Detail of works

Various physical test of materials, physical test of spring, precise inspection of Screws, precise inspection of pressure gauge and other gauges.

- a. Building area 142.48 sq.m
 Floor area 284.96 sq.m
 Structure Brick structure, slate roof,
 two stories,
 1 house
- b. Kind of machineries and equipments,
 Capacity and Number.

Name	Capacity	Number
Universal testing machine	Testing Load 100 tons	1
Impact testing machine	Testing Load 16.6 Kgm	1
Spring testing machine	Ansler Type 500 Kg.	1
Vacuum Vacuume guage testing machine	760 atm.	1
Shore Hardness testing machine		1
TOTAL		5

I. Blue printing room

Work: Blue printing

- a. Building area 39.6 sq.m
- Floor area 39.6 sq.m

(This room is contained in Drawing shop,)
(and not applied for release.)

b. Machinery

Blue printing machine

Number
1

(This machine is used also by Electric)
(Machinery Department.)

M. Equipments of Power Plant

a. Buildings (used also by Electric Machinery Department.)

Name	Number of house	Structure	Building area	Floor area	Detail of works
No.1 Substation	1	Brick structure two stories	sq.m 181.14	sq.m 304.03	Receiving of elect. power, first substa- tion
No.2 Substation	1	Brick structure flat	301.91	301.91	"
No.3 Substation	1	Reinforced concrete, two stories	383.33	737.69	"
No.2 Air-compressor room	1	"	269.81	403.31	Manufacturing of compressed air

775 013

b. Machineries and equipments

Following list includes machineries and equipments used by the both Electric Machinery Department and Boiler and Chemical Engineering Department, and at the same time includes them used only by Boiler and Chemical Engineering Department.

Name	Capacity	Number	Location
* Special high voltage transformer	1,500 KVA	3	No.1 Substation
D.C.Motor Generator	75 KW	1	"
"	1,000 "	2	No.2 Substation
Special high voltage transformer	2,000 KVA	1	No.3 Substation
High voltage transformer	200 "	15	Every shops applied for release
"	75 "	3	"
"	50 "	3	"
"	30 "	2	"
"	25 "	2	"
"	20 "	3	"
"	15 "	4	"
D.C.Motor generator	60 KW	3	"
Elect. Air-compressor	500 HP	2	No.2 & No.3 Air-compressor room

(Above equipments are used by the both department.