

APPENDIX II (Cont'd.)Japanese Copper Industry

Japan Proper

(All Units in Metric Tons)

Reparations Report

Mine Production (copper content of concentrates) 1940-1944 Avg. = 63,245

Mine Production plus Imports - 1940-1944 Avg. = 109,235

Copper Consumption 1930-1935 Avg. = 73,360

FEA Report

1943

Mine Production (Recoverable Copper) 79,500

Maximum Mine Capacity 91,000

Smelter Production 114,000

Smelter Capacity 140,700

Refinery Production 122,000

Refinery Capacity 133,500

Pauloy ReportHome Consumption 1931-2 = 51,000; 1933-4 = 91,000; 1935-6 = 130,000Electrolytic Copper Production 1943 = 123,721; 1944 = 99,1961943 War Time Requirements - Estimated 150,000Apparent Consumption 1935-1939 Avg. 143,025
1940-1944 Avg. 141,885Mine Production (contained ore) 1940-1944 Avg. = 77,377Refinery Production 1935-1939 Avg. = 63,516
1940-1944 Avg. = 104,181Imports - Refined Copper 1935-1939 Avg. = 77,649
1940-1944 Avg. = 39,705Refinery Capacity 1945 = 147,000

OBS Report - February 7, 1944 - Figures from Nippon Kogyo Kaishi

Average Consumption, 1925-1929 incl. = 75,295

APPENDIX 11 (Cont'd.)LEAD AND ZINC

These metals have never been produced in large quantities in Japan, and up to the development of modern flotation methods a considerable portion of the local consumption was satisfied by imports of metal. For the period of World War I, a limited number of ancient mines were modernized and the mixed sulphide ores came to have value. In 1931, local smelter production of zinc from domestic and imported ores was 215,407 tons, in addition to which almost as much metal was imported. In 1940, the last year for which complete figures are available, the smelting production is estimated to have been 55,000 tons, and metal imports, 33,000 tons. Exports are not recorded, but in the prewar years zinc was going out of the country in the form of brass and galvanized sheets. A stock of metal was meanwhile built up in the country for war purposes.

Lead has been smelted from earliest times and the process is simple. Production amounted to 4,070 tons in 1931, with imports of 53,889 tons, and exports of only 497 tons. In 1940, the corresponding figures were 15,000 tons, 101,428 tons and 1,294 tons. Consumption rose from 57,600 tons in 1931 to an estimated hundred thousand tons in 1939, after which consumption declined through the accumulated stocks and amounted to 85,000 tons when the war commenced in China. Imports of lead from Korea, Manchuria and Hongkong about equalled local production in recent years. Imports from Korea, Manchuria and Indo-China about balanced local production of zinc.

It is doubtful if either lead or zinc needs to be imported to provide for the legitimate peacetime uses of Japan, but local mining and treatment are of importance since to a considerable degree production of copper, gold, silver and in small degree other metals is dependent upon

APPENDIX II (Cont'd.)

lead and zinc smelting. If exports of finished goods, such as plumbing, grow naturally, as they may well do, imports may again be needed.

Japanese Lead Industry

Japan Proper

(All units in Metric Tons)

FEA Report

1943	Lead Mine Production (Recoverable Lead)	13,000
	Maximum Mine Capacity (Recoverable Lead)	13,750
	Refined Lead Production	18,000
	Lead Smelting & Refining Capacity	24,500

Pauley Report

Apparent Lead Consumption

1935-1939 Avg. = 92,339	1940-1944 Avg. = 63,396
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Lead Mine Production, 1940-1944 = 17,296

Lead Smelter Production, 1940-1944 = 17,425

Lead Smelter Capacity, 1944 = 37,380

Lead Refinery Production,	1935-1939 Avg. = 12,945
	1940-1944 Avg. = 27,601

Lead Refinery Capacity, 1944 = 53,800

Imports of Metallic Lead - 1935-1939 Avg. = 81,284
1940-1944 Avg. = 35,422

Japanese Zinc Industry

Japan Proper

(All units in Metric Tons)

FEA Report

1943	Zinc Mine Production (Recoverable Zinc)	28,000
	Maximum Mine Capacity (Recoverable Zinc)	30,000
	Refined Zinc Production (Total)	39,000
	High Grade Zinc - 26,000	
	Low Grade Zinc - 13,000	
	Zinc Refining & Smelting Capacity (Total)	82,300
	High Grade Zinc - 49,000	
	Low Grade Zinc - 33,300	

APPENDIX II (Cont'd.)Pauley Report

Zinc Mine Production (Japan Proper) (Zinc Content) = 1940-1944 Avg. = 70,200

Zinc Refinery ProductionMetallic Zinc Imports

1935-1939 Avg. = 44,484

39,623

1940-1944, Avg. = 59,393

7,463

1945 Refinery Capacity = 178,600

Apparent Consumption of Zinc in Japan Proper

1935-1939 = 84,106

1939-1944 = 68,357

TIN

Tin deposits are found at various points in Japan, especially on the Island of Kyushu, where tin mining is an ancient industry in the south. In 1909 the Mitsubishi Companies found tin in the Aktenobe Mine on Honshu, and in later years they and others developed other deposits on both islands. None of the deposits are large, and in 1931 Japanese production was 1,015 tons, with imports of 3,257 tons. In 1940 the corresponding figures were 1,620 and 9,840 tons. All this was consumed at home, save for minor amounts exported as tinfoil, and in various manufactures.

Japanese Tin Industry

Japan Proper

(All units in Metric Tons)

FEA Report

Tin (Recoverable Tin)

1943 = 2,000

Smelter Capacity

1943 = 5,000

Pauley Report

Apparent Tin Consumption

1935 - 1939 Avg. = 7,639

1940-1944 = 9,410

APPENDIX II (Cont'd.)Pauley Report (Cont'd.)

<u>Tin Mine Production (Tin Content)</u>	<u>Tin Content Ore Imports</u>
1941 - 0	1,564
1942 - 1,924	1,315
1943 - 1,125	680
1944 - 380	0

	<u>Tin Smelter Production</u>	<u>Tin Refining Production</u>
1935-1939 Avg.	0	1,677
1940-1944 Avg.	2,413	1,943

Imports of Metallic Tin

1935-1939 Avg. =	5,982
1940-1-3-4 Avg. =	9,320

NICKEL

Approximately 50 percent of the 800-odd tons of nickel imported into Japan in 1930 was consumed by Government arsenals and shipyards. With the rationalization of industries following 1931, and again after the outbreak of war in China in 1937, there was a phenomenal increase in the consumption of nickel until 1941 when it reached about 8,730 tons. Not all of this was in war uses, for the Japanese engineers and industrialists developed a wide diversity of applications for nickel alloy steels, nickel-plating, and nickel alloys for peacetime industries.

Japan is almost entirely dependent on imports for its supply of nickel, since there are no deposits of significance, and the by-product obtained in the form of sulphate from copper refineries amounts to but a few tons a year. Up to 1936 imports were of metal; after that, ores were imported from New Caledonia and Dutch East Indies. The supply and its sources through recent years are summarized in the following table, which data must be read in consideration of the fact that published figures in Japanese Customs imports of any kind do not include materials

APPENDIX II (Cont'd.)

purchased abroad for the Imperial Government. There was, for example, a considerable tonnage of nickel bought for use in coinage and not reflected in the import statistics. It was later melted down and used to make alloys for armament.

DATA BEARING ON CONSUMPTION OF NICKEL
(In Metric Tons)

<u>Year</u>	<u>Production Ni Content</u>	<u>Imports of Ore Ni Content</u>	<u>Refinery Production</u>	<u>Imports Metal</u>	<u>Total</u>
1931	None?		0	812	812
1932	"		0	1,844	1,844
1933	"		0	3,258	3,258
1934	"		0	2,639	2,639
1935	"		0	3,924	3,924
1936	"	292	0	2,460	2,460
1937	"	704	0	6,511	6,511
1938	"	2,529	33	8,171	8,204
1939	"	No Data	143	12,208	12,951
1940	"	"	617	2,786	3,403
1941	"	"	1,823	1,240	3,063
1942	21	5,250*	1,392	0?	1,592
1943	42	No Data	1,748	0?	1,748
1944	48	"	634	0?	634

SOURCES: Japanese Mining Bureau - Production, Imports of Metal
U. S. Bureau of Mines - Imports of Ore.

* From Celebes and Burma. Estimate of Foreign Economic Administration, E. F. 60.1

It will be necessary for Japan to continue to import either nickel, metal or ores, or both. It would seem reasonable to impose no obstacles to either, but to permit the free play of competition to determine the results.

This will afford the most ready field for application of the principle of a peacetime economy, based on importation of a minimum of raw materials and applying to them the available energy from hydro power, and the available labor, skill and managerial ability.

In reorienting the industry of Japan toward peace instead of war, certain principles should be kept in mind. In view of the fact that

APPENDIX II (Cont'd.)

Japan will need to import food, there should be no unnecessary importation of other raw materials. In other words, where there is possibility of manufacturing on the basis of domestic raw materials, that is to be preferred. Also, it is preferable that Japan import raw materials rather than finished or semi-finished goods, so that, to the maximum, the power, fuel, labor, skill and management of the country be used in the production of finished goods for domestic consumption or export. Finally, restrictions should be applied on import of raw materials necessary to heavy industries rather than to the manufacture of consumer goods, if the object of effecting the disarmament of Japanese industry necessary to prevent war is to be met.

MANGANESE

The most necessary of the minerals in the ferro-alloy group is manganese, although its use in alloys is minor. It is employed mainly as a scavenger in making steel, and for this purpose it is essential to use 12 to 14 pounds in the making of each ton of steel. Most of this is carried off in the slag, but the importance of the small amount which remains in the steel has come to a new appreciation. Manganese also has important applications as a non-metallic in chemical industries. While there are numerous deposits in Japan, they are small and the domestic supply is wholly inadequate. Ore has long been imported from other East Asiatic countries, particularly India, Malaya and the Philippines. In the prewar years, 1931 to 1941, inclusive, domestic production increased from 12,849 metric tons to 92,000 tons, while the import rose from 40,316 to approximately 175,000 tons. Exports are not significant. Ferro-manganese production is reported to have grown from 34,710 tons in 1935 to 68,553 in 1941. With the steel industry cut back to one-third of the

A P P E N D I X II (Cont'd.)

maximum wartime output, it is doubtful that Japan can be self-sustaining in manganese ores for any long period, although it could for a few years. If it be found desirable, an interdiction on manganese imports for a limited term of years may be exercised.

CHROMITE

The Japanese are better supplied with this mineral than with manganese ores. In 1931 domestic production was 9,675 metric tons, with no recorded imports. In 1941 the production had grown to 50,212 tons, with 7,500 tons of imports. Thereafter, imports apparently increased rapidly and large tonnages of high-grade ore were looted from the Philippines. Chromium has many essential uses in the arts and industries and has been rapidly rising in importance, particularly following development of chromium plating and the manufacture of so-called stainless steels, which by reason of their great strength and stiffness are competing strongly with the light metals in many fields. No great damage would result to the country by forbidding imports of chromite ore for a limited term of years, although it is not important as a war potential material.

TUNGSTEN

This is another of the metals important in making alloy steels, particularly those used for cutting tools. The amount needed is not large and to a considerable extent molybdenum can be substituted for it. Domestic production of tungsten ores in Japan is unimportant, and the steel makers have depended largely on ores from Korea with imports from China, Burma and other East Asian sources easily available. Japanese production of tungstic oxide, 55 percent concentrate in 1931, is given as 52 tons, and in 1941 as 957 tons. In the same years, Korea produced

A P P E N D I X II (Cont'd.)

16 and an estimated 2,600 tons, respectively. The Korean concentrates are calculated at 60 percent WO_3 . Wartime production seems to have been heavily subsidized, but ordinary output may be sufficient to meet domestic needs of the reorganized steel industry, although this is by no means certain and small imports in reasonable quantity might be safely permitted.

MOLYBDENUM

Molybdenum has been produced in Japan, but almost entirely from imported ores, especially from Korea. The amounts involved are not large, and there is no present knowledge which warrants belief that Japan could supply itself in the future. Recognition of the value of molybdenum in alloy steels has been greatly enhanced by wartime experiences, especially in the United States.

Minor ferro-alloy minerals -- vanadium, cobalt and others -- have been used in Japan, as elsewhere, but the tonnages and values involved are not important.

While the ferro-alloy minerals are essential to the continuance of industry in Japan, all the more so if steel consumption is to be channelled into the manufacture of consumer goods, the actual tonnages involved are not large and any necessary control of their movement should be easily effected. Electric furnaces of one type or another, themselves large consumers of special steels, have been largely used in the reduction of these ores and the production of the ferro-alloys, so that a system of licenses would control the largest part of the production. However, blast furnaces may also be used so that such control would not be complete and a better means would be by licensing imports. The

A P P E N D I X II (Cont'd.)

simplest way to make this effective would be by control of the customs in some such manner as the Chinese ^{Maritime} ~~XXXXXX~~ Customs were long managed under British supervision. As previously suggested, however, it is doubtful whether any, and at most more than a temporary, control is desirable in the field of ferro-alloys or the ores from which they are made.

ANTIMONY

Smelting of antimony ores has been carried on in Japan for nearly three-quarters of a century, although it has been based mainly on the importation of ores because deposits in Japan are few, small and lean. The ore used came largely from China, the world's chief producer, but after the war with China began, Indo-China became an important source of supply. The whole production was small, from 2,500 to 3,500 tons per year, and can hardly have done more than meet domestic demands. Neither Korea nor Manchuria has been a producer of importance. Certain antimony compounds and alloys are used in modern industry and will continue to be needed in Japan.

MINOR METALS

Arsenic, bismuth and a few other metals, or their compounds, are regularly recovered as by-products from copper, gold, silver and lead smelting. Arsenic is used for making insecticides, and both it and bismuth have pharmaceutical uses. About half the arsenic produced has been exported. Future production will depend on the activity in non-ferrous smelting, and no good purpose would seem to be served by restricting it.

Mercury is produced in small quantities in Japan, but imports have been the main source of supply. The consumption rose rapidly in the year of war preparation. Any restriction found necessary can be accomplished.

APPENDIX II (Cont'd.)

by control of imports. Neither Korea, Formosa nor Manchuria is an important producer, although a small amount of mercury comes from the first named country.

PRECIOUS METALS

The Japanese Empire was an important producer of gold and silver, although slightly less than half the output came from mines in Japan itself. Formosa yielded a minor amount and Korea slightly more than half. The larger part of both the gold and the silver was obtained as a by-product of non-ferrous smelting, the copper or lead in the ore being used as a collector in the furnace work in the usual manner. Independent production of neither gold nor silver was important, although there is a limited amount of placer mining. In Manchuria placer mining is more important than lode mining. The figures for gold production through the prewar years are given below in Kilograms as reported by the Bureau of Foreign Exchange of the Japanese Ministry of Finance:

<u>Year</u>	<u>Japan</u>	<u>Korea</u>	<u>Formosa</u>	<u>Total</u>
1931	12,275	9,031	553	21,860
1932	12,497	9,700	817	23,014
1933	13,728	11,508	652	25,888
1934	15,146	12,427	1,002	28,577
1935	18,324	14,710	1,157	34,189
1936	22,234	17,489	1,294	41,018
1937	23,010	22,948	1,306	47,164
1938	24,067	27,737	1,688	53,493
1939	25,926	29,192	1,265	56,384
1940	25,583	25,288	803	51,675
1941	25,328	25,584	897	51,810

In order to bring about the increase in production shown above, it was necessary for the Imperial Government to pass on to the miners the world increase in the price of gold brought about by the action of the United States Government; which Japan did reluctantly and only after considerable delay. In Korea the new price was not paid until after the

A P P E N D I X II (Cont'd.)

Oriental Consolidated, the last of the foreign-owned gold mines, was brought under Japanese ownership. Then a marked increase in production occurred at once. The increase in price was followed by heavy subsidies which were maintained until the war cut off Japan's market for gold. Thereafter the gold mines were stripped of supplies, equipment and manpower to favor copper, coal and iron mining, which was held to be more essential. The same policy was followed in the occupied countries. In post-war years it would seem that without artificial stimulus, Japan should be able to supply 15,000 to perhaps 20,000 kilograms of gold worth at the present American price between \$170,000,000 and \$225,000,000.

The silver production came mainly from the same sources as did the gold, that is, from the ores mined and smelted mainly for their content of non-ferrous metals. The outputs for the years 1931 to 1941, inclusive, are tabulated below, again in kilograms. The rise in output was due to war stimulus of copper and less production rather than to any special influence operating on silver alone.

<u>Year</u>	<u>Kilograms</u>
1931	167,583
1932	163,625
1933	185,610
1934	217,254
1935	256,007
1936	303,653
1937	314,391
1938	408,145
1939	436,148
1940	358,410
1941	360,298

The figures for the separate production of Korea and Formosa are not available, but presumably those quoted above include all the silver from ores treated by Japanese smelters both in Japan proper and at Chinnampo in Korea.

APPENDIX II (Cont'd.)

Platinum and its associated metals are obtained only to a very small amount as by-products from placer operations or from smelting. Japan is almost entirely dependent on imports, and there seems to be no possibility of its becoming self-sufficient.

INDUSTRIAL MINERALS

Japan is fairly well supplied with those minerals which, while they do not ordinarily yield metals to be used as such, do afford the basic raw materials for many industries. Of the three great wheel horses of chemical industry, Japan has abundant supplies of limestone and sulphur, although it is far from self-supporting in the case of salt. Sulphur is present in surplus quantities and is exported, as is also limestone as a constituent of cement. Phosphate-bearing limestone is deficient and must be imported. Clays, concrete materials and building stones are adequate but production of many of the non-metallic minerals is on a small scale.

Sulphur and Pyrite

The sulphur used to make sulphuric acid and for other industrial purposes is partly mined as sulphur, partly as pyrite, and also is obtained in considerable portion from smelter fume. Part of the material shipped and sold commercially as pyrite is really low-grade sulphur rock mixed only in part with real pyrite. The sulphur sold abroad is refined brimstone. Sulphur deposits which are mined in Japan are only in minor part solfataric. The big mines are on deposits of sedimentary rock, largely tuff thoroughly impregnated with sulphur from volcanoes which were active nearby when the sediments were being laid down. The deposits are mined underground on a room and pillar system and the coarse crushed rock, when

APPENDIX II (Cont'd.)

roughly sorted, is retorted in closed cast iron kettles, the sulphur being run out into molds. A part only of the fine and low-grade rock finds its way to the acid plant where it is roasted and treated as pyrite.

Sulphur production as such climbed rapidly from about 60,000 tons in 1931 to 200,000 tons in the war years. The largest part of this came from two mines in southern Hokkaido, and one in northern Honshu. Up to 1941, sulphur was regularly exported in amounts from 25,000 to 75,000 tons. At the same time pyrites were being imported for making acid, despite a local production of roughly a million tons per year. Of this, substantially half came from the Yonahara Mine of the Fujita interests. Smelter fume from copper, lead and zinc smelting was an important source of sulphur for acid-making, and the industrial organization was such that ores very low in copper or lead content were useful. Japan furnished a market for pyrite and for very low-grade copper sulphide concentrates.

In the case of ores of too low content of copper, gold or silver to warrant treatment by regular smelting, they were roasted as ordinary pyrite, leached if they contained any copper, and the residue of iron, in the form of "bluebilly" sold to the blast furnaces for making pig iron. In recent years zinc sulphide ores have made an increasing contribution to the supply of sulphur for making acid.

With the limitation and control of production of sulphuric acid, no further restrictions need be applied to the production, import or export of any of these materials. Ordinary commercial demand can easily be met by domestic production.

Salt

No salt mines have been developed in Japan and climatic conditions

A P P E N D I X II (Cont'd.)

do not favor any large solar salt industry. Domestic production has been about 600,000 tons per year, fairly consistently maintained for two decades or more. Meantime consumption has increased from about 1,000,000 tons in 1930 to nearly 3,000,000 at the beginning of war. This gap was filled by imports which came in minor degree from Formosa, Korea and Manchuria, and in major degree from China, but which also came as far as from the Red Sea countries and East Africa.

Control of salt supply is one of the most effective devices that can be used when it can be applied, as the Japanese did in conquering the hill tribes in Formosa. However, since salt is the basis for the soda ash and caustic soda industries, that are required for soap, rayon and textiles, there would seem to be no valid reason for shutting off the supply to these peacetime chemical industries.

Phosphate Rock

The supreme importance to the Japanese of an adequate supply of fertilizer is self-evident. Among the materials for making artificial fertilizers, phosphate rock for the manufacture of super-phosphate is most important. And since Japan has adequate supplies of sulphuric acid available from domestic materials, it would not be economical to import finished super-phosphate, assuming that it were available.

In Japan proper there is substantially no phosphate rock, but in pre-war years domestic production based on imports from mandated and other islands in the Empire rose from 87,420 tons in 1930 to 375,285 tons in 1935. In addition, there was imported from other sources 632,690 and 814,782 tons in the two corresponding years. To operate the super-phosphate plants of Japan at prewar capacity will require about 800,000 tons

A P P E N D I X II (Cont'd.)

of rock per year, and there can be but little question of the need of at least as much as before the war if the increased population of Japan is to be fed from its restricted area. It would seem wise so far as possible to allow the source of supply to be determined by ordinary economic and commercial considerations. Both Korea and China, the nearby sources, will doubtless come quickly to need at home all the rock either can supply. That from the Pacific Islands, mandated and otherwise, will be subjected to increasing demand, and access to these supplies is a proper subject for consideration in connection with peace-treaty discussions of their future supervision.

Egyptian and North African phosphate rock is available only in East Asia as an incident in balancing freight and of shiploading in connection with general trade. The same may be said as regards rock from Florida, of which a tonnage of some 250,000 tons per year had been going to Japan prior to the war. Here the movement has been favored by the higher grade of the rock available for export and the natural combination of cotton and rock to make up outgoing cargo balancing silk and light manufactures coming from Japan.

MINOR MINERALS

Mica, asbestos, graphite, quartz crystal, fluorspar and other various minerals of industrial value are found in both Japan and Korea and are worked in a small way. Neither country affords a supply of any of these which is important in international trade. Production of all of these minerals depends largely on the poverty of the country as much or more than on the abundance of the deposits. It is the availability of cheap but skilled hand labor which makes it possible to mine, dress and

A P P E N D I X II (Cont'd.)

grade them, and the industries serve a useful purpose since they are in general supplementary to others of greater importance or size. It would not seem to be either necessary or desirable to place any handicap in the way of the future growth of any of these industries.

It is desirable to permit and encourage the Japanese to go as far as they can, in the manufacture of clay goods of all classes from fire-brick to china and art pottery. The necessary materials are present, sufficient fuel is available, as is the skill and temperament of the workers. Here is an excellent field for Japanese industry in working up into finished goods raw materials of which only very small amounts need to be imported and which are readily salable in world markets to establish foreign exchange.

APPENDIX III-A
NITROGENTABLE IWORLD NITROGEN PRODUCTIVE CAPACITY (1)

These data are estimates for 1944 and were obtained from the U. S. Tariff Commission, U. S. Department of Agriculture, and authoritative confidential industrial sources.

(Thousands of short tons of nitrogen)

<u>COUNTRY</u>	<u>TOTAL ANNUAL CAPACITY (2)</u>
Australia	7
Belgium	220
Canada	270
Chile	350
China	15
Czechoslovakia	50
France	350
Germany	1,500
Great Britain	400 (3)
Holland	165
Hungary	20
Italy	250
Japan, including Korea and Manchuria	380
Norway	120
Poland	140
Rumania	10
Russia	220
South Africa	9
Spain	10
Sweden	30
Switzerland	13
United States	1,225
Yugoslavia	35
Miscellaneous	<u>20</u>
Total	5,809 (4)
Less: Total Capacity of Germany & Japan	<u>1,880</u>
United Nations Capacity	3,929
Plus: Estimated Permitted German Postwar Capacity	<u>275</u>
World Total Postwar Capacity	4,204
World Consumption in 1938 for Agriculture and Industry	<u>3,158</u> (5)
World Excess Postwar Capacity	<u><u>1,046</u></u>

(See Next Page for Footnotes.)

TABLE IWORLD NITROGEN PRODUCTIVE CAPACITY (1)Footnotes

- (1) Assuming no war demolition.
- (2) Total capacity includes synthetic, cyanamid, by-product and Chilean nitrate.
- (3) This estimate subject to variation -- may be 100 low.
- (4) This total capacity is a minimum which might be moderately increased, provided minor bottle-necks presumably existing at many plants are eliminated, but such moderate possible World increase above this figure would require all plants to be operated for maximum capacity at the same time.
- (5) Includes some German war preparation.

The average annual consumption for agriculture and industry, for the years 1924 to 1929, was 1,610,000 short tons of Nitrogen; 1930-1934, 1,930,000 tons; 1935-1938, 2,780,000.

For the purposes of this study, total productive capacity is taken conservatively low. After eliminating productive capacity for Germany and Japan, and using for the peak year of 1938 total world consumption, there still exists an excess capacity of over 1,000,000 short tons of Nitrogen per year.

APPENDIX III-A
NITROGENTABLE IIWORLD NITROGEN STATISTICSCAPACITY

(Thousands of short tons of nitrogen)

<u>YEAR</u>	<u>BY-PROD.</u>	<u>SYN.</u>	<u>CYAN.</u>	<u>TOTAL</u>
1924	410	560	250	1,220
1925	420	700	280	1,400
1926	435	815	315	1,565
1927	470	1,017	330	1,817
1928	510	1,312	335	2,157
1929	545	1,733	390	2,668
1930	572	2,210	465	3,247
1931	590	2,628	510	3,728
1932	600	2,943	520	4,063
1933	610	3,110	520	4,240
1934 (1)	624	3,231	539	4,392
1935				
1936				
1937		4,138		
1938 (2)				
1939				
1940				
1941				
1942 (3)				

- (1) Data for 1924-1934 were obtained from the U.S. Tariff Commission Report #114, page 62.
- (2) Data for 1935-1938 were obtained from the Annual Report of the British Sulfate of Ammonia Federation for 1937-38.
- (3) Data for 1938-1942 were obtained from confidential sources.

These figures are approximations because of conversion from fertilizer years to calendar years; conversion of metric tons to short tons; and rounding off for expression as thousands of tons.

APPENDIX III-A
NITROGENTABLE II (Cont'd.)WORLD NITROGEN STATISTICSPRODUCTION

(Thousands of short tons of nitrogen)

<u>YEAR</u>	<u>BY-PROD.</u>	<u>SYN.</u>	<u>CYAN.</u>	<u>TOTAL EXCL. CHILE</u>	<u>CHILEAN</u>	<u>TOTAL INCL. CHILE</u>
1924	352	355	120	828	412	1,240
1925	369	432	146	947	433	1,380
1926	398	552	182	1,131	346	1,478
1927	440	703	208	1,351	277	1,628
1928	467	945	215	1,626	543	2,169
1929	497	1,102	251	1,849	555	2,404
1930	477	1,019	256	1,751	420	2,171
1931	397	991	185	1,573	193	1,766
1932	346	1,149	167	1,662	120	1,782
1933	357	1,264	199	1,820	75	1,895
1934 (1)	397	1,348	235	1,979	145	2,124
1935	390	1,690 (4)		2,080	197	2,277
1936	404	2,020 (4)		2,024	211	2,635
1937	465	2,290 (4)		2,755	227	2,982
1938 (2)	530	2,386 (4)		2,950	246	3,196
1939	529	2,700 (4)			249	
1940					317	
1941					255	
1942 (3)					241	

- (1) Data for 1924-1934 were obtained from the U.S. Tariff Commission Report #114, page 62.
(2) Data for 1935-1938 were obtained from the Annual Report of the British Sulfate of Ammonia Federation for 1937-38.
(3) Data for 1938-1942 were obtained from confidential sources.
(4) Includes cyanamid.

These figures are approximations because of conversion from fertilizer years to calendar years; conversion of metric tons to short tons; and rounding off for expression as thousands of tons.

APPENDIX III-A
NITROGENTABLE II (Cont'd.)WORLD NITROGEN STATISTICSCONSUMPTION

(Thousands of short tons of nitrogen)

<u>YEAR</u>	<u>AGRICULTURE</u>	<u>INDUSTRY</u>	<u>TOTAL</u>	<u>AVERAGE BY PERIODS</u>
1924	1,075	140	1,215)	
1925	1,175	149	1,325)	
1926	1,269	179	1,444)	1,910
1927	1,457	197	1,655)	
1928	1,721	211	1,933)	
1929	1,880	220	2,100)	
1930	1,775	190	1,965)	
1931	1,575	170	1,745)	
1932	1,650	165	1,815)	1,938
1933	1,790	205	1,995)	
1934 (1)	1,970	200	2,170)	
1935	2,150	330	2,480)	
1936	2,460	380	2,840)	2,890
1937	2,685	395	3,080)	
1938(2)	2,740	418	3,158)	
1939				
1940				
1941				
1942 (3)				

- (1) Data for 1924-1934 were obtained from the U.S. Tariff Commission Report #114, page 62.
- (2) Data for 1935-1938 were obtained from the Annual Report of the British Sulfate of Ammonia Federation for 1937-38.
- (3) Data for 1938-1942 were obtained from confidential sources.

These figures are approximations because of conversion from fertilizer years to calendar years; conversion of metric tons to short tons; and rounding off for expression as thousands of tons.

APPENDIX III-A
NITROGENTABLE IIIAVERAGE ANNUAL IMPORTS, EXPORTS,
PRODUCTION AND CONSUMPTION
of
CHEMICAL FERTILIZERS IN JAPAN

(In 1,000 Metric Tons)

<u>Name of Commodity</u>	<u>Imports</u>	<u>Exports</u>	<u>Production</u>	<u>Consumption</u>
Sulphate of Ammonia	265	102	449	612
Calcium Cyanamid	2	14	210	198
Nitrate of Soda	28	1	0	27
Superphosphate	0	114	1,073	960
Synthetic Phosphates	9	0	171	180
Phosphate Rock	705	0	0	705
Sulphate of Potash	47	2.2	0.13	44.9
Muriate of Potash	27.1	0.4	0.21	37
Other Potash Fertilizers	no record			
Soya Cake	936	0.3	248	940
Fish Cake & Fish Meal	113	29	239	198

TABLE III-AAVERAGE ANNUAL PRODUCTION
and
ESTIMATED ANNUAL NEEDS
for
FERTILIZER MATERIALS, 1940-1945

(In 1,000 Metric Tons)

<u>Fertilizer</u>	<u>Average Annual Production 1940-1945</u>	<u>Estimated Annual Needs</u>
Sulphate of Ammonia	946	800
Calcium Cyanamid	177	200
Nitrate of Soda	0	30
Superphosphate	792	900
Synthetic Phosphates	164	175
Phosphorite	1.7	700
Sulphate of Potash	0	45
Muriate of Potash	0	40
Other Potash Fertilizer	18.7	20
Soya Bean & Oil Cake	199	600
Fish Cake and Fish Meal	94	200

TABLE IV

SYNTHETIC AMMONIA PLANTS OF JAPAN

<u>Prefecture or Province</u>	<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>
<u>HOKKAIDO</u>				
Hokkaido	Sorachi-gun	Sunagawa- machi		Toyo Koatsu Kogyo (Oriental High Pressure Industry Co. Ltd.)
<u>HONSHU</u>				
Aomori-ken		Hachinohe-shi	Konakano-machi, Okinono	Nitto Kagaku Kogyo K.K. (Nitto Chemical Industry Co. Ltd.)
Akita-ken		Akita-shi	Ibarajima	Asahi Kagaku Kogyo K.K. (Morning (Rising) Sun Chemical Industry Co. Ltd.)
Niigata-ken	Nakakanbara-gun	Ishiyama- mura	Enoki	Niigata Ryusan K.K. (Niigata Sulfuric Acid Co. Ltd.)
" "	Nakakubiki-gun	Nakago-mura	Fujisawa	Nippon Soda K.K. (Japan Soda Co. Ltd.)
Fukushima-ken	Iwaki-gun	Onahama-machi	Takayama, 34	Nippon Suiso Kogyo K.K. (Japan Hydrogen Industry Co. Ltd.)
Toyama-ken	Nei-gun	Hayahoshi- mura	Sasakura, 885	Nissan Kagaku Kogyo K.K. (Nissan Chemical Industry Co. Ltd.)
Kanagawa-ken		Kawasaki-shi	Ogi-machi, 28	Showa Denko, K.K.
" "		Yokohama-shi	Tsurumi-ku, Daikoku-cho, 35	Dai Nippon Tokkyo Hiryo K.K. (Great Japan Patent Fertilizer Co. Ltd.)
Aichi-ken		Nagoya-shi	Minato-ku, Showa-cho, 8-chome, 4	Yahagi Suiiryoku K.K. (Yahagi Waterpower Co. Ltd.)

Sub-Total Forward

TABLE IV

SYNTHETIC AMMONIA PLANTS OF JAPAN

<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>	<u>Annual Capacity (M.T. Nitrogen)</u>
Ibaraki-gun	Sunagawa- machi		Toyo Koatsu Kogyo (Oriental High Pressure Industry Co. Ltd.)	51,500
	Hachinohe-shi	Konakano-machi, Okinono	Nitto Kagaku Kogyo K.K. (Nitto Chemical Industry Co. Ltd.)	6,200
	Akita-shi	Ibarajima	Asahi Kagaku Kogyo K.K. (Morning (Rising) Sun Chemical Industry Co. Ltd.)	10,300
Nakakanbara-gun	Ishiyama- mura	Enoki	Niigata Ryusan K.K. (Niigata Sulfuric Acid Co. Ltd.)	5,200
Nakakubiki-gun	Nakago-mura	Fujisawa	Nippon Soda K.K. (Japan Soda Co.Ltd.)	1,500
Maebashi-gun	Onahama-machi	Takayama, 34	Nippon Suiso Kogyo K.K. (Japan Hydrogen Industry Co. Ltd.)	20,600
Yamanashi-gun	Hayahoshi- mura	Sasakura, 885	Nissan Kagaku Kogyo K.K. (Nissan Chemical Industry Co. Ltd.)	33,500
	Kawasaki-shi	Ogi-machi, 28	Showa Denko, K.K.	69,000
	Yokohama-shi	Tsurumi-ku, Daikoku-cho, 35	Dai Nippon Tokkyo Hiryo K.K. (Great Japan Patent Fertilizer Co.Ltd.)	10,300
	Nagoya-shi	Minato-ku, Showa-cho, 8-chome, 4	Yahagi Suiryoku K.K. (Yahagi Waterpower Co. Ltd.)	22,700
Sub-Total Forward				230,800

TABLE IV (Cont'd.)

SYNTHETIC AMMONIA PLANTS OF JAPAN

<u>Prefecture or Province</u>	<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>
<u>HONSHU (Cont'd.)</u>				
Hyogo-ken	Kako-gun	Befu-machi		Taki Seihisho (Taki Fertilizer Works)
Yamaguchi-ken		Shimonoseki-shi	Hikoshima, Miyamae	Toyoko Koatsu Kogyo K.K.
"	"	Ube-shi		Ube Chisso Kogyo K.K.
<u>KYUSHU</u>				
Fukuoka-ken		Yawata-shi	Kurosaki	Nippon Kasei Kogyo K.K. (Japan Synthetic Industry Co.Ltd.)
"	"	Omuta-shi	Sanko-cho, 8	Toyoko Koatsu Kogyo K.K.
Miyazaki-ken		Nobeoka-shi	Tsunedomikita, 4319	Asahi Benberugu Kenshi K.K. (Rising Sun Bemberg Silk Yarn Co.Ltd.)
Kumamoto-ken	Ashikita-gun	Minamata-machi	Hama, Mategata	Nippon Chisso Hiryo K.K. (Japan (Nitrogenous Fertilizer Co. Ltd.)
<u>SHIKOKU</u>				
Ehime-ken		Niihama-shi	Otsu, 31	Sumitomo Kagaku Kogyo K.K. (Sumitomo Chemical Industry Co.Ltd.)

Brought Forward

TOTAL

TABLE IV (Cont'd.)

SYNTHETIC AMMONIA PLANTS OF JAPAN

<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>	<u>Annual Capacity (M.T. Nitrogen)</u>
			Brought Forward	230,800
Kako-gun	Befu-machi		Taki Seihisho (Taki Fertilizer Works)	10,300
	Shimonoseki-shi	Hikoshima, Miyamae	Toyoko Koatsu Kogyo K.K.	2,300
	Ube-shi		Ube Chisso Kogyo K.K.	49,400
	Yawata-shi	Kurosaki	Nippon Kasei Kogyo K.K. (Japan Synthetic Industry Co.Ltd.)	17,000
	Omuta-shi	Sanko-cho, 8	Toyoko Koatsu Kogyo K.K.	59,000
	Nobeoka-shi	Tsunedomikita, 4319	Asahi Benberugu Kenshi K.K. (Rising Sun Bemberg Silk Yarn Co.Ltd.)	12,000
Ashikita-gun	Minamata-machi	Hama, Mategata	Nippon Chisso Hiryo K.K. (Japan (Nitrogenous Fertilizer Co. Ltd.)	16,500
	Niihama-shi	Otsu, 31	Sumitomo Kagaku Kogyo K.K. (Sumitomo Chemical Industry Co.Ltd.)	54,300
			TOTAL	451,600

APPENDIX III-B
SULPHURIC ACID

TABLE I

PRODUCTION OF DIFFERENT CONCENTRATIONS OF
SULPHURIC ACID IN JAPAN, 1929-38
(Metric Tons)

<u>Year</u>	<u>Fuming</u>	<u>65° Be. and over</u>	<u>60° Be. and over</u>	<u>Chamber</u>	<u>Total</u>	<u>Total Calculated on 50° Be. Basis</u>
1929	22,208	258,538	19,376	845,883	1,146,003	1,295,183
1930	7,197	134,343	38,470	795,743	975,753	1,057,318
1931	5,125	99,596	58,247	887,625	1,050,593	1,118,323
1932	6,621	102,667	52,503	1,172,311	334,102	1,402,974
1933	8,984	180,829	21,464	1,402,861	1,614,138	1,715,880
1934	12,175	220,628	16,211	1,496,619	1,745,633	1,868,128
1935	50,359	305,241	23,326	1,627,013	2,005,939	2,199,919
1936	176,677	363,634	19,408	1,877,773	2,437,492	2,746,831
1937	190,455	575,816	130,014	2,305,150	3,201,435	3,653,701
1938	195,710	627,033	135,762	1,796,806	2,755,311	3,238,203

Sources: Kojo Tokei Hyo 1937: 1938
Nippon Soda Kogyo Shi, December 1938
Nippon Kokusei Zukai, 1941

TABLE II

ESTIMATES OF SULPHURIC ACID CONSUMPTION IN JAPAN, 1929-38
(Metric Tons of 50° Be. Acid)Consumption

<u>Year</u>	<u>For Ammonium Sulphate</u>	<u>For Super- phosphate</u>	<u>For Rayon and Staple Fiber</u>	<u>Other Uses (1)</u>
1929	281,000	485,000	30,000	493,000 (2)
1930	347,000	431,000	41,000	233,000 (2)
1931	443,000	435,000	51,000	186,000
1932	495,000	496,000	76,000	349,000
1933	542,000	586,000	103,000	459,000
1934	637,000	543,000	171,000	502,000
1935	724,000	657,000	262,000	546,000
1936	1,051,000	707,000	350,000	641,000
1937	1,108,000	784,000	555,000	1,180,000
1938	1,324,000	629,000	638,000	621,000

(1) Includes any shipments to Formosa, Karafuto and the mandated Islands, but not exports to Korea and foreign countries, including Manchuria and Kwantung Leased Territory.

(2) Not corrected for change in stocks, unknown.

APPENDIX III-C
CALCIUM CARBIDE
AND CYANAMID

TABLE I

APPARENT DISTRIBUTION OF CONSUMPTION OF CALCIUM CARBIDE
IN JAPAN 1929-1938
(Metric Tons)

Year	Production	Imports	Exports	Stocks	Consumption for		
					Calc. Cyan	Acet. Acid	Fuel Acetylene
1929	216,169	010	8,537	-	168,428	2,832	* 36,382
1930	299,744	012	9,932	19,519	241,643	4,440	* 43,741
1931	203,742	-	10,696	22,059	155,234	5,562	29,710
1932	279,892	-	13,794	15,400	225,575	6,947	40,235
1933	276,986	-	16,237	3,759	221,945	9,727	40,718
1934	304,174	-	19,506	25,005	202,496	12,391	48,335
1935	388,911	-	23,029	49,678	253,244	15,652	72,313
1936	423,652	-	25,911	44,952	281,064	19,227	102,176
1937	443,161	-	20,574	52,829	303,386	26,632	84,692
1938	417,082	5,137	17,930	31,321	281,968	28,536	115,293

Averages, 1929-1934:

Arithmetic	13,117	6,993	39,887
Rounded and used	13,000	7,000	40,000

* Uncorrected for Stocks

Materials and Electric Energy to Produce Yearly 360,000 metric tons of calcium carbide and therefrom 360,000 metric tons of calcium cyanamid and 60,000 metric tons of packed carbide.

Calcium Carbide, 360,000 M.T.

	Yearly Materials, M.T.	Yearly Energy KwY
Limestone	667,000 MT	
Bituminous Coke	209,000 MT	
Bituminous Coal: Burning Limestone	103,000 MT	
Drying Coke	4,000 MT	
Carbon Electrodes	107,000 MT	
Electric Energy	9,000 MT	156,000 KwY

Calcium Cyanamid, 380,000 M.T.

Nitrogen Content, 80,000 M.T.

Gaseous nitrogen, separated from liquid air	107,000 MT	
Electric Energy: Separating Nitrogen	3,000 KwY	
Nitrifying Carbide	1,000 KwY	4,000 KwY

Packing Calcium Carbide for Sale

Sheet Steel for Drums	4,000 MT	_____
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Calcium Carbide and Calcium Cyanamid, Total Energy Yearly 160,000 KwY

TABLE II

CALCIUM CYANAMID PLANTS OF JAPAN

<u>Prefecture or Province</u>	<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>
<u>HONSHU (HONDO)</u>				
Iwate-ken	Hienuki-gun	Hanamaki-machi		Tohoku Shinko Kagaku K.K. (North-eastern Development Chemical Co., Ltd.)
Niigata-ken	Higashikanbara-gun	Ryokanose-muri	Mukaikanose	Showa Denko K.K. (Showa Electrical Industry Co. Ltd.)
" "	Nakakubiki-gun	Obuke-mura	Nishifuku-shima	Shinetsu Kagaku Kogyo K.K. (Shinetsu Chemical Industry Co. Ltd.)
" "	Nishibubiki-gun	Aomi (Omi)-machi	Aomi, 2209	Denki Kagaku Kogyo K.K. (Electrochemical Industry Co. Ltd.)
Toyama-ken	Shimoniikawa-gun	Michijita-mura	Motoshin, 751	Nippon Ka-baido Kogyo K.K. (Japan Carbide Industry Co. Ltd.)
" "	Nakaniikawa-gun	Namerikawa-machi	Azuma-cho, 266	Chuetsu Denki Kogyo K.K. (Chuetsu Electrical Industry Co. Ltd.)
" "	Imizu-gun	Fushiki-machi	Kushioka, 61	Hokkai Denka Kogyo K.K. (Northern Sea Electrochemical Industry Co. Ltd.)
Fukui-ken	Nanjo-gun	Takefu-machi	Kitagomura, 36	Daido Kagaku Kogyo K.K. (Daido Chemical Industry Co. Ltd.)
Gifu-ken		Ogaki-shi	Kitakiriishi-machi, 167	Ibikawa Denki Kogyo K.K. (Ibikawa Electrical Industry Co. Ltd.)
<u>KYUSHU</u>				
Fukuoka-ken		Omura-shi	Shinkai-cho, 1	Denki Kagaku Kogyo K.K.

TOTAL

TABLE II

CALCIUM CYANAMID PLANTS OF JAPAN

<u>Subprefecture or District</u>	<u>City, Town or Village</u>	<u>Address</u>	<u>Company</u>	<u>Annual Capacity (M.T. Nitrogen)</u>
Hienuki-gun	Hanamaki-machi		Tohoku Shinko Kagaku K.K. (North-eastern Development Chemical Co., Ltd.)	1,800
Higashikanbara-gun	Ryokanose-muri	Mukaikanose	Showa Denko K.K. (Showa Electrical Industry Co. Ltd.)	25,200
Nakakubiki-gun	Obuke-mura	Nishifuku-shima	Shinetsu Kagaku Kogyo K.K. (Shinetsu Chemical Industry Co. Ltd.)	10,500
Nishibubiki-gun	Aomi (Omi)-machi	Aomi, 2209	Denki Kagaku Kogyo K.K. (Electrochemical Industry Co. Ltd.)	22,000
Shimonikawa-gun	Michijita-mura	Motoshin, 751	Nippon Ka-baido Kobyo K.K. (Japan Carbide Industry Co. Ltd.)	3,800
Nakanikawa-gun	Namerikawa-machi	Azuma-cho, 266	Chuetsu Denki Kogyo K.K. (Chuetsu Electrical Industry Co. Ltd.)	1,500
Imizu-gun	Fushiki-machi	Kushioka, 61	Hokkai Denka Kogyo K.K. (Northern Sea Electrochemical Industry Co. Ltd.)	1,900
Nanjo-gun	Takefu-machi	Kitagomura, 36	Daido Kagaku Kogyo K.K. (Daido Chemical Industry Co. Ltd.)	4,200
	Ogaki-shi	Kitakiriishi-machi, 167	Ibikawa Denki Kogyo K.K. (Ibikawa Electrical Industry Co. Ltd.)	1,500
	Omuta-shi	Shinkai-cho, 1	Denki Kagaku Kogyo K.K.	<u>18,500</u>
			TOTAL	90,900

APPENDIX III-C
CALCIUM CARBIDE
AND CYANAMID

A P P E N D I X IVJapan's Coal Production and Resources

In the accompanying chart which shows Japan's coal production and "Coal available to Japan", the lower line shows coal production in Japan since 1924. Until 1931, production was about equal to consumption (less bunker coal), since exports were usually approximately equal to imports. But beginning in 1931, imports began to exceed exports (see Table I) and after 1941 greatly exceeded them, amounting in 1943 and 1944 to half the domestic production in 1925-1933. Even these figures are somewhat misleading, since the Japanese did not record coal brought into the main islands from Formosa, Korea, and Karafuto as imports. Actual imports in 1940, for example, were about double those shown; the figures for 1943-4, however, are approximately correct.

The upper line in the chart adds the combined coal production in Formosa, Karafuto, and Korea prior to 1931, and the production in Manchuria after that time. It must be recognized, however, that this additional productive capacity was only theoretically "available" to Japan, since the Japanese proceeded to develop coal-consuming industries in the territories over which they acquired political control, and also sold the coal produced in the Far Eastern market. Thus, in 1925, more than two-thirds of the coal produced in Formosa was exported, but only one-fifth of it went to Japan. By 1942, consumption in Formosa had so increased that exports (including bunker coal) were only one-quarter of the production. As nearly as can be determined from the figures available, Formosa has never contributed as much as half a million metric tons yearly to the home islands coal supply, and its return to Chinese sovereignty will not materially change the coal situation in Japan.

APPENDIX IV (Cont'd.)Karafuto

Coal production in Karafuto developed so slowly that even by 1930 it was only 655,326 metric tons when it first equalled domestic consumption, which up to that time had been met partly by imports. But thereafter exports increased rapidly and went wholly to Japan, which in 1943 received $4\frac{1}{2}$ million tons out of a total of $7\frac{1}{2}$ million tons produced in Karafuto. What market can be found for this present excess production capacity, is not now evident, nor is it known that production there has been wholly on a commercial operating basis, since its rapid increase was clearly for strategic purposes. If this excess capacity is retained after Karafuto is returned to Russian sovereignty, it will compete in Far Eastern markets with Chinese and Korean coal.

Korea

According to the best figures available, imports of coal into Korea approximately equalled production there until 1931, but thereafter production increased from 1,100,000 metric tons in 1932 to an estimated 9,000,000 tons in 1944. Because of the development of enterprises in Korea by the Japanese, apparent coal consumption in Korea was always larger than production until 1942. Even in 1944, production exceeded consumption by only 3 percent. The return of Korea to Korean control should, therefore, have no appreciable effect on the coal situation in Japan, assuming that the enterprises there which have been the principal consumers of coal are maintained.

Manchuria

The Japanese took over Manchuria in 1931, but their influence there had been steadily increasing since 1904, and the increase in coal

APPENDIX IV (Con't.)

production, especially at Fushun, was a joint Chinese-Japanese enterprise. By 1925, production exceeded 7 million tons yearly, with exports of 3 1/3 million tons that year. Exports remained at about that level until 1937, with production increasing until it reached 14 1/2 million tons in 1937. However, coal consumption in Manchuria, due to the strategic development of Japanese industry there, increased faster than production, and exports since 1937 have been only 1 1/4 million tons yearly. Imports in 1941 were a million tons, increasing to 2 1/2 million tons in 1944. Thus Manchuria has had no exportable surplus of coal since 1937. Coking coal has been imported (presumably from Kailan) and steam coal exported. Previous to 1939, exported Manchurian coal went to Japan. After that year, coal imports into Japan from China (chiefly Kailan), which had averaged less than a half-million tons yearly in 1925-1935, increased to 2 1/2 million in 1939, and reached 8 million tons in 1943 (U. S. Bureau of Mines - "Foreign Minerals Survey", October, 1945, table 57), and imports from Manchuria declined to less than half of what they had been previously.

If the Chinese are able to maintain coal consumption in Manchuria after they regain political control of that region, there will be no necessity for their exporting coal to Japan.

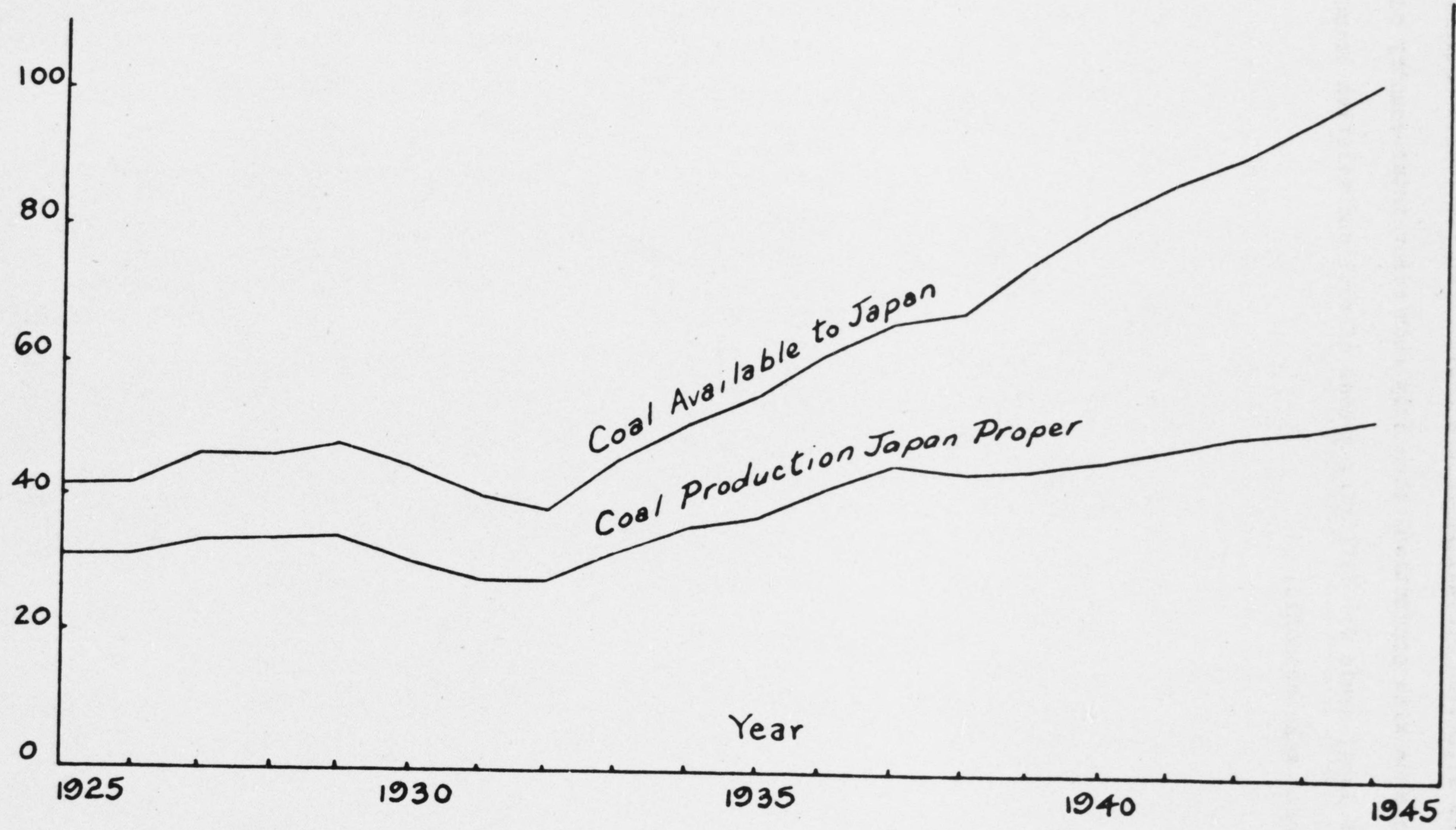
It thus appears that Karafuto alone among the various areas over which Japan acquired political and commercial control during the Twentieth Century was able to contribute any considerable fraction of its coal output to the supply of Japan. After 1941 Karafuto was sending over half its output to Japan. An exportable surplus of 3 1/2 to 4 1/2 million tons is not large enough to have great weight in the Far Eastern coal market, and the production cost of this coal is not known. Considering the uncertainties as to the accuracy of the data on coal movements in the past

APPENDIX IV (Cont'd.)

decade, the soundest policy would appear to be for Japan to return to the situation prevailing before 1931. Then its coal consumption was in balance with production, with only such minor inter-country coal movements as local needs for differing grades of coal and relative transportation costs make economic.

COAL PRODUCTION, JAPAN, AND AVAILABLE

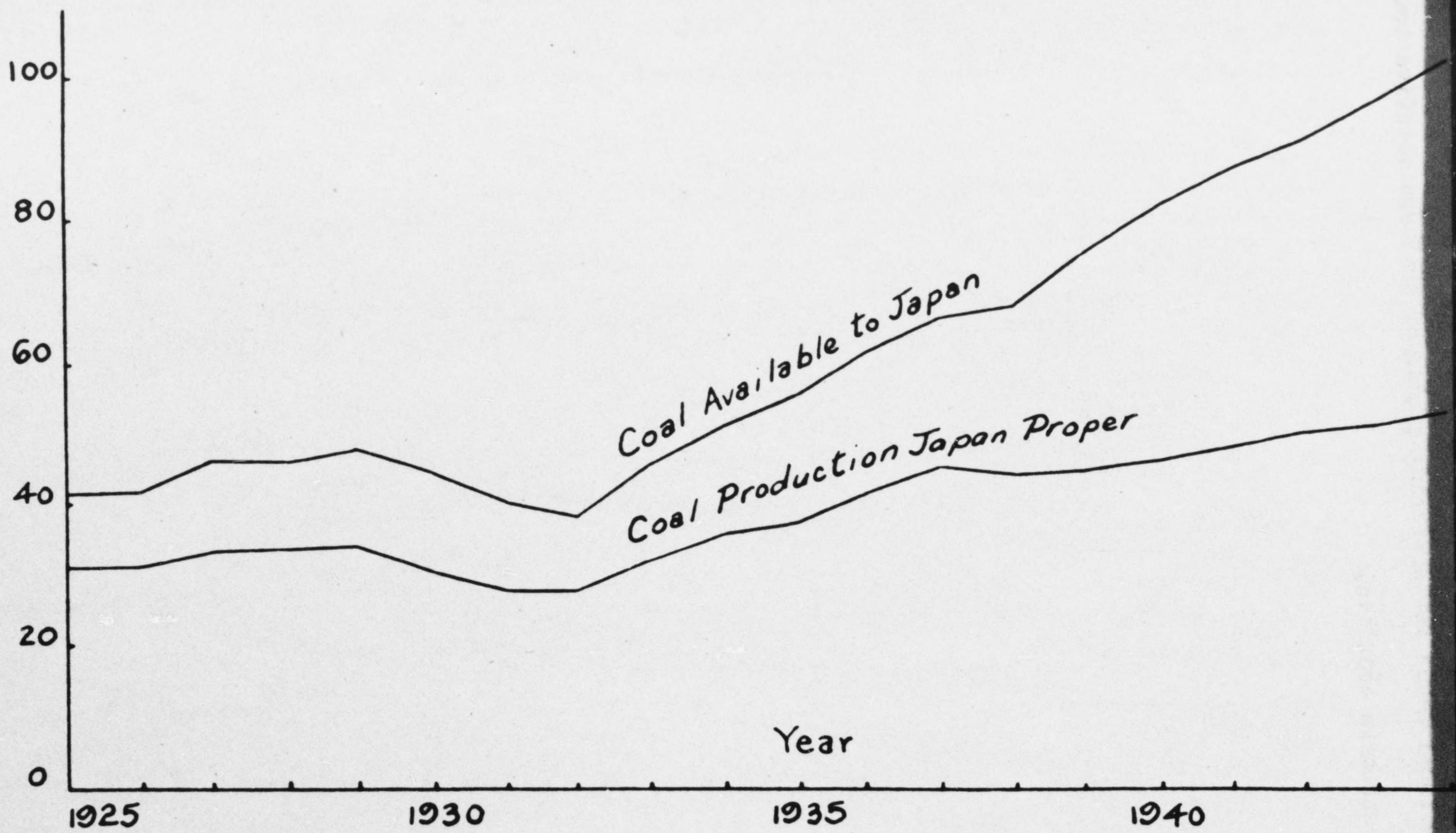
Million Metric Tons



APPENDIX IV

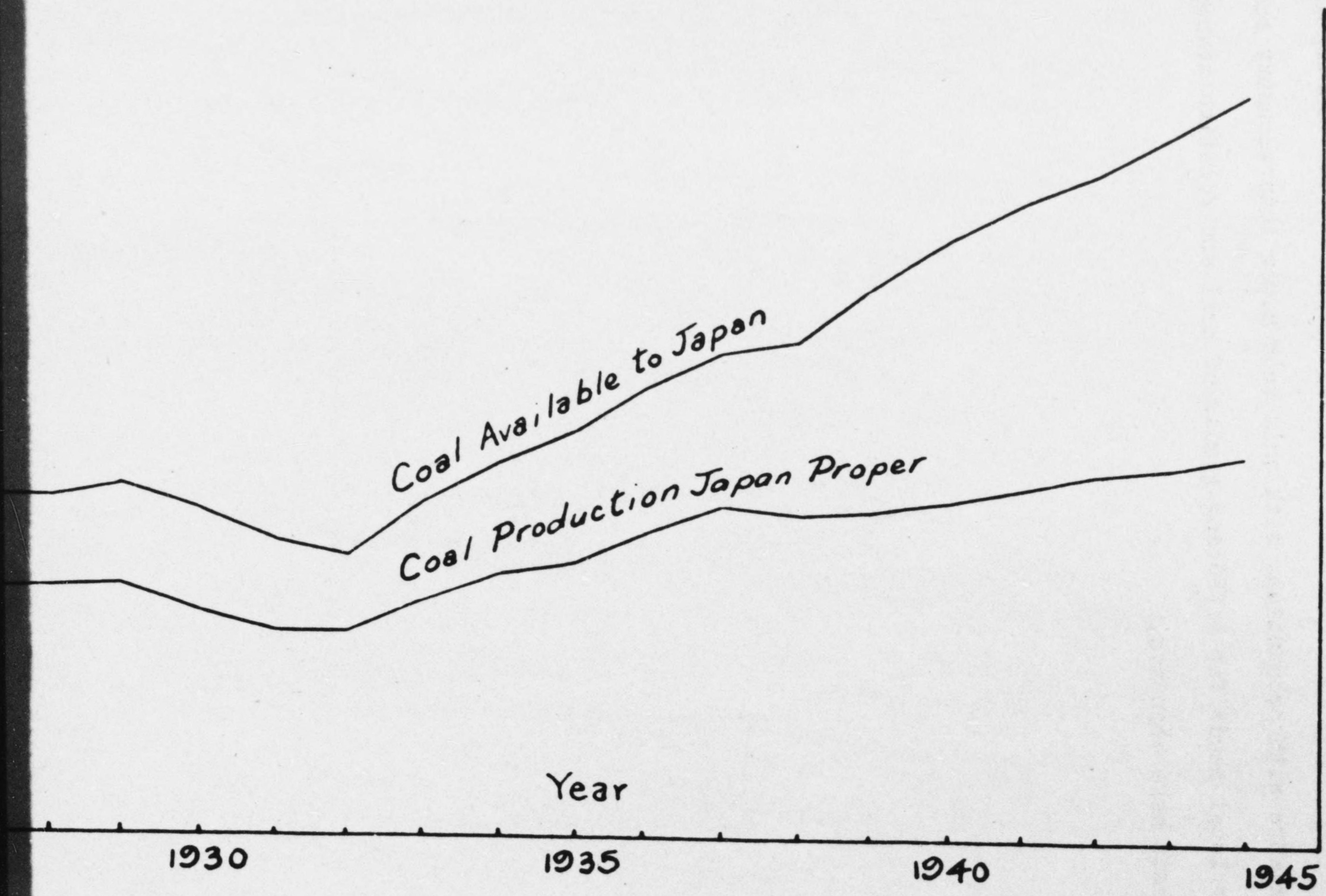
COAL PRODUCTION, JAPAN, AND AVAILABLE

Million Metric Tons



COAL PRODUCTION, JAPAN, AND AVAILABLE

ons



APPENDIX IV

T E ICOAL IN JAPAN
(Metric Tons)

Source: Foreign Minerals Survey, U. S. Bureau of Mines, October 1945, Table 56

Year	<u>Production</u>	<u>Production, lignite</u>	<u>Imports*</u>	<u>Exports</u>	<u>Bunkers</u>
1925	(1) 31,459,415	(2) 169,426	(3) 1,768,435	(3) 2,716,071	(4) 2,418,795
1926	(1) 31,426,549	(2) 161,134	(3) 2,044,827	(3) 2,611,039	(4) 2,777,472
1927	(1) 33,530,607	(2) 178,613	(3) 2,703,258	(3) 2,190,837	(4) 2,529,778
1928	(1) 33,860,181	(1) 147,750	(3) 2,778,725	(3) 2,184,839	(4) 2,462,736
1929	(1) 34,257,817	(1) 139,031	(3) 3,254,644	(3) 2,043,584	(5) 2,497,000
1930	(1) 31,376,213	(1) 128,624	(3) 2,692,817	(3) 2,130,825	(4) 2,282,893
1931	(1) 27,987,271	(1) 117,741	(6) 2,692,679	(3) 1,540,061	(4) 1,902,470
1932	(1) 28,053,375	(1) 108,532	(6) 2,716,127	(6) 1,387,895	(6) 1,777,320
1933	(1) 32,523,746	(1) 115,788	(6) 3,495,926	(6) 1,560,181	(6) 2,018,607
1934	(1) 35,924,989	(1) 124,786	(6) 4,060,650	(6) 1,087,209	(6) 2,091,461
1935	(1) 37,762,491	(1) 108,526	(6) 4,048,780	(6) 1,018,819	(6) 2,414,742
1936	(1) 41,802,711	(1) 109,494	(6) 4,200,708	(6) 1,112,135	(7) 2,294,000
1937	(8) 45,258,000	(9) 110,000	(6) 4,426,386	(6) 1,027,608	(9) 2,000,000
1938	(10) 44,600,000	(9) 110,000	(6) 3,741,636	(6) 758,462	(9) 1,500,000
1939	(9) 45,000,000	(9) 110,000	(11) 3,809,893	(11) 679,737	(9) 1,500,000
1940	(9) 46,750,000	(9) 115,000	(9) 4,600,000	(9) 500,000	(9) 1,250,000
1941	(9) 48,500,000	(9) 120,000	(9) 9,000,000	(9) 300,000	(9) 1,000,000
1942	(9) 50,250,000	(9) 125,000	(9) 12,800,000	(9) 300,000	(9) 500,000
1943	(12) 52,000,000	(9) 125,000	(12) 16,600,000	(12) 300,000	-
1944	(12) 54,000,000	(9) 125,000	(12) 14,000,000	-	-

* Official Japanese figures which do not include imports from Formosa, Korea and Karafuto.

- (1) Questionnaire, Mining Bureau, Tokyo.
- (2) Proceedings of the Fifth Pacific Science Congress, Canada, 1933, Vol. 2, Page 1495.
- (3) International Trade Unit, Bureau of Foreign and Domestic Commerce, Department of Commerce.
- (4) Imperial Institute, Mineral Industry, Summary.
- (5) Jahresbericht des Reichs Kohlenverbandes für das Geschäftsjahr, 1933-36, Page 128.
- (6) Annual Return of the Foreign Trade of Japan.
- (7) Reichskohlenrat, 1938, Page 146.
- (8) Oriental Economist, 1940.
- (9) Estimated.
- (10) Roush, Mineral Industry.
- (11) Japan Advertiser, quoted by Foreign Economic Administration Document 428244.
- (12) Estimated by Foreign Economic Administration, E.P. 60.1

T E I

COAL IN JAPAN
(Metric Tons)

Source: Foreign Minerals Survey, U. S. Bureau of Mines, October 1945, Table 56

Production	Production, lignite	Imports*	Exports	Bunkers	Apparent Consumption
59,415	(2) 169,426	(3) 1,768,435	(3) 2,716,071	(4) 2,418,795	28,262,410
26,549	(2) 161,134	(3) 2,044,827	(3) 2,611,039	(4) 2,777,472	28,243,999
30,607	(2) 178,613	(3) 2,703,258	(3) 2,190,837	(4) 2,529,778	31,691,863
60,181	(1) 147,750	(3) 2,778,725	(3) 2,184,839	(4) 2,462,736	32,139,061
57,817	(1) 139,031	(3) 3,254,644	(3) 2,043,584	(5) 2,497,000	33,110,908
76,213	(1) 128,624	(3) 2,692,817	(3) 2,130,825	(4) 2,282,893	29,783,936
37,271	(1) 117,741	(6) 2,692,679	(3) 1,540,061	(4) 1,902,470	27,355,160
53,375	(1) 108,532	(6) 2,716,127	(6) 1,387,895	(6) 1,777,320	27,712,819
23,746	(1) 115,788	(6) 3,495,926	(6) 1,560,181	(6) 2,018,607	32,556,672
24,989	(1) 124,786	(6) 4,060,650	(6) 1,087,209	(6) 2,091,461	36,931,755
62,491	(1) 108,526	(6) 4,048,780	(6) 1,018,819	(6) 2,414,742	38,486,236
02,711	(1) 109,494	(6) 4,200,708	(6) 1,112,135	(7) 2,294,000	42,706,778
58,000	(9) 110,000	(6) 4,426,386	(6) 1,027,608	(9) 2,000,000	46,766,778
00,000	(9) 110,000	(6) 3,741,636	(6) 758,462	(9) 1,500,000	46,193,174
00,000	(9) 110,000	(11) 3,809,893	(11) 679,737	(9) 1,500,000	46,740,156
50,000	(9) 115,000	(9) 4,600,000	(9) 500,000	(9) 1,250,000	49,715,000
00,000	(9) 120,000	(9) 9,000,000	(9) 300,000	(9) 1,000,000	56,320,000
50,000	(9) 125,000	(9) 12,800,000	(9) 300,000	(9) 500,000	62,375,000
00,000	(9) 125,000	(12) 16,600,000	(12) 300,000	-	68,425,000
00,000	(9) 125,000	(12) 14,000,000	-	-	68,125,000

These figures which do not include imports from Formosa, Korea and Karafuto.

Mining Bureau, Tokyo.

the Fifth Pacific Science Congress, Canada, 1933, Vol. 2, Page 1495.

Trade Unit, Bureau of Foreign and Domestic Commerce, Department of Commerce.

Institute, Mineral Industry, Summary.

des Reichs Kohlenverbandes fur das Geschäftsjahr, 1933-36, Page 128.

of the Foreign Trade of Japan.

at, 1938, Page 146.

gist, 1940.

Industry.

ser, quoted by Foreign Economic Administration Document 428244.

Foreign Economic Administration, E.P. 60.1

APPENDIX IV (Cont'd.)

APPENDIX IV (Cont'd.)TABLE IICRUDE-OIL REFINERIES IN THE JAPANESE EMPIRE (1) (2)
(Capacity in Barrels of 42 Gallons)

<u>Company</u>	<u>Location</u>	<u>Crude Capacity bbls. per year</u>
Japanese Navy	Yokkaichi, Miye	6,600,000
Mitsubishi Oil Co.	Kawasaki, Kanagawa	3,465,000
Ogura Oil Co.	Yokohama, Kanagawa	3,300,000
Japanese Navy	Tokuyama, Yamaguchi	3,300,000
Nippon Oil Co.	Kudamatsu, Yamaguchi	2,500,000
" " "	Tsurumi, Kanagawa	2,000,000
" " "	Amagasaki, Hyogo	1,650,000
Toa Oil Co.	Shimizu, Shizuoka	1,600,000
Nippon Oil Co.	Akita, Akita	1,320,000
Hayama Sekiyu Co.	Kawasaki, Kanagawa	1,320,000
Nippon Oil Co.	Kashiwazaki, Niigata	1,320,000
Ogura Oil Co.	Tokyo, Tokyo	1,155,000
Nippon Oil Co.	Niigata, Niigata	1,000,000
Maruzen Oil Co.	Shimotsu	1,000,000
Toa Oil Co.	Wakayama, Wakayama	1,000,000
Unknown (possibly Toa Oil Co.)	Mitaki, Yokkaichi	1,000,000
Niitsu Sekiyu Co. (Marushin)	Niitsu	825,000
Aikoku Oil Co.	Kawasaki, Kanagawa	660,000
Nihon Sekiyu Co.	Tokuyama, Yamaguchi	400,000
Maruzen Sekiyu Co.	Osaka, Osaka	330,000
Toyo Sekiyu Co.	Osaka, Osaka	230,000
Toho Sekiyu Co.	Yokohama, Kanagawa	165,000
Asahi Sekiyu Co.	Hikoshima	165,000
" " "	Tokyo, Tokyo	165,000
Nihon Kogyo Co. (Hayama Oil Co.)	Funakawa, Akita	165,000
Nippon Oil Co.	Karugawa, Hokkaido	132,000
Edogawa Oil Co.	Tokyo, Tokyo	85,000
Hayama Oil Co.	Niigata, Niigata	66,000
Niitsu Sekiyu Co.	Hirasawa, Akita	66,000
Toyo Shoku Co.	Yokohama, Kanagawa	66,000
Maruzen Sikiyu Co.	Niigata, Niigata	40,000
Asahi Sekiyu Co.	Akita, Akita	17,000
47 West coast refineries	Akita and Niigata	532,000
Not known		<u>2,036,000</u>
	Total Japan	39,675,000
Chosen Sekiyu Co.	Genzan, South Kankyo, Korea	1,650,000
Manshu Sekiyu Co.	Dairen, Kwantung	1,650,000
Nippon Oil Co.	Byoritsu, Byoritsu, Formosa	<u>82,500</u>
	Total Japanese Empire	43,057,500

(1) U. S. Bureau of Mines Table based largely on U. S. Naval Intelligence Report of January 1942, Foreign Economic Administration Document 408414 and information given by the Enemy Section of the Foreign Economic Administration.

(2) Basis of calculation of capacity is 330 days a year or 90 percent efficiency.

APPENDIX IV (Cont'd.)TABLE IIIPRODUCTION OF SYNTHETIC OIL, SHALE OIL, CASINGHEAD GASOLINE,
AND COKE-OVEN AND GAS-INDUSTRY PRODUCTS IN
THE JAPANESE EMPIRE (1)

<u>Year</u>	<u>Synthetic Oil</u>	<u>Shale Oil</u>	<u>Casinghead gasoline</u>	<u>Coke-oven and gas industry</u>	<u>Totals</u>
1929			20,000		20,000
1930		336,000	62,716		398,716
1931		427,000	116,408		543,408
1932		497,000	85,596		582,596
1933		609,000	91,370		700,370
1934		406,000	101,388		507,388
1935		840,000	160,887		1,000,887
1936		861,000	239,309		1,100,309
1937	215,000	1,015,000	257,959		1,487,959
1938	323,000	1,015,000	279,915		1,617,915
1939	782,000	1,015,000	289,544		2,086,544
1940	1,020,000	1,015,000	300,000	1,380,000	3,715,000
1941	1,060,000	1,015,000	300,000	1,670,000	4,045,000
1942	1,732,000	1,211,000	320,000	1,960,000	5,223,000
1943	2,550,000	2,009,000	190,000	1,788,000	6,537,000
1944	3,140,000	2,807,000	190,000	1,430,000	7,567,000
1945	4,170,000	3,605,000	190,000	911,000	8,876,000

(1) U. S. Bureau of Mines table made from study of the Foreign Economic Administration reports E.O.C. 65, E.O.C. 66B and other studies made by the Enemy Section of Foreign Economic Administration.

APPENDIX VREPORT OF POWER TASK COMMITTEE--JAPAN

References:

- (a) Offices of Strategic Services, Research and Analysis No. 1000, Vol. I
- (b) Excerpts from Pauley Report
- (c) Supreme Command for the Allied Powers (SCAP) Summation Non-Military Activities in Japan and Korea--January, 1946
- (d) Fullerton Notes

A review of the references indicates that:

1. Japan's electric power capacity and generation is ample and its equipment-production facilities adequate.
2. Capacity and generation are primarily hydro.
3. There are about ten basic supply and distribution grids, poorly interconnected and varying between 50 and 60 cycles.
4. Thermal capacity and production is best developed in heavy-industry areas.
5. The statistical data, while apparently obtained from the same sources, is reported for different periods and on different bases. While not directly comparable they provide a general relative idea of the conditions.

The object of eliminating Japan's war potential, while leaving them a reasonable subsistence level, may be accomplished, in part,

by a limitation of power capacity and generation to that of their "firm" or regular hydrocapacity.

Reference (a) indicates that Japan's power developed in three general phases:

- I. Until the late 1920's hydroplants were constructed and rated on a "jingo" or "regular" rating of minimum stream flow on all but the 10 driest days of the year. This rating produced "firm" power almost all the year.
- II. From the late 1920's through the late 1930's secondary stream flow was developed and hydroplants installed with a "commonly used rating" based on capacity with minimum stream flow on the 183 wettest days of the year. This is the basis of capacity reported in all references.
- III. In the late 1930's the development of thermal plants was expanded from hydrostandby to base load for their rapid war preparations.

The large steam plants, which would be more adaptable for reparations than hydroplants, appear to be so called "private" plants of the heavy industries or government-owned plants with these industries as their principal consumers.

Reference (b) gives data on generation for the year 1930, which indicates the slight dependence of public-utility plants at this period on thermal power. These data are copied below:

Power Generation 1930 (Plants over 500 Kw)--Pauley Report

	<u>Hydro Kwhr</u>	<u>Thermal Kwhr</u>	<u>Total Kwhr</u>
Public Plants	12,524,990,000	1,508,700,000	14,033,690,000
Private Plants	906,300,000	833,200,000	1,739,500,000
Total	13,431,290,000	2,341,900,000	15,773,190,000
Est. Gov't steel plants (Yawata)		300,000,000	300,000,000
		2,641,900,000	16,073,190,000

Note: Government railway plants not included.

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Reference (a) gives the following data on average hours of operation of steam and hydroplants at full capacity for the period 1934--1938.

Island	Hydro	Public Thermal	Private Thermal
Hokkaido	6491	1547	Not available
Honshu	5391	2241	"
Shikoku	4822	1578	"
Kyushu	5844	4695	"
Average Japan	5483	2504	2819

Reference (b) also gives the following data as of November, 1945 on the number and capacity of completed hydro- and thermal plants, by capacity.

	Under 5000 Kw		5000 - 50000 Kw		50000 & Up Kw		Total Kw	
	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity
Hydro								
Public*	1,157	1,166,109	264	3,636,955	17	1,118,400	1438	5,921,464
Private	56	61,134	13	175,450	-		69	236,634
	<u>1,213</u>	<u>1,227,298</u>	<u>277</u>	<u>3,812,405</u>	<u>17</u>	<u>1,118,400</u>	<u>1507</u>	<u>6,158,098</u>
Steam								
Public*	60	41,677	37	641,100	20	2,220,500	117	2,903,277
Private	100	229,990	64	748,000	1	68,000	165	1,045,990
	<u>160</u>	<u>271,667</u>	<u>101</u>	<u>1,389,100</u>	<u>21</u>	<u>2,288,500</u>	<u>282</u>	<u>3,949,267</u>
Totals	1,373	1,498,961	378	5,211,505	38	3,406,900	1789	10,107,365

*Includes government and private railway company plants.

Reference (a) estimates 1944 capacity as follows:

Island	Hydro	Thermal	Total
Hokkaido	251,000	235,000	486,000
Honshu	5,219,000	3,486,000	8,704,000
Shikoku	142,000	181,000	324,000
Kyushu	640,000	1,251,000	1,892,000
	<u>6,252,000</u>	<u>5,153,000</u>	<u>11,406,000</u>

Reference (c) indicates that Japan's use of power for war industries started about 1931 and that there is a surplus of hydropower in most areas. Chart No. 20 shows about 16 million kwhr generated

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in 1930--1931, (exclusive of the Nippon Steel Mills) which checks roughly with the 1930 figures in the table from reference (b). Assuming an average 5400-hour hydroyear, this production could be obtained with about 3,000,000-kw capacity or half the reported "commonly used" hydrocapacity now installed.

Theoretically the "firm" hydropower should be available 8500 hours a year which would require only 1,900,000 kw. No data are given for the hydroplants on this "jingo" or "firm" basis.

Because the generation and distribution systems in Japan are set up into about ten grids of different frequencies, the total power could not now be distributed to the permitted consumers on a nationwide basis. However, it might be accomplished on an area basis since each grid appears to be self-contained and industries are quite localized.

The attached tabulation of data from reference (a) is a breakdown of power consumption by industries and grids, which illustrates this point. The consumption data are for 1937. Details are given for metal, mining, chemical and ceramic industries. Totals are given for other industries. Reference (c), Chart 20, shows 1937 total consumption about twice 1930--1931. Where data for 1930 were given for similar conditions in reference (b) these data have been tabulated for comparison and underscored.

The only data for capacities, by grids, were given in reference (a) for 1941. These have been tabulated to provide an idea of the distribution of generating facilities. The totals do not check

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with later data, possibly because plants under construction, but not completed, have been included and steam plants may have been destroyed by bombing later in the war; also 1000 kw is the smallest size included.

Other pertinent information obtained from reference (a) and possible disposal of the plants are given below for each grid.

HONSHU

The Northeast Honshu (Tohoku) grid operated on 60 cycles until 1942 but extensive rewiring of generators through 1944 has made 50-cycle predominant. It is interconnected with the Tokyo grid through the Inawashiro Substation. "Substantial" blocks of power may be transferred. The grid was well integrated by the Tohoku Electric Power Development Co. starting in 1938. The area is predominantly hydro. Only 13 of the 127 known generating stations are over 10,000-kw capacity.

The large power consumers are chemicals, chiefly calcium products, and mining of metal and petroleum.

Removal of all thermal plants and reduction of hydro to firm capacity is feasible since 1937 generation is only about three thousand times the hydrocapacity.

The North Central Honshu (Tokyo) grid operates primarily on 50 cycles and is the most completely integrated in Japan. It is interconnected with the Tohoku grid on the north and, by double-frequency stations, can draw power from the border of the South Central grid.

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The area is predominantly hydro, even for stand-by, and contains the largest hydrostations in Japan. 80% of the power comes from about 200 small hydrostations. There were about 19 steam plants in the Tokyo and Kawasaki-Yokohama area which were used largely for regulation and peak loads.

The chemical industry, including explosives and electrolytic hydrogen, is by far the largest consumer. Transportation and residential services were next largest with steel fabrication, textiles, paper products, ceramics, and metal mining following.

Removal of all thermal plants is feasible. Reduction of hydro to firm capacity appears practical from the capacity-generation ratio.

The South Central Honshu (Osaka-Nagoya) grid operates primarily on 60 cycles with double-cycle plants which can be tied in to the Tokyo grid. The capacity is balanced between hydro and thermal. Until recent years 230 hydroplants carried base load throughout the year. The integration is good.

Hydroplants and older small steam plants are well distributed. The principal thermal generation was concentrated in larger plants around Osaka and adjacent cities of Amagasaki and Kobe. About four large steam plants were located at Nagoya.

The textile industry is a major consumer with chemicals (about 1/3 rayon) a close second. Residential and transportation loads are next largest along with steel products. Paper products and ceramics are followed by machinery, transportation equipment, and food products.

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Duplication of facilities would permit elimination of the thermal plants. Reduction of hydro- to firm capacity should be considered with reduction of heavy-industry load.

The Southwest Honshu (Chugoku) grid operates primarily on 60 cycles, is predominantly thermal and is more highly concentrated than most of Japan. Most of the thermal plants are privately owned serving the chemical, textile and cement industries, which are the largest consumers.

Rayon was the largest chemical user with about the same consumption as in South Central Honshu.

Since the area is reported only fairly well integrated and reserves are low, selective removal of the steam plants would be required unless the manufacturing plants of which they are a part are also removed for reparations.

There is a 30,000-kw undersea interconnection between Southwest Honshu and the Northern area of Kyushu.

HOKKAIDO

The West Hokkaido grid operates on 60 cycles and appears relatively unimportant industrially. It contains two steam plants near the city of Hakodate; one of 4000-kw capacity and the other, a factory plant, 5500-kw. No separate data are given on the consumption of power or the integration of steam and hydroplants. The three hydroplants are rated at 2,000, 2,000 and 1840 kw. Their output could be the limitation for the area.

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The Central and East Hokkaido grid operates primarily on 50 cycles and is balanced between hydro- and thermal capacity. There are few interconnections. Three thermal plants (one of 74,500-kw capacity and two of 50,000-kw each) and one 51,000-kw hydroplant supply about 50% of the power. The large thermal plants serve the Yubari coal fields. One 25,000-kw thermal plant serves a paper mill and another of 21,500-kw capacity serves Nippon Steel Co. This covers the largest industrial loads.

High-voltage transmission lines connect the Yubari coal field thermal stations with two cities. A separate line connects the large hydroplant with another city. More data would be required for an intelligent recommendation. If interconnection of the lines is practical and a better integration with the smaller hydro- and steam plants possible, the industrial load of the area could conceivably be carried by the hydrostations. If coal is to be mined extensively for export, reduction to firm hydrocapacity might not be practical.

SHIKOKU

This island is reported to be the least developed electrically. The grid operates on 60 cycles. Capacity appears balanced between hydro and thermal. Thermal stations are concentrated in the cities of Kochi, Tokushima, Takamatsu, and near Niihama. Transmission lines are reported to connect these cities with the hydrostations.

Chemicals (principally rayon, chlorine and fertilizers), nonferrous mining, and metal-working constitute the important loads. These are small compared with the other areas but are apparently met

Report of Power Task Committee--Japan

by use of thermal as well as hydrostations. Of the 17 reported steam stations seven are over 10,000 kw, one of these is 60,000 kw and the other 40,000 kw. These seven stations total 171,000 of the 189,000 thermal kilowatts reported for the region.

Removal of the thermal stations and reduction of hydro to firm capacity is indicated. Some of the industrial plants might be removed also since there appears to be a large difference between 1930 and 1937 consumption.

KYUSHU

The Yawata-Tobata-Kokura grid operates on 50 cycles and is entirely thermal. It is interconnected with the Southwest Honshu grid by a 30,000-kw line, a 10,000-kw line to East Kyushu and one to the West Kyushu grid. No breakdown of figures is given for this area although there are some partial estimates, or notations that they are omitted. The plants serve Japan's principal steel company, the Synthetic Chemical Industries, Asahi Glass, Asano Cement Co., Mitsui Mining Co. (the Chikugo coal fields) and Japanese ordnance plants. It is apparently the industrial heart of Japan's war production.

The grid is reported to be well interconnected. The steam plants range in size from 7,000 to 136,600 kw.

Removal of these plants is recommended.

The East Kyushu grid operates on 50 cycles, is well integrated and predominantly hydro. It has partial interconnection with the West Kyushu grid through double-frequency plants. The few steam plants serve the chemical industry. Production in this area is reported to be adjusted to seasonal variations in power generation.

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Removal of the steam plants is feasible. Reduction to firm hydropower should be seriously considered.

The West Kyushu grid operates on 60 cycles and is well integrated. Hydroplants carry the base load and the thermal stations supply dry-season deficiencies. There is a high degree of duplication of facilities and a concentration of thermal stations near Omuta. There is no breakdown of industry consumption for this grid, which includes Nagasaki.

Removal of the remaining steam plants is feasible. Reduction to firm hydro is indicated by the large general increase in 1937 loads over those for 1930 for this island.

DATA FROM FULLERTON NOTES

Data obtained by Lt.-Col. E. A. Fullerton in Japan were examined in Washington at the Office of Chief of Engineers; they are in sufficient detail so that, given time, summaries could be prepared in almost any form desired. The data are reported to be more accurate in many respects than other reports.

Some of the data which might be of immediate use to the Committee were copied and summary tabulations are attached. The data on Generating Capacity by Frequency in December, 1945, and the data on Maximum and Firm Hydrocapacity, at about the same period, check closely. There is a reasonable check between this capacity data and that shown by the tabulation of capacity increase since 1936. However, these total capacity figures are about one million

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kilowatts lower than those given in the Pauley report and 2-1/2 million lower than those estimated by the OSS report. The major discrepancy is in thermal capacity.

The Fullerton notes indicate the thermal plants are in poor condition as a result of bombings and lack of maintenance. This checks the OSS report. The distribution systems also are in need of repair. Fullerton estimates that in December, 1945, 40% of the available capacity was utilized and that 65% could be when world markets are restored. Considerable repair and reconstruction would be required to bring a large portion of the balance up to rated capacity.

The table of hydrogenerating capacity taken from folder #35 indicates firm capacity about 45% of maximum capacity. This checks the relation indicated by the typical daily generation charts in SCAP report for February.

GRID CAPACITIES, 1941

(From OSS--RAA 1000, Vol. I)

	HONSHU				Total	West
	N.E. (Tohoku)	N.Cent. (Tokyo)	S.Cent. (Osaka) (Nagoyu)	S.W. (Chugcko)		
Hydro 10 ³ Kw	373	2,255	2,125	187	4,940	6
Steam "	126	2,630	2,171	493	3,420	9
Total - (1941)	499	4,885	4,296	680	8,360	15
No. Hydroplants		200(?)	230(?)	45		3
No. Steam Plants		19(?)	70(?)	28		2
Total	127		300*	74		5
Cycles	50	50	60	60		60

Consumption 10⁶ Kwhr 1937 (From OSS--RAA 1000, Volume I)

Iron and Steel

Mills & Blast Furn.	-	364	500	1	865)	
Castings	3	32	43	-	78)	
Other	4	115	123	8	252)	
Total	7	511	668	9	1,195)	357

Nonferrous*

Aluminum	-	154	112		266)	
Copper	13	57	30	14	114)	
Zinc	20	75	-	-	95)	
Total	33	177	99	14	276)	

Mining

Coal	-	61	-	60	121	
Metal	82	102	9	31	224	
Petroleum	34	-	-	-	34	
Minerals	3	1	1	3	8	
Total	119	164	10	94	387	319

Chemicals

Rayon Prod.	2	158	543	452	1,155	
Dyes & Intermed.	-	16	71	11	98	
Calcium Cyanamide	233	568	111	-	912	
H ₂ for Ammonia	22	200	130	-	352	
Chlorine	15	121	145	33	314	
Calcium Carbide	224	555	281	-	1,060	
Fertil. & Ind. Chem.	14	64	59	22	159	
Other & Explosives	5	107	79	8	199	
Total	515	1,789	1,419	526	4,249	1,485

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Total	HOKKAIDO			SHIKOKU	KYUSHU			Total 19	1930 Totals	
	West	East & Central	Total		Yobata- Kokura	West	East			Total
940	6	218	224	147	0	135	303	438	5,760	6,158
420	9	256	265	189	512	507	39	1,058	4,931	3,949
360	15	474	489	336	512	642	342	1,496	10,691	10,107
	3	36	39	31						
	2	11	13	17						
	5	47	52	48						
	60	50		60	50	60	50			

865)		23)	-)	860)	1,748)
78)		2)	-)	10)	90)
252)		7)	1)	22)	282)
1,195)		32)	1)	892)	2,120)
) - 357) - 12) - 4) - 70) - 444
)))))
266)		-)	28)	-)	293)
114)		-)	29)	42)	185)
95)		-)	46)	-)	141)
276)		-)	103)	42)	620)
121		330	-	810	1,261
224		-	97	126	447
34		1	-	-	35
8		-	2	-	10
387	319	331	99	936	1,753
		110	42	474	946
1,155		-	52	122	1,370
98		-	-	31	129
912		-	-	231	1,143
352		-	-	209	561
314		-	41	64	419
1,060		-	-	402	1,462
159		2	17	41	219
199		5	1	29	234
4,249	1,485	7	152	1,129	5,537
		105	4	740	2,335

GRID	HONSHU				Total	HOKKAI West Cent
	N.E. (Tohoku)	N.Cent. (Tokyo)	S.Cent. (Osaka) (Nagoyu)	S.W. (Chugoko)		
<u>Consumption 10⁶ Kwhr 1937 (Cont'd)</u>						
<u>Ceramics</u>						
Glass & Glassware	-	40	70	-	110	
Cement	37	191	222	92	542	
Other	2	11	68	11	92	
Total	<u>39</u>	<u>242</u>	<u>360</u>	<u>103</u>	<u>744</u>	<u>253</u>
<u>Other Consumers</u>						
Elec. Machinery	-	177	99	-	276	
Other Machinery	3	187	169	9	368	
Autos	-	20	8	1	29	
Trans. Equip.	1	69	158	35	263	
*Transportation	7	795	578	26	1,406	
Rubber Prod.	1	42	56	5	104	
Lumber	14	29	64	9	116	
Textiles	29	344	1,834	196	2,403	<u>878</u>
Foods	27	129	143	33	332	
Paper	5	329	312	62	708	
Printing	1	22	16	1	40	
Elec. Pwr. & Gas	23	166	313	52	554	
Residential	81	732	687	118	1,618	
Miscellaneous	1	28	50	7	86	
	<u>193</u>	<u>3,069</u>	<u>4,487</u>	<u>554</u>	<u>8,303</u>	
Total Regionally	906	6,061	7,086	1,300	15,353	
Other Uses*						
Net Available	1,027	7,638	9,429	1,588	19,682	
Line Losses	174	1,306	1,454	229	3,163	
Generated	1,201	8,944	10,883	1,817	22,845	

* Other uses include: Miscellaneous nonferrous metals - 304, street and highway lighting - 110 -- Total 5,005

Note: Underscored figures are 1930 consumption on an assumed figure in the adjacent column. (Figures from P)

Report of Power Task Committee--Japan

Total	HOKKAIDO			SHIKOKU	KYUSHU			Total 19	1930 Totals
	West	East & Central	Total	Yobata- Kokura	West	East	Total		
110			1	-			33	144	
542			37	24			210	813	
92			-	3			14	109	
<u>744</u>	<u>253</u>		<u>38</u> 16	<u>27</u> 10			<u>257</u> 135	<u>1,066</u>	<u>416</u>
276			-	-			16	292	
368			4	4			15	391	
29			-	-			1	30	
263			3	1			30	297	
1,406			15	11			68	1,500	
104			5	1			21	131	
116			19	6			11	152	
2,403	<u>878</u>		6 <u>2</u>	175 <u>46</u>			68 <u>39</u>	2,652	<u>565</u>
332			10	13			65	420	
708			246	6			116	1,076	
40			1	1			4	46	
554			24	18			133	729	
1,618			56	53			173	1,900	
86			1	1			8	96	
<u>8,303</u>			<u>390</u>	<u>290</u>			<u>729</u>	<u>9,712</u>	
15,353			798	672			3,985	20,808	<u>12,264</u>
19,682			837	690			4,604	25,813	
3,163			138	109			650	4,060	
<u>22,845</u>			<u>975</u>	<u>799</u>			<u>5,254</u>	<u>29,873</u>	<u>15,778</u>

nonferrous metals - 304; government arsenals and shops; factories - 4,551;
110 -- Total 5,005

Consumption on an assumed comparable basis. They compare to the
column. (Figures from Pauley Report.)

Report of Power Task Committee--Japan

DATA FROM FULLERTON NOTES

Generating Capacity (December, 1945) By Frequency

	<u>Hydro</u>	<u>Thermal</u>
60 Cycles	2,266,000 kw	2,165,000 kw
50 Cycles	2,272,000 "	754,000 "
50 & 60 Cycles	1,333,000 "	-
Other Cycles	5,000 "	-
Total	5,876,000 kw	2,919,000 kw
Total Capacity	-	8,795,000 kw

Hydrogenerating Capacity - (from Folder #35) (Assumed as of 1945)

	<u>Maximum</u>	<u>Firm</u>
Hokkaido	276,802 kw	125,931 kw
Tohoku	1,357,271 "	739,640 "
Honshu (Chuobu)	3,274,039 "	1,369,360 "
Chugoku	286,997 "	112,343 "
Shikoku	208,771 "	77,209 "
Kyushu	472,336 "	188,809 "
	5,876,216 kw	2,613,292 kw

Installed Generating Capacity by Years

(Prepared from data copied from Fullerton Notes Folder #30)

Year	<u>Thermal Capacity - Kw</u>			<u>Hydrocapacity - Kw</u>			<u>Total Kw</u>	
	<u>Under</u> 1000 Kw	<u>Over</u> 1000 Kw	<u>No.*</u> Plants	<u>Under</u> 1000 Kw	<u>Over</u> 1000 Kw	<u>No.*</u> Plants	<u>All</u> Plants	<u>No.*</u> Plants
1936	31,386	2,125,485	111	341,598	3,310,302	553	5,808,771	664
1937	31,386	2,317,635	118	341,711	3,601,902	575	6,292,634	693
1938	30,186	2,422,485	118	342,736	3,928,782	600	6,724,189	718
1939	31,036	2,667,535	119	343,179	4,297,033	630	7,338,783	749
1940	29,389	2,864,750	113	350,352	4,774,363	659	8,018,854	772
1941	28,319	2,941,729	111	359,542	5,001,592	671	8,331,182	782
1942	26,165	2,988,641	110	360,342	5,186,126	681	8,561,274	791
1943	25,148	2,984,341	108	356,658	5,354,924	689	8,721,071	797
1944	23,913	2,938,691	94	358,196	5,551,264	701	8,872,064	795
**1945	--	--	--	358,796	5,643,534	713	8,964,934	807

Summary as of Oct., 1945 - Total Thermal 2,962,604 kw 94 plants over 1000 kw
 " Hydro 6,002,330 kw 713 " " " "
8,964,934 kw 807 plants " " "

* Number of plants over 1000-kw capacity

** January to October

Note: Changes in capacity consisted of construction of new plants, increasing existing plants and abolition or decreasing capacity of plants.

*Signed & Re'd
in SWNCC 6/5/46
WUM*

MEMORANDUM FOR THE SECRETARY, SWNCC

SUBJECT: PROPOSED AMENDMENTS TO SWNCC 236/13:
ASSURED PRODUCTION CAPACITY LEVELS FOR JAPAN

1. The amendments to SWNCC 236/13, Assured Production Capacity Levels, attached herewith as Appendix A, are submitted to the Committee for approval.

2. The reasons for the proposed amendments are as follows:

(a) Since approval of SWNCC 236/13 by the Subcommittee for the Far East, a message has been received from SCAP (Appendix B) commenting on the assured production capacity figures proposed therein. Discussions with Mr. J. Z. Reday, Economic Adviser, SCAP, now on temporary duty at the War Department, have clarified the character of the proposals in SWNCC 236/13 and indicate that the amendments presented in Appendix A will meet the objections outlined in the cable.

(b) Also following approval of SWNCC 236/13 by the SFE, a preliminary draft of the final reparations report of Ambassador Pauley has been received. As it is believed to be inappropriate to recommend at this time the assured retention of capacity in any industry exceeding that proposed for retention in the draft Pauley report, certain amendments are proposed to eliminate present inconsistencies between SWNCC 236/13 and the Pauley report. Mr. Reday likewise concurs in these proposed changes.

3. The proposed amendments, other than textual, may be summarized as follows:

(a) The ball and roller bearing industry is eliminated from the list of industries in which the retention of production capacity should be assured, as this industry is recommended for total removal in the draft Pauley report.

(b) The

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J. Z. Reday

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(b) The sulfuric acid industry is likewise eliminated from the list of industries, for the reason that SCAP is attempting to bring about full utilization of existing capacity to meet fertilizer requirements, and announcement of the assured retention of only a fraction of existing capacity at this time might, in the opinion of ESS, discourage capacity production.

(c) Assured production capacity in pig iron is reduced to 500,000 tons, which is the capacity to be retained under certain conditions according to the recommendations of the draft Pauley report.

(d) Assured production capacity in chlorine is raised from 31,000 to 35,000 metric tons, as further data indicate that the relation of output to rated capacity should be calculated at 80 percent rather than 90 percent.

J. M. Hilldring
State Department Member
State-War-Navy Coordinating Committee

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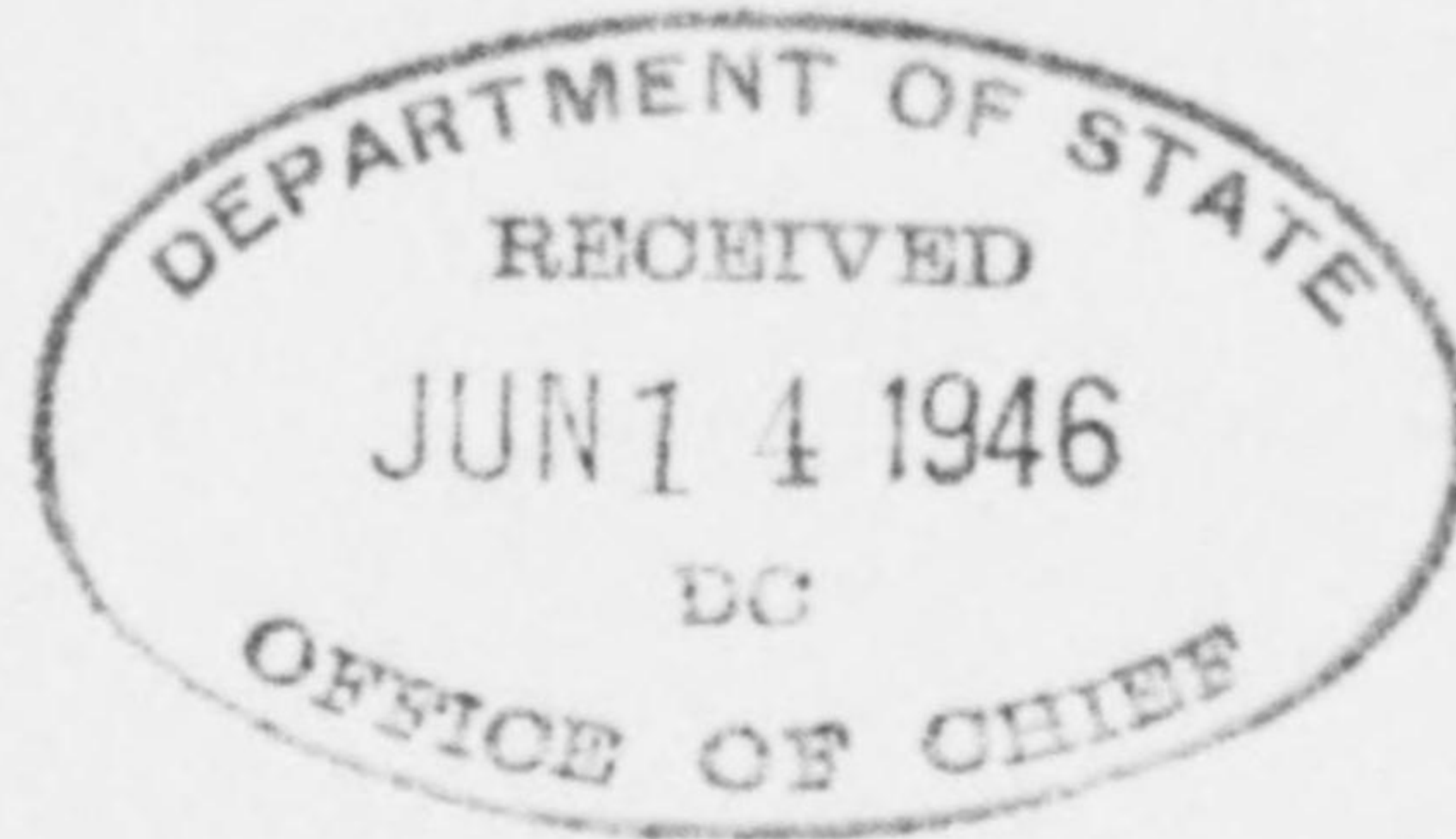
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FAR EASTERN COMMISSION
2516 MASSACHUSETTS AVENUE, N. W.
WASHINGTON 8, D. C.

12 June 1946

DYR

The Honorable James F. Byrnes
Secretary of State
Washington, D. C.



My dear Mr. Secretary:

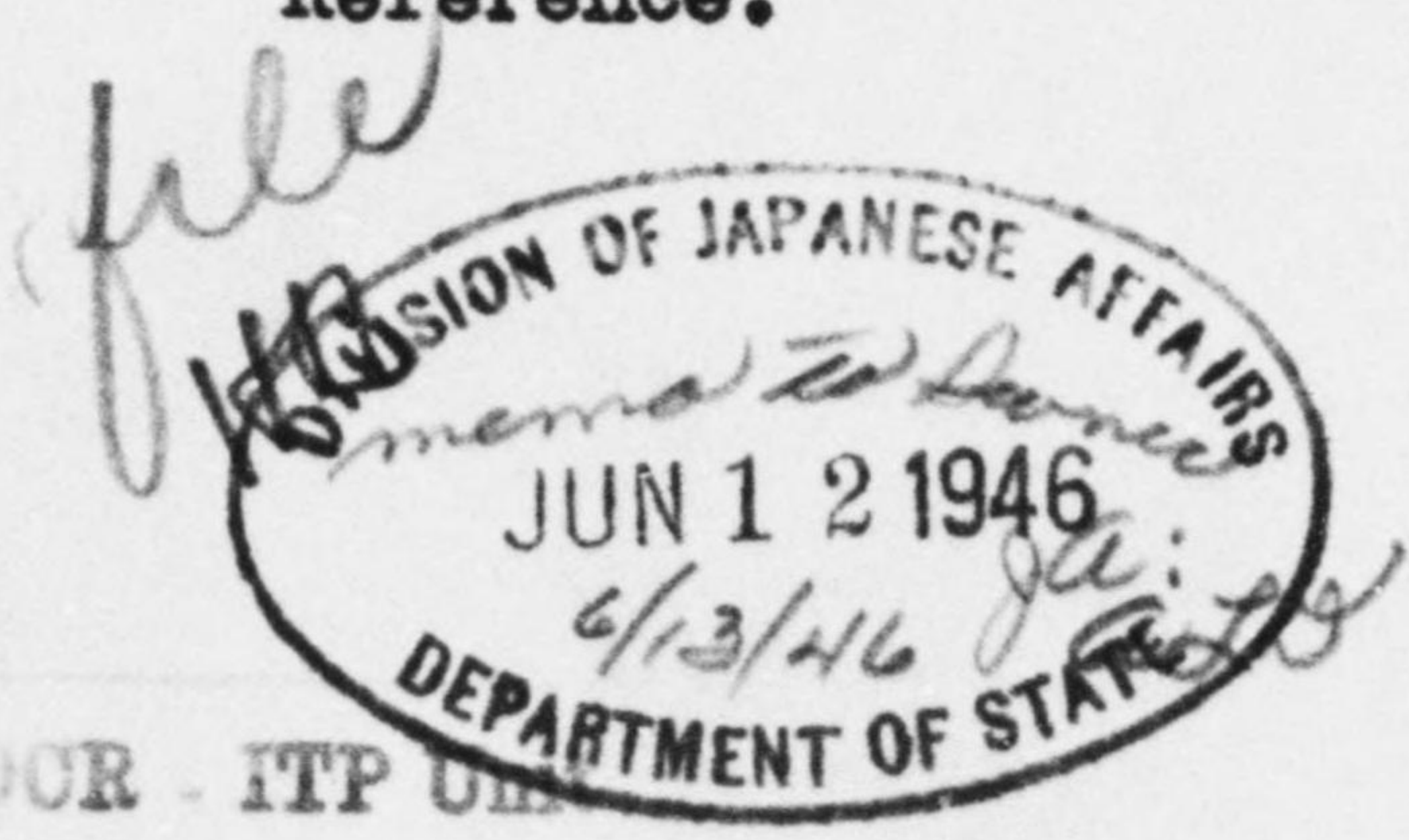
The Terms of Reference of the Far Eastern Commission provide that one of the functions of the Commission should be to "formulate the policies, principles and standards in conformity with which the fulfillment by Japan of its obligations under the Terms of Surrender may be accomplished."

It is further provided that when such decisions are made by the Far Eastern Commission, "The United States Government shall prepare directives in accordance with the policy decisions of the Commission and shall transmit them to the Supreme Commander through the appropriate United States Government agency."

At the fifteenth meeting of the Far Eastern Commission held at 2516 Massachusetts Avenue, Northwest, Washington, D. C. on 12 June 1946, the enclosed policy decision relative to Interim Reparations Removals: Iron and Steel Industry; Thermal Electric Power; Soda Ash, Chlorine, and Caustic Soda Industry, was unanimously approved.

As Secretary General of the Far Eastern Commission, I have been instructed to forward this decision to you on behalf of the Commission, in order that the appropriate directives may be prepared and transmitted to the Supreme Commander in accordance with the Terms of Reference.

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Respectfully yours,

Nelson T. Johnson

Nelson T. Johnson
Secretary General

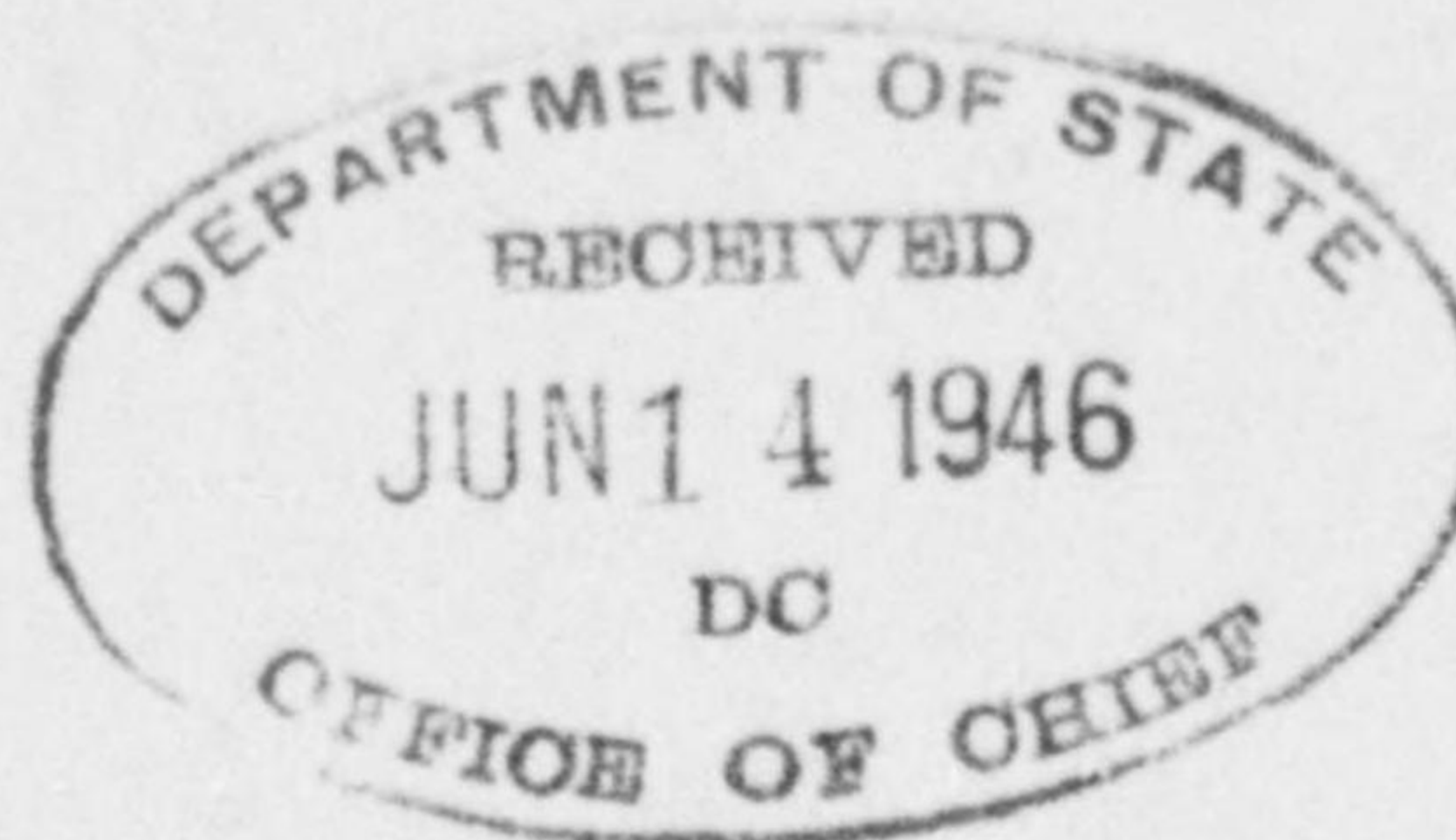
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gk
Enclosure

FAR EASTERN COMMISSION
2516 MASSACHUSETTS AVENUE, N. W.
WASHINGTON 8, D. C.



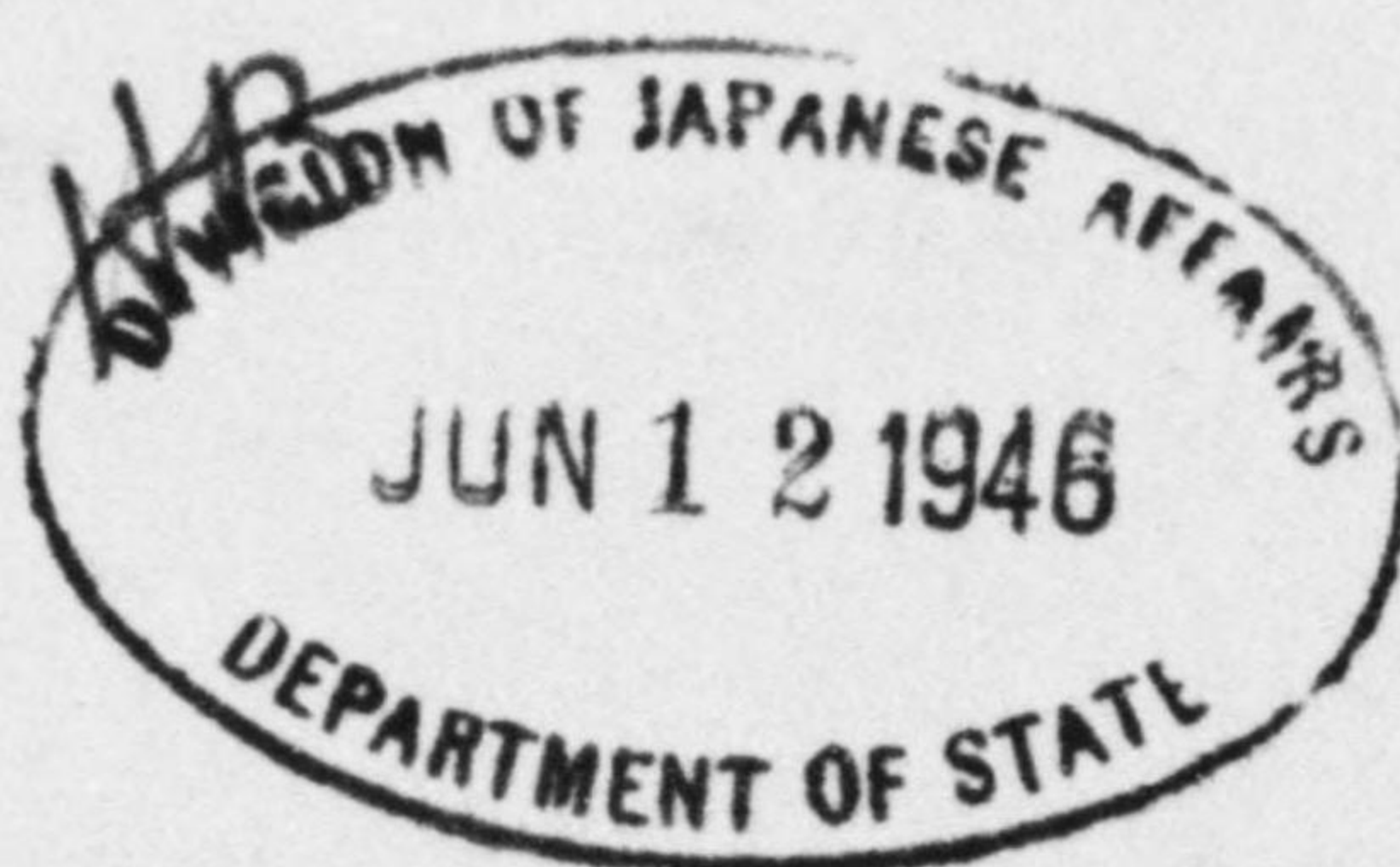
The attached is certified to be the official text of a document unanimously adopted at the fifteenth meeting of the Far Eastern Commission, held at 2516 Massachusetts Avenue, Northwest, Washington, D.C. on 12 June 1946.

Nelson T. Johnson

Nelson T. Johnson
Secretary General

Washington, D.C.
12 June 1946

PM 894.60/6-12-46



INTERIM REPARATIONS REMOVALS:IRON AND STEEL INDUSTRY; THERMAL ELECTRIC POWER;SODA ASH, CHLORINE, AND CAUSTIC SODA INDUSTRY1. Iron and Steel Industry

(Definition: "Plants and establishments primarily engaged in the production of pig iron or steel ingot".)

a. That portion of Japan's capacity for the production of steel ingot that is in excess of 3.5 million metric tons annually ^{will} [should] be made available immediately for claim. In selecting plants for removal first consideration ^{will} [should] be given to electric furnace capacity, which ^{will} [should] be reduced to an aggregate of 100,000 metric tons annual capacity made up as far as possible of furnaces of individual charge capacity of 1½ tons or less. No Bessemer steel capacity ^{will} [should] be removed.

b. That portion of Japan's capacity for the production of pig iron that is in excess of 2.0 million metric tons annually ^{will} [should] be made available immediately for claim.

Plants and establishments engaged in the process of rolling will be treated in a supplementary paper.

2. Thermal Electric Power

(Definition: "Plants and establishments primarily engaged in the production of electric energy through the use of fuel (coal) as the basic energy source".)

a. That portion of Japan's thermal electric generating capacity that is in excess of her requirements after the reduction of her industrial capacity in accordance with the remainder of this program (tentatively estimated at capacity in excess of 2.1 million kw.) ^{will} [should] be made available for claim subject to the following limitations:

(1) In undertaking removals giving effect to this program, ^{you will} [the Supreme Commander for the Allied Powers should] give special attention to the interrelation of hydro and thermal electric capacities, and ^{will} [should] retain facilities, including stand-by

equipment, necessary to ensure at all seasons the distribution of sufficient electric power to satisfy demands as they may be manifested in each supply area after completion of the other phases of the interim program.

(2) If, in the course of effecting these removals, the Supreme Commander for the Allied Powers should find that thermal electric capacity reduced to 2.1 million kw. ^{will} not be adequate to meet Japan's requirements as modified by the reduced industrial demand consequent upon completion of the other phases of the interim program, ^{you will} he ^{will} should so advise the Far Eastern Commission and ^{will} should state to what total capacity Japan's thermal electric generating plants can be reduced without violating the considerations set out in (1) above.

3. Soda Ash, Chlorine, and Caustic Soda Industry

(Definition: "Plants and establishments primarily engaged in the production of soda ash (sodium carbonate), chlorine, and caustic soda (sodium hydroxide).")

a. That portion of Japan's capacity for the production of chlorine and caustic soda in electrolytic plants which is in excess of about 75,000 metric tons of chlorine and about 82,500 metric tons of caustic soda, ^{will} should be made available for claim.

b. That portion of Japan's capacity for the production of soda ash that is in excess of 630,000 metric tons, ^{will} should be made available for claim. Removal of this excess soda ash capacity ^{will} should be accomplished by seizure of one large modern soda ash plant, together with its integrated facilities for conversion of soda ash to caustic soda.

~~JA~~

**SIGNED & RECEIVED
IN SWNCC**

6/14/46
H. H. Morley

12 June 1946

JR

MEMORANDUM FOR THE SECRETARY, SWNCC

Subject: Interim Reparations Removals: Iron and Steel Industry; Thermal Electric Power; Soda Ash, Chlorine, and Caustic Soda Industry.

There is enclosed a draft directive prepared on the basis of a policy decision (also enclosed) unanimously approved at the fifteenth meeting of the Far Eastern Commission on 12 June 1946, under the provisions of paragraph II, A, 1, of its terms of reference.

It is requested that the enclosed directive be forwarded to the Joint Chiefs of Staff for transmission, if the directive in their opinion satisfactorily expresses the policy decision of the Far Eastern Commission, to General MacArthur for his guidance in accordance with paragraph III, 1 of the terms of reference of the Commission.

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J. H. Hildring
State Member
State-War-Navy Coordinating Committee

Enclosures:

- Draft directive.
- Statement of policy.

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DIRECTIVE REGARDING INTERIM REPARATIONS REMOVALS:
IRON AND STEEL INDUSTRY; THERMAL ELECTRIC POWER;
SODA ASH, CHLORINE, AND CAUSTIC SODA INDUSTRY

1. Iron and Steel Industry

(Definition: "Plants and establishments primarily engaged in the production of pig iron or steel ingot".)

a. That portion of Japan's capacity for the production of steel ingot that is in excess of 3.5 million metric tons annually will be made available immediately for claim. In selecting plants for removal first consideration will be given to electric furnace capacity, which will be reduced to an aggregate of 100,000 metric tons annual capacity made up as far as possible of furnaces of individual charge capacity of 1 1/2 tons or less. No Bessemer steel capacity will be removed.

b. That portion of Japan's capacity for the production of pig iron that is in excess of 2.0 million metric tons annually will be made available immediately for claim.

Plants and establishments engaged in the process of rolling will be treated in a supplementary paper.

2. Thermal Electric Power

(Definition: "Plants and establishments primarily engaged in the production of electric energy through the use of fuel (coal) as the basic energy source".)

a. That portion of Japan's thermal electric generating capacity that is in excess of her requirements after the reduction of her industrial capacity in accordance with the remainder of this program (tentatively estimated at capacity in excess of 2.1 million kw.) will be made available for claim subject to the following limitations:

(1) In undertaking removals giving effect to this program, you will give special attention to the interrelation of hydro and thermal electric capacities, and will retain facilities, including stand-by equipment, necessary to ensure at all seasons the distribution of sufficient electric power to satisfy demands as they may be manifested in each

supply

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supply area after completion of the other phases of the interim program.

(2) If, in the course of effecting these removals, you should find that thermal electric capacity reduced to 2.1 million kw. will not be adequate to meet Japan's requirements as modified by the reduced industrial demand consequent upon completion of the other phases of the interim program, you will so advise the Far Eastern Commission and will state to what total capacity Japan's thermal electric generating plants can be reduced without violating the considerations set out in (1) above.

3. Soda Ash, Chlorine, and Caustic Soda Industry

(Definition: "Plants and establishments primarily engaged in the production of soda ash (sodium carbonate), chlorine, and caustic soda (sodium hydroxide).")

a. That portion of Japan's capacity for the production of chlorine and caustic soda in electrolytic plants which is in excess of about 75,000 metric tons of chlorine and about 82,500 metric tons of caustic soda, will be made available for claim.

b. That portion of Japan's capacity for the production of soda ash that is in excess of 630,000 metric tons, will be made available for claim. Removal of this excess soda ash capacity will be accomplished by seizure of one large modern soda ash plant, together with its integrated facilities for conversion of soda ash to caustic soda.

FEC-059/13

STATEMENT OF POLICY REGARDING INTERIM REPARATIONS REMOVALS:
IRON AND STEEL INDUSTRY; THERMAL ELECTRIC POWER;
SODA ASH, CHLORINE, AND CAUSTIC SODA INDUSTRY

1. Iron and Steel Industry

(Definition: "Plants and establishments primarily engaged in the production of pig iron or steel ingot".)

a. That portion of Japan's capacity for the production of steel ingot that is in excess of 3.5 million metric tons annually should be made available immediately for claim. In selecting plants for removal first consideration should be given to electric furnace capacity, which should be reduced to an aggregate of 100,000 metric tons annual capacity made up as far as possible of furnaces of individual charge capacity of 1 1/2 tons or less. No Bessemer steel capacity should be removed.

b. That portion of Japan's capacity for the production of pig iron that is in excess of 2.0 million metric tons annually should be made available immediately for claim.

Plants and establishments engaged in the process of rolling will be treated in a supplementary paper.

2. Thermal Electric Power

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(1) In undertaking removals giving effect to this program, the Supreme Commander for the Allied Powers should give special attention to the interrelation of hydro and thermal electric capacities, and should retain facilities, including stand-by equipment, necessary to ensure at all seasons the distribution of sufficient electric power to satisfy demands

as they

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as they may be manifested in each supply area after completion of the other phases of the interim program.

(2) If, in the course of effecting these removals, the Supreme Commander for the Allied Powers should find that thermal electric capacity reduced to 2.1 million kw. would not be adequate to meet Japan's requirements as modified by the reduced industrial demand consequent upon completion of the other phases of the interim program, he should so advise the Far Eastern Commission and should state to what total capacity Japan's thermal electric generating plants can be reduced without violating the considerations set out in (1) above.

3. Soda Ash, Chlorine, and Caustic Soda Industry

(Definition: "Plants and establishments primarily engaged in the production of soda ash (sodium carbonate), chlorine, and caustic soda (sodium hydroxide).")

a. That portion of Japan's capacity for the production of chlorine and caustic soda in electrolytic plants which is in excess of about 75,000 metric tons of chlorine and about 82,500 metric tons of caustic soda, should be made available for claim.

b. That portion of Japan's capacity for the production of soda ash that is in excess of 630,000 metric tons, should be made available for claim. Removal of this excess soda ash capacity should be accomplished by seizure of one large modern soda ash plant, together with its integrated facilities for conversion of soda ash to caustic soda.

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : A-H Mr. Gross

DATE: June 14, 1946

FROM : A-H Mr. Rudlin *WAR*SUBJECT: SWNCC 302 "Reduction of Japanese War Potentials"

My scant acquaintance with this subject permits only the following comment:

In Appendix B, Discussion, on Page 18, the concept of a "base-line for calculation of Japanese minimum peace time requirements" is introduced. This is to be defined by reference to a given standard of living and to the industrial capacity required to support such a standard. This in turn requires reference to the standard of living in some historical period. The period chosen is the average of 1930 to 1934. To begin with, this average is referred to as a "base line" and later, on page 20, we have a transition to the concept "that the war has caused the destruction of certain facilities whose availability is necessary to the maintenance of 1930-1934 living standards. Provision for the repair or rebuilding of such facilities during the next few years is essential to the restoration of that living standard". In other words, what starts out as a base line for calculation ends up as something like an end to be achieved.

If the 1930-1934 average is to be selected as "a point of reference", (page 18), then the reasons given on Pages 18 and 19 for its selection are good ones. But if this average is something we should allow the Japanese, even though we do not guarantee it, then it becomes necessary to include in this paper substantive policy considerations, rather than those relating to war and pre-war changes in the Japanese economy, as the reasons for our choice of this period.

In this connection I note the difference between this determination and the similar one for Germany. We propose to allow the Germans a standard of living based on their worst years. According to the table on Page 19 of SWNCC 302, we propose to allow the Japanese a living standard below that for 1936 but not much lower, and in some cases higher than 1930 or the average of the period 1926-1930. I understand that the standard of living of the Japanese has never been high in any year, but if we have other reasons for choosing an average of fairly good years, they should be spelled out in this paper. In paragraph 16 on page 18 the point is made that Japan's eventual economic recovery is essential to the political objectives of the occupation and in order to avoid subsidizing Japanese imports for an indefinite period. But the same might be said of Germany. Also, there is no proof, in this paper, that these objectives could not be achieved with a lower standard of living than that of 1930-1934.

A-H:WARudlin;hjh

89460 / 09-14-46

STANDARD FORM NO. 64

Let #241 FE/NA

567-802

Vol # 9

Office Memorandum



DATE: June 27, 1946

TO : A-H - General Hilldring

FROM : ESP - Mr. Galbraith

SUBJECT: Proposal for SWNCC Action on Policy for Removal of Synthetic Oil and Synthetic Rubber Industries from Japan

File esp

At the suggestion of Col. Gross, the attached SWNCC policy proposal is forwarded for submittal direct to SWNCC. As the policy proposed is believed to be non-controversial, it is proposed that it be introduced directly into SWNCC, without prior clearance through the Far East Subcommittee, and be acted upon after reference to the JCS.

The paper proposes eliminating the Japanese synthetic rubber industry entirely and eliminating such part of the Japanese synthetic oil industry as, in the judgment of SCAP, is not needed for transfer to use for the production of synthetic amonia for fertilizer manufacture.

This approach is concurred in by Ambassador Pauley and by SCAP (see Appendix A of the attached), and parallels a similar British proposal now pending in the FEC (CI-001/4, 10 June 1946).

As FEC action on the British proposal is waiting on a U.S. policy decision, it is desirable to secure SWNCC action at the earliest possible moment.

RAW

JK:WWLockwood:il

894.60/6-2746

Signed by JCH 9 July sent forward esp

*Signed Dec'd
in SWNCC
7/8/46
JAM*

MEMORANDUM FOR THE SECRETARY, SWNCC

SUBJECT: PROPOSAL FOR SWNCC ACTION ON POLICY FOR REMOVAL OF SYNTHETIC OIL AND SYNTHETIC RUBBER INDUSTRIES FROM JAPAN

Submitted herewith for SWNCC consideration is a State Department proposal for eliminating the synthetic rubber industry from Japan and such part of the synthetic oil industry as, in the judgment of SCAP, is not needed for use in producing synthetic ammonia for fertilizer manufacture. This proposal is intended to be a part of the program of Japanese industrial disarmament; is consistent with the views of Ambassador Pauley and of SCAP; and parallels a similar British proposal now pending in the FEC.

As FEC action on the British proposal is waiting on formulation of a United States position on these industries, and as the matter appears to be non-controversial, the earliest consideration practicable by the SWNCC, after the opinion of the Joint Chiefs of Staff from a military point of view has been ascertained, is desired.

J. A. Hilldring
State Department Member
State-War-Navy Coordinating Committee

Enclosure:

Above-mentioned proposal.

DOR TTP Unit

Routing slip with handwritten initials 'JK' and 'JL'.

JK:WWLockwood:il

6/27/46

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(Japan)
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740.00119 P.W.*

894.60/7-846

Confidential File
894.60/7-846

MEMORANDUM FOR THE SECRETARY, SWGCC**SUBJECT: PROPOSAL FOR SWGCC ACTION ON POLICY FOR REMOVAL
OF SYNTHETIC OIL AND SYNTHETIC RUBBER INDUSTRIES
FROM JAPAN**

Submitted herewith for SWGCC consideration is a State Department proposal for eliminating the synthetic rubber industry from Japan and such part of the synthetic oil industry as, in the judgment of SCAP, is not needed for use in producing synthetic ammonia for fertilizer manufacture. This proposal is intended to be a part of the program of Japanese industrial disarmament; is consistent with the views of Ambassador Pauley and of SCAP; and parallels a similar British proposal now pending in the FEC.

As FEC action on the British proposal is waiting on formulation of a United States position on these industries, and as the matter appears to be non-controversial, the earliest consideration practicable by the SWGCC, after the opinion of the Joint Chiefs of Staff from a military point of view has been ascertained, is desired.

**J. A. Hilldring
State Department Member
State-War-Navy Coordinating Committee**

Enclosure:

**Above-mentioned
proposal.**

JK:WNL Lockwood:11**6/27/46**

SECRET**REMOVAL OF SYNTHETIC OIL AND SYNTHETIC RUBBER
INDUSTRIES FROM JAPAN****THE PROBLEM**

1. What action should be taken with respect to the reduction of Japanese industrial war potential in the synthetic rubber and synthetic oil industries?

FACTS BEARING ON THE PROBLEM

2. See Appendix "A".

DISCUSSION

3. See Appendix "B".

CONCLUSIONS

4. The following actions should be taken as a part of the program for reducing Japanese industrial war potential.

a. Synthetic Rubber Industry.

(Definition: Plants and establishments engaged in the production of synthetic rubber.) All plants and establishments identified by SCAP in the synthetic rubber industry should be impounded and their machinery and equipment made available for ^{or,} reparations, /if not desired by reparations claimants within the limit of approved claims, should be destroyed.

b. Synthetic Oil Industry.

(Definition: Plants and establishments engaged in the manufacture of liquid fuels from coal, whether by high-pressure hydrogenation, the Fischer-Tropsch process, or low temperature carbonization.) All plants and establishments identified by SCAP in the synthetic oil industry should be impounded and their machinery and equipment made available for reparations or, if not desired by reparations claimants within the limit of approved claims, should be destroyed, subject to the following limitation:

any machinery

SECRET

any machinery or equipment in such plants which is suitable for use in production of synthetic ammonia and, which, in the judgment of SCAP, should be transferred for use in production of synthetic ammonia for fertilizer manufacture, should be exempted from such action.

RECOMMENDATIONS

5. It is recommended that:
 - a. The State-War-Navy Coordinating Committee, after securing the comments of the Joint Chiefs of Staff from a military standpoint, approve the conclusions in paragraph 4.
 - b. This report be transmitted for information to the Joint Chiefs of Staff, State, War and Navy Departments, and the United States representative on the Far Eastern Commission for his information.
 - c. No parts of this document be made available for public release.

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APPENDIX "A"

FACTS BEARING ON THE PROBLEM

1. Reduction of Japanese War Potential, SWNCC 302, Paragraph 8, War-supporting Industries.

"a. Over-All Policy:

As a supplementary measure designed further to reduce Japan's industrial war potential, that portion of existing capacity in selected war-supporting industries which is in excess of that necessary to meet the peaceful needs of the Japanese people, as defined below, should be made available for removal as reparations.

"b. Criteria Underlying Over-All Policy:

A determination should be made by the Far Eastern Commission as to the categories and volume of industrial productive capacity in war-supporting industries which are in excess of the peaceful needs of the Japanese people. For the above purpose, these peaceful needs should be defined substantially as the standard of living prevailing in Japan during the years 1930-34 (i.e., average Japanese per capita consumption during those years). Satisfaction of the peaceful needs of the Japanese people should therefore be understood to require sufficient capacity in war-supporting industries for:

- (1) support of domestic consumer goods industries functioning collectively at a level essential to maintenance of the 1930-34 living standard;
- (2) payment, through exports, for imports needed to sustain the 1930-34 living standard;
- (3) construction, repair, and maintenance of transport, housing, public utility, industrial, and other facilities to the degree that they are essential to maintenance of the 1930-34 living standard".

SECRET**"c. Application of Criteria:**

- (1) The following specific industries are considered as being "war-supporting," for purposes of the industrial removals proposed in this paper:

.....

- (1) the synthetic fuel industry ;
(a) the synthetic rubber industry.

(2)

- (3) As the basis for United States recommendations to the Far Eastern Commission respecting removals of industrial capacity in war-supporting industries, studies should be carried out to determine the levels of capacity required in these industries to implement the criteria outlined above."

2. Interim Reparations Removals, CI-001/4, proposals for additional Interim Reparations Removals, submitted by the United Kingdom member of Committee No. 1, Far Eastern Commission.

"2. Synthetic Oil Industry.

(Definition: These plants and establishments both government and privately owned, engaged in the manufacture of petroleum products from coal, whether by high-pressure hydrogenation, the Fischer-Tropsch hydro-carbon synthesis, or low temperature carbonization).

- a. All facilities identified within this category should be made available for claim, subject to the following reservation:

- (1) Any plant designated as suitable for actual or potential conversion to the manufacture of sulphate of ammonia for fertilizers should be retained in operation until the supply of fixed nitrogen from other sources becomes adequate.

SECRET"3. Synthetic Rubber Industry.

(Definition: Plants and establishments engaged in the production of synthetic rubber).

- a. All facilities which have been engaged in the production of synthetic rubber should be made available for claim."

3. Comprehensive Report of U. S. Mission on Reparations from Japan (Report by Ambassador Pauley prepared for submission to the President).

"(Synthetic Rubber)

Japan reports a total of eight small synthetic rubber plants, the product of which is very much more expensive than natural rubber.

Recommended policy: All eight synthetic rubber plants should be made available for reparations.

(Synthetic Oil). Recommended policy: All synthetic oil plants should be removed as reparations with the exception of portions of five, which are adaptable to nitrogenous fertilizer production. Nitrogenous fertilizer production, however, utilizes only part of the facilities of such plants. Therefore all equipment in them not genuinely needed in fertilizer production should be removed as reparations, to prevent clandestine maintenance of synthetic oil facilities."

4. Cable from SCAP to War dated April 24, 1946, Tele. No. C 60239, CM-IN No. 5030.

"(Synthetic Oil) recommend disposal by reparations or scrapping of entire synthetic petroleum capacity of 35,000 kiloliters per year except for nitrogen fixation equipment to be transferred for use in fertilizer production.

Synthetic Rubber. Recommend disposal by reparations or scrapping of Japan's eight synthetic rubber plants which are now inoperative and in poor repair."

SECRETAPPENDIX "B"INTRODUCTION

1. The proposals contained in this paper are designed to establish the measures to be applied in effecting a reduction and limitation of capacity for reasons of security in the synthetic rubber and synthetic oil industries.
2. The industries dealt with in this paper are a part of the aggregate of industrial facilities built up by Japan for the purpose of waging large scale war. The synthetic rubber and synthetic oil industries were created solely for war purposes and their total removal is required on security grounds in order to eliminate existing war potential.
3. Such removals as are recommended in this paper serve the further purpose of adding to the volume of Japanese assets available for transfer as reparations to countries which have suffered from the effects of Japanese aggression.

Synthetic Rubber Industry.

4. The Japanese synthetic rubber industry consists of eight small plants with a combined annual capacity of only 948 metric tons. No production of general purpose synthetic rubber suitable for tires and similar uses was ever attempted on a commercial scale. The small amounts of synthetic rubber produced were entirely of special purpose types suitable for fuel cell linings and other uses where an oil-resistant rubber was required. Ninety-five percent of the wartime production was used by the aircraft industry.

Normal peacetime requirements for synthetic rubber of the type made in Japan during the war are extremely small, and do not justify maintenance of any capacity in the industry. Production costs in the industry in Japan were reported as 100 times the cost of natural rubber. For these reasons and because the industry was developed wholly as a war-supporting industry, its complete removal is recommended.

Synthetic Oil.

SECRETSynthetic Oil.

5. Japan is poorly endowed with natural petroleum, and the synthetic oil industry was developed during the years of preparation for war in an attempt to achieve complete self-sufficiency in liquid fuels. Only half of the planned capacity was actually installed and production difficulties prevented full utilization of the completed capacity. The three major commercial processes (low temperature carbonization, Fischer-Tropsch, and hydrogenation of coal and tars) were all used. Production was very uneconomical, requiring about two tons of coal per barrel of oil produced. Without subsidies synthetic oil will not be able to compete with natural petroleum whether domestic or imported. All capacity for production of synthetic oil is therefore in excess of the needs of the peacetime economy. For this reason and because the industry has a definite war potential, it is recommended that all equipment and facilities in the Japanese synthetic oil industry (the capacity of which is estimated by SCAP as equivalent to 220,000 metric tons of oil annually) should be made available for reparations or scrapped, with the following exceptions:

A part of the equipment used in certain of the synthetic oil plants is suitable for use in synthetic ammonia production. Because of the critical need in Japan for chemical nitrogenous fertilizers based on synthetic ammonia, it is recommended that machinery or equipment suitable for use in production of synthetic ammonia should be exempted from reparations removal or destruction if, in the judgment of SCAP, its transfer for use in production of synthetic ammonia is required for fertilizer manufacture.

SECRET**REMOVAL OF SYNTHETIC OIL AND SYNTHETIC RUBBER
INDUSTRIES FROM JAPAN****THE PROBLEM**

1. What action should be taken with respect to the reduction of Japanese industrial war potential in the synthetic rubber and synthetic oil industries?

FACTS BEARING ON THE PROBLEM

2. See Appendix "A".

DISCUSSION

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CONCLUSIONS

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- b. **Synthetic Oil Industry.**

(Definition: Plants and establishments engaged in the manufacture of liquid fuels from coal, whether by high-pressure hydrogenation, the Fischer-Tropsch process, or low temperature carbonization.) All plants and establishments identified by SCAP in the synthetic oil industry should be impounded and their machinery and equipment made available for reparations or, if not desired by reparations claimants within the limit of approved claims, should be destroyed, subject to the following limitation:

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SECRET

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RECOMMENDATIONS

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Synthetic Oil.

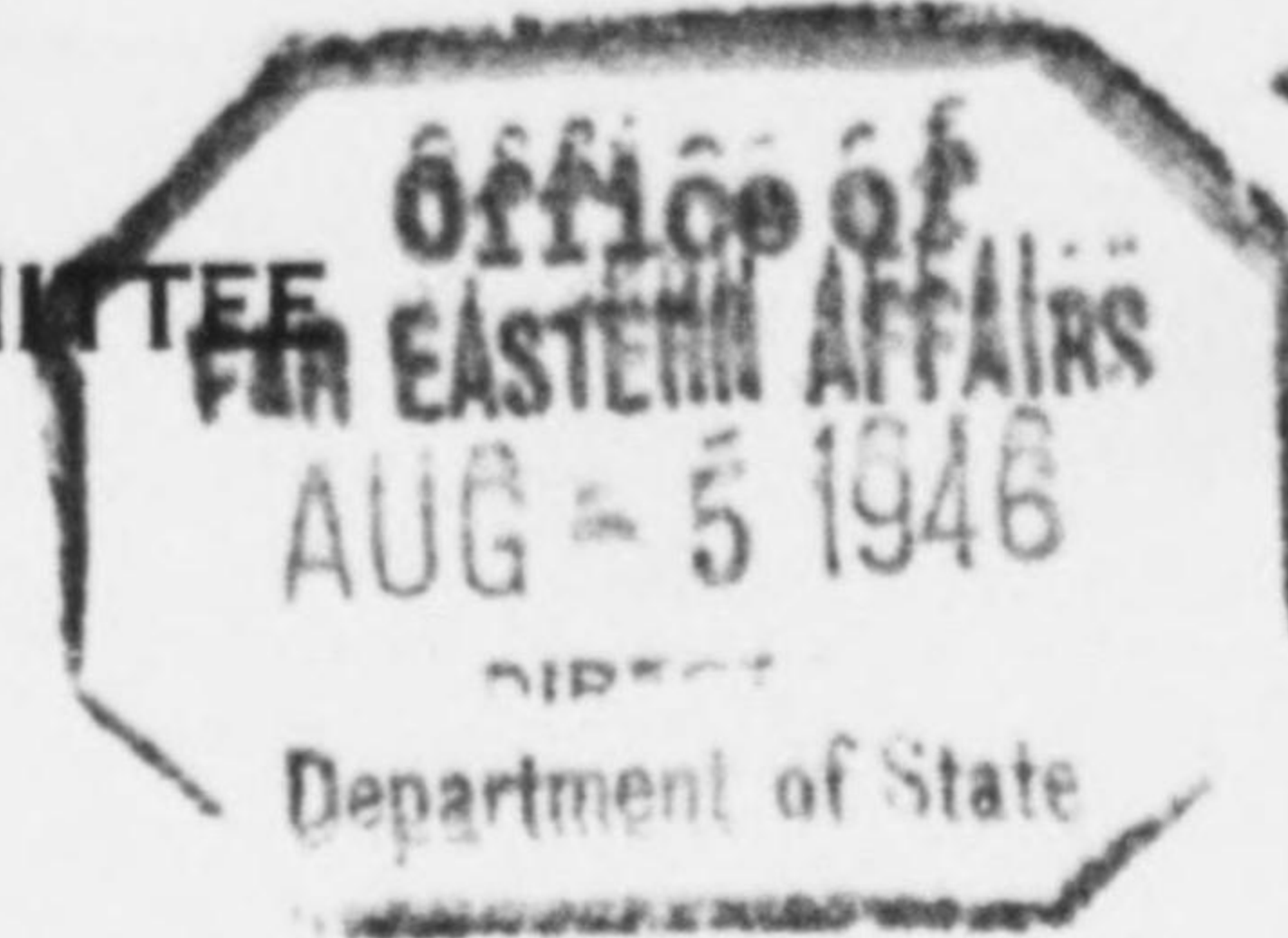
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THE STATE-WAR-NAVY COORDINATING COMMITTEE
WASHINGTON, D. C.



SWN-4652
2 August 1946

DCR
File
8-1346

MEMORANDUM FOR THE SECRETARY OF STATE:

Subject: Assured Production Capacity Levels for Japan

References: a. SWNCC 236/19
b. SWNCC 236/21

At its 43rd Meeting on 31 July 1946, the State-War-Navy Coordinating Committee after further amending approved SWNCC 236/19 as amended by SWNCC 236/21.

Copy No. 46 is forwarded herewith for the information of the Department of State.

It is requested that Copy No. 47 be forwarded to the U.S. member of the Far Eastern Commission for his information and guidance and with the request that he present Appendix "C" to the Far Eastern Commission for approval.

It is further requested that the Department of State draft the program referred to in subparagraph 4 c for submittal to SWNCC.

Copies of the approved paper have been forwarded to the Joint Chiefs of Staff and the Departments of War and Navy for information.

For the State-War-Navy Coordinating Committee:

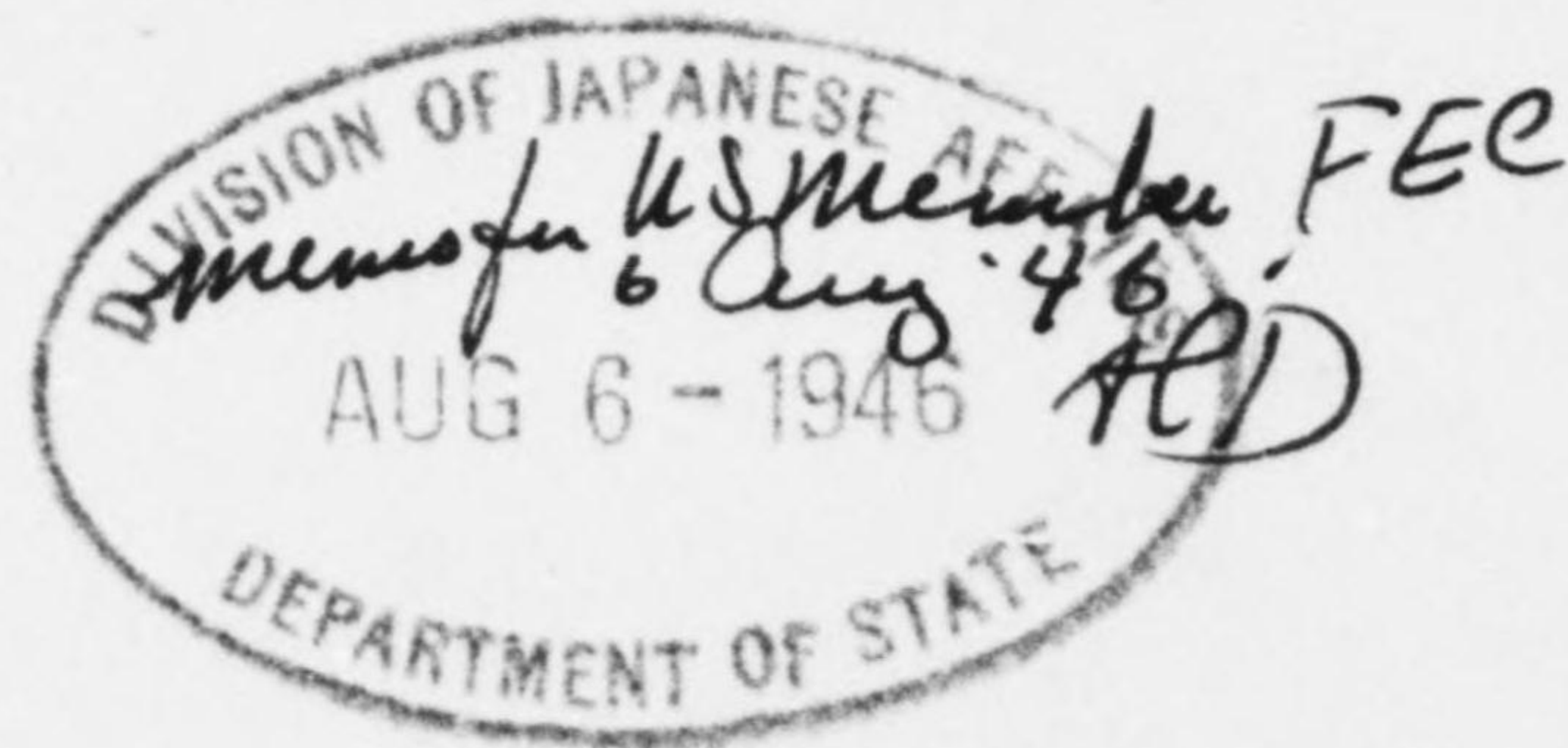
H. W. Moxley
J. H. Hilldring
J. H. HILLDRING,
State Department Member

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Enclosures
Copies No. 46 and 47,
SWNCC 236/19

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SECRETTHE STATE-WAR-NAVY COORDINATING COMMITTEE
WASHINGTON, D. C.SWN-4652
2 August 1946

MEMORANDUM FOR THE SECRETARY OF STATE:

**Subject: Assured Production Capacity
Levels for Japan****References: a. SWNCC 236/19
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It is further requested that the Department of State draft the program referred to in subparagraph 4 g for submittal to SWNCC.

Copies of the approved paper have been forwarded to the Joint Chiefs of Staff and the Departments of War and Navy for information.

For the State-War-Navy Coordinating Committee:

J. H. HILLDRING,
State Department Member

Enclosures
Copies No. 46 and 47,
SWNCC 236/19

COPY TO ACCOMPANY ORIGINAL

SECRET

S E C R E TCOPY NO. 451 August 1946STATE-WAR-NAVY COORDINATING COMMITTEEDECISION AMENDING SWNCC 236/19ASSURED PRODUCTION CAPACITY LEVELS FOR JAPANNote by the Secretaries

1. At its 43rd Meeting on 31 July 1946, the State-War-Navy Coordinating Committee after further amending approved SWNCC 236/19 as amended by SWNCC 236/21.

2. Holders of SWNCC 236/19 are therefore requested to substitute the attached revised pages 227 and 228 for the ones contained therein and destroy the latter by burning.

ALEXANDER D. REID

B. L. AUSTIN

HAROLD W. MOSELEY

Secretariat

S E C R E T

S E C R E TCOPY NO. 46SWNCC 236/196 June 1946Pages 221 - 242, incl.STATE-WAR-NAVY COORDINATING COMMITTEEASSURED PRODUCTION CAPACITY LEVELS FOR JAPANReferences: a. SWNCC 236/7
b. SWNCC 236/13Note by the Secretaries

1. The enclosure, a revision of reference b. by the originators, is circulated for consideration by the Committee.

2. A copy of this revised report has been forwarded to the Joint Chiefs of Staff for comment from a military point of view. These comments will be circulated to the Committee upon receipt thereof from the Secretary, Joint Chiefs of Staff.

ALEXANDER D. REID

B. L. AUSTIN

HAROLD W. MOSELEY

Secretariat

SWNCC 236/19S E C R E T

S E C R E T

E N C L O S U R E

ASSURED PRODUCTION CAPACITY LEVELS FOR JAPAN

Report by the
State-War-Navy Coordinating Subcommittee for the Far East

THE PROBLEM

1. To determine the policy with respect to assured production capacity levels for Japan which the United States Government should recommend for adoption by the Far Eastern Commission.

FACTS BEARING ON THE PROBLEM

2. See Appendix "A".

DISCUSSION

3. See Appendix "B".

CONCLUSION

4. It is concluded that:

a. the policy governing assured production capacity levels for Japan, as stated in Appendix "C", is suitable for adoption by the Far Eastern Commission;

b. the United States Member of the Far Eastern Commission should be authorized, on behalf of the United States Government, to deviate from the recommended assured minimum capacity levels presented in Appendix "C", if such deviation should prove necessary to secure agreement in the FEC to this program, as follows:

(1) a reduction by an amount not exceeding 20% of the levels stated therein;

(2) an increase by an amount not exceeding 10% of the levels stated therein, save that there should be no increase in the recommended assured production capacity of the machine tool industry or the ship-building industry.

c. an additional program of assured production capacity levels for other Japanese industries, where fear of repar-

S E C R E T

ations removals may currently constitute a deterrent to essential industrial revival, should be drawn up by SWNCC for submittal to, and approval by, the Far Eastern Commission.

RECOMMENDATIONS

5. It is recommended that:

a. The State-War-Navy Coordinating Committee, after securing the comments of the Joint Chiefs of Staff from a military point of view, approve the Conclusions stated above;

b. This report be transmitted for information to the Joint Chiefs of Staff, and the Departments of State, War and Navy; and for information and guidance to the United States Member of the Far Eastern Commission, who will present Appendix "C" to that Commission for approval;

c. The Department of State be directed to draft, for submittal to SWNCC, the program referred to in subparagraph 4 c.

S E C R E T

APPENDIX "A"

FACTS BEARING ON THE PROBLEM

1. It is stated in paragraph 11 of the Potsdam Declaration:

"Japan shall be permitted to maintain such industries as will sustain her economy and permit the exaction of just reparations in kind, but not those which would enable her to rearm for war...."

2. It is stated in paragraph 16 of SWNCC 236/7, "Interim Reparations Removal Program for Japan":

"a. A program of assured production capacity levels for the ten industrial categories cited above, should be drawn up by SWNCC for submittal to, and approval by the appropriate inter-Allied authority.

"b. Such a program will be designed to provide authorization for SCAP to designate specific plants among those retained in Japan under the Interim Program that will not be subject to removal, even under the final reparation program. The purpose of such designation will be to eliminate the threat of removal and thus contribute to restoring the initiative of Japanese industrialists, the flow of capital into these enterprises, and the production of goods necessary to support the peacetime economy.

"c. The assured production capacity levels so established should be in all cases below the capacity levels now under discussion in the United States Government for retention under the final program."

S E C R E T

S E C R E TAPPENDIX "B"DISCUSSION

1. SWNCC 236/7, "Interim Reparations Removal Program for Japan", proposes a program of industrial removals designed to eliminate "obvious excess" capacity in certain war industries, and to transfer appropriate released facilities on reparations account. "Obvious excess" capacity was determined on the basis of a liberal estimate of Japan's postwar civilian requirements as suggested by civilian consumption and production data from the pre-war period 1930-36. The present paper proposes a parallel program to establish "minimum assured" capacity levels, within the limits of which SCAP would be authorized to designate plants for permanent retention. "Minimum assured" capacity has been determined on the basis of a minimized estimate of Japanese requirements for civilian purposes as suggested by data from the year 1930.

2. Between the two capacity levels mentioned above, the upper level left after elimination of "obvious excess" and the "minimum assured" level are industrial facilities still susceptible though not necessarily committed, to removal under final reparations and disarmament programs. It is within this zone that the final determination would be made in the industries in question, if the proposals contained in this paper and the Interim Reparations paper are approved by the United States Government and subsequently adopted by the Far Eastern Commission. As guidance for such final determination, so far as they are based on considerations of security and disarmament, an SFE Working Party is now drafting a paper on Industrial Disarmament. This paper will present principles and criteria on the basis of which Japan's war potential would be reduced to the point where retained industrial capacity would fall in between the two levels prescribed above and would make adequate provision for Japan's immediate post-war requirements on what is believed to be a desirable minimum basis.

S E C R E T

S E C R E T

3. The proposal to establish "assured" capacity levels in selected Japanese industries is designed to stimulate industrial recovery in Japan at the present time. Uncertainty concerning the identity of plants to be removed for reparations or disarmament purposes, and those to be retained to meet civilian requirements in Japan, is delaying revival of essential elements of the Japanese economy. To remove this uncertainty it is desirable to fix minimum assured levels of industrial capacity which will not be endangered by reparations and disarmament programs.

4. Speedy execution of the program described above is necessary if the objectives of that program are to be realized. To obviate possible delay resulting from prolonged discussion in the Far Eastern Commission where attempts may be made to lower these levels, the United States Member of that Commission should be authorized to accept reductions not exceeding 20% in any of these levels, where such acceptance proves necessary to facilitate speedy FEC acceptance of this program.

S E C R E TAPPENDIX "C"NOTE FOR PRESENTATION TO THE FAR EASTERN COMMISSION

The Government of the United States wishes to bring to the attention of the Far Eastern Commission the need for assured production capacity levels in Japan. The following statement of policy in this connection is recommended for adoption by the Far Eastern Commission:

PROPOSED POLICY

1. SCAP should be informed as to the interim assured production capacity level established for each of the ten categories of Japanese industry listed below, and instructed that he may designate for retention specific plants and establishments, associated with each category, whose aggregate production capacity does not exceed the level established for that category. Such designation should be interpreted to mean that:

a. in the judgement of SCAP, operation of these plants and establishments, individually and collectively, is practical in terms of current needs for their products, and in terms of such conditioning factors as availability of raw materials, power, and labor;

b. owners and management are assured that the particular facility will not be subject to removal under the Interim Program or subsequent disarmament or reparations program.

2. Machine Tool Industry.

The assured production capacity level for Japan's machine tool industry should be placed at a balanced type-size aggregate of 10,000 units annually.

3. Arsenals, Army and Navy.

No assured production capacity level should be assigned to Army and Navy arsenals.

S E C R E T4. Aircraft Industry (including aircraft engines).

No assured production capacity level should be assigned to the aircraft industry.

5. Shipbuilding Industry.

The assured production capacity level for Japan's shipbuilding industry should be placed at 80,000 gross tons of new construction, and supporting facilities, for the service and repair of a merchant fleet of 1.5 million gross tons.

6. Iron and Steel Industry.

The assured production capacity level for Japan's iron and steel industry should be placed at an aggregate of 2.0 million metric tons of steel ingot, and an aggregate of 500,000 metric tons of pig iron annually.

7. Light Metals Industry.

No assured production capacity for Japan's light metals industry should be given.

8. Thermal Electric Power Industry.

The assured production capacity level for Japan's thermal electric power industry should be placed at an aggregate installed public utility capacity of 1.0 million kilowatts.

9. Soda Ash, Chlorine, and Caustic Soda Industry.

The assured production capacity level for Japan's soda ash, chlorine, and caustic soda industry should be placed at 260,000 metric tons of soda ash, 35,000 metric tons of chlorine, and 100,000 metric tons of caustic soda annually.

10. Sulphuric Acid Industry.

The assured level for the Japanese sulphuric acid industry should be placed at 3,400,000 metric tons annually.

11. Selection of Facilities.

Among the principles to govern the selection of facilities for retention under this program should be the following:

S E C R E T

a. Security considerations, which indicate that certain facilities have been less directly associated with military production in the past and have less potential for conversion to war purposes in the future than others.

b. Occupation policies looking toward the destruction of Zaibatsu wealth and influence, and towards the encouragement of new industrial ownership and management which will contribute to economic rehabilitation in a manner consistent with the purposes of the occupation.

c. The needs of the Japanese economy embracing such factors as geographical location of individual plants with respect to markets, raw materials, man power, power supply, and complementary facilities; and variations in specific products as among types, sizes, and other variable characteristics.

S E C R E TANNEX TO APPENDIX "C"DISCUSSION OF PROPOSED POLICY

1. Proposals submitted by the United States Government, in its paper on the Interim Reparations Removal Program for Japan, are based on the concept that the program was designed to remove only "obvious excess" production capacity and would in no sense be considered as final either in nature or degree. "Maximized" production capacity requirements were proposed within the practical limits dictated by consideration of Japan's present position as an isolated and economically disorganized defeated nation, as distinguished from a possible future position as a prosperous industrial nation enjoying free access to world markets. In so far as possible, requirements were based on civilian consumption manifested on the average during the period 1930-1936. In certain cases, adjustments were made for population changes and other factors that might affect post-war peacetime requirements, as defined for purposes of the Interim Removal Program. In keeping with the basic concept of "obvious excess" capacity, all estimates were on the liberal side.

2. The present paper proposes that production capacity levels in selected industries in Japan should now be fixed at interim "irreducible" minimum levels designed to safeguard from removal certain facilities which are necessary to support Japan's peaceful civil economy. The purpose of offering such a safeguard is to aid in the restoration of Japanese industrial initiative, the flow of capital into the selected enterprises, and the production of goods necessary to the support of a peacetime economy on a minimum basis.

3. Determination of such capacity levels has been carried forward by estimating Japan's minimized post-war peaceful requirements. These minimized requirements are established within the practical limits dictated by considerations of security and of an economy appropriate to a defeated aggressor nation committed to

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