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Subject: Japanese Army Policy concerning Steel Production and
Allocation 1935 - 45

Personnel interrogated and background of each:

Colonel SATO, H., Japanese Army, of the War Plans Section,
Japanese War Ministry.

Where interviewed: Meiji Building.

Interrogator: Lt. (jg) R. I. GALLAND.

Interpreter:

Allied Officers Present:

Summary:

Colonel SATO in a written statement, herein translated, discusses the planning and administration of the Japanese steel industry, 1935 - 45, with particular reference to the Army's policy and participation.

INTERROGATION

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I. Outline of Organic Changes in Steel Policy and Administration in Japan.

A. Strengthening of Steel Policy and Enactment of Steel Manufacturing Industrial Laws.

While the Japanese iron industry was struggling against the international depression which followed the conclusion of the First European War, technical advances were being planned and the industry's roots were being nurtured; the chief policies adopted by the government then to foster the industry were the application of the land expropriation law, the reduction and exemption of various taxes, the granting of subsidies, - the institution of a protective tariff, etc., all resulting from the Iron Manufacture Fostering Law enacted in 1917. Later in the decade mechanical transportation and cartels were promoted, and in 1931, with the enactment of the Important Industries Law, so-called "controls" were exercised for the first time in the world of industrial steel. The "controls" which were the purport of the enactment of this law, however, were a step forward from liberalism, and may be said to have indicated the development of a controlled economy. Their basic idea was to curb the unavailing competition between industrialists, which was one of the abuses of the liberalistic economy, and thereby ensure the mutual interests of the industrialists. They had but an extremely negativistic meaning: today's controls are of a radically different character.

As a result, therefore, of the creation of Manchukuo in the Manchurian Incident of 1931, and its subsequent development, as well as the expansion of export trade due to the gold embargo, our economic world began its ascent upwards; the steel industry also met these new conditions by throwing off the overous depression of the previous ten years and embarking on a new period of great activity. It was, moreover, at this time, when the international situation was extremely delicate, that urgent demands were made for rapid expansion of heavy industry to provide the backbone of national defense. In response thereto, the government established, in 1943, the NIPPON SEITETSU K.K., to guarantee the integrity of the nation's steel industry, and this company commenced rapid expansion of steel production.

Accompanying world developments, the nation in 1936 entered upon a period of "preparedness" and the whole national policy was aimed at the perfection of the national defense and the expansion of production. The hitherto liberal economic policy was further modified, the nation imposed appropriate controls upon industrial activity, and the maximum development of the national production capacity was demanded. Whereas even in the steel manufacturing industry, the purpose of steel controls had hitherto been the active fostering of industrialists' interests, the newly enacted Iron Manufacturing Industry Law had as its primary object the rapid expansion of the steel production capacity and the creation of a self-sustaining steel industry. This law went into effect in September, 1937.

In Article I it was stated that "the object of this law is the vigorous development of the steel manufacturing industry in this country, to ensure the advancement of production and the completion of national defenses;" the essence of control was thereby made the strengthening of the foundations of those enterprises which formed the core of war industries and also of general industries. On this basis, the scrap-iron steel manufacturing method was gradually eliminated by application of the permit system, dependence on foreign countries was removed and pig-iron steel "Fliesarbeit" was perfected, marking a period of military preparedness in Steel production.

B. Plans for Expansion of Primary Production Capacity.

The establishment of self-sufficiency in the steel industry, which may be called the basis of all industry, is the most strongly demanded point, in either wartime or peacetime. The proposal to create plans for expansion of the nation's productive capacity was initiated in 1936, in the Cabinet Investigation Bureau, in the inquiry which, in essence, was to become the basis of the formulated plan and was handed on at the time of reorganization to the newly established Board of Planning.

Following this, industrial plans were set up also in Korea. In Manchuria, the Manchurian five-year plan, covering the years 1938 - 1942 was being put into effect. In the summer of 1937, while the immediate establishment of coordinated industrial plans, which would also include Manchuria, were being urged, the First Joint Economic Conference was held. Attempts were made to prepare an immediate draft of the plan for production expansion for submitted to this conference by the government, but July of this year saw the outbreak of the China Incident, and since the rapid establishment and execution of the Materials Mobilization Plan, for the speedy provision of ample military supplies, was more pressing, the conference was fated to be dissolved. As the Board of Planning was commencing work on the Materials Mobilization Plan for the fiscal year of 1938, a temporary draft of the Production Expansion Plan was prepared and reckoned in with the Materials Mobilization Plan. This temporary draft, with the necessary revisions, was submitted at the end of 1938 to the Board of Planning and approved, after which it was officially passed in a Cabinet Meeting in January, 1939. This was the "Primary Production Expansion Plan," and determined the basic industrial policy which followed.

In this plan, needless to say, steel, because of its vital importance, was given top expansion priority. A summary of the contents of this plan is given below:

1. Execution period of plan.
Four years, from 1938 to 1941.
2. Aim of Plan.
 - a. Sphere of Plan.
Confined to essential industries requiring rapid expansion under a socially unified plan.
 - (1) Primary object provision of firm basis for national defense.
 - (2) Provision of ample supply of essential materials for national consumption.
 - b. Establishment of a plan for expansion of nation's essential industries production on basis of a plan coordinating Japan, Manchuria and China in close liaison and harmony.
 - c. The plan aims at the establishment of self-sufficiency in our sphere of influence with regard to essential raw materials and the prevention as far as possible of dependence on a third country for raw materials, even in an emergency.
3. Planned Production.

The following items were selected for planned production based on the above policy:

- a. Steel (including special steel)
- b. Coal
- c. Light metals (aluminum, magnesium)
- d. Non-ferrous metals (including iron ore, ore for special steel, ferro-alloys)
- e. Liquid fuels (crude petroleum, petroleum refining, synthetic oils)
- f. Soda, Industrial Salt.
- g. Ammonium Sulfate

- h. Wood pulp (for paper, rayon, etc.)
- i. Gold
- j. Machine Tools
- k. Railway cars
- l. Shipping
- m. Motor vehicles
- n. Wool
- o. Electric power (water power, coal power)

Basic decisions regarding the administration of industrial production under the Production Expansion Plan were referred to the Production Expansion Planning Committee within the Board of Planning.

A summary of the composition and function of this committee follows:

1. Composition.

a. Members

Board of Planning: dep't heads concerned;
Ministerial bureau heads concerned.

b. Executive Committee

Board of Planning officials concerned;
Ministerial Section Heads concerned and responsible
Section member.

2. Organization and Summary of Functions (Especially those confined to steel)

a. General Affairs Divisional Committee

(1) Factors relative to Production Expansion Plan

- (a) Joint drafting of Production Expansion Plan by division and by area.
- (b) Addenda and deletions of Production Expansion Plan.

(2) Creation of expansion plans by division

(3) Creation of plans for allocation of materials by division.

b. Steel Divisional Committee

(1) Preparation of original draft of steel production expansion plans for consideration by General Affairs Divisional Committee.

(2) Decisions of General Affairs Divisional Committee

- (a) Creation of Plan for expansion of equipment by company and by plant.
- (b) Creation of plan for allocation of materials by company and by plant.

After 1940 matters relating to iron ore and ore for special steel were transferred to the control of the Non-Ferrous Metals Divisional Committee and the expansion plans area was enlarged to include Japan, Manchuria and China.

C. Non-Ferrous Metals Divisional Committee.

(1) Preparation of original draft relating to Mines and refining of non-ferrous metals (excepting light metals).

(2) Decision of General Affairs Divisional Committee

- (a) Creation of Plans for expansion of equipment by mine and by plant.
- (b) Creation of plans for allocation of materials by mine and by plant.

D. Revisions in Plan for Steel Production Expansion.

The gradually mounting economic pressure exercised by the United States and England on the occasion of the Japanese-German-Italian Tripartite Pact gave rise to the necessity of devising an immediate steel policy; the policy determined in the Konoye Cabinet of August, 1940, was hurriedly materialized in the Steel Division.

On this basis, the Board of Planning passed on the "Outline for the Establishment of a Japanese-Manchurian-Chinese Economy." Subsequently the direction the national economic policy was to take was clarified, and revisions of the steel production expansion plan were determined.

A summary of the most important of these revisions follows:

1. The immediate completion of all facilities which will make possible the complete elimination of dependence on foreign countries for scrap-iron.
2. The realization of the greatest possible increase in production by the complete utilization of existing equipment.

To expedite the former, pig-iron-steel "Eiszarbeit" equipment was readied in plants having blast furnaces, and for the latter, attention was devoted to increased production of raw coal for iron manufacture, provision of additional dressing and briquetting equipment, expansion and maintenance of transportation facilities, increased production of ores for special steels, etc.

E. From Economic Abrogation to Outbreak of Greater East Asia War.

In 1941 our troops occupied Southern French and Indo-China, following which the United States, England, France, the Netherlands, etc. broke off economic relations. The nation's economic circles sustained a profound shock as a result of this development.

As regards the establishment of an independent Steel industry with Japan, Manchuria and China as its axis, some progress was undeniably made in the direction of eliminating dependence on foreign scrap metal in the revised plan, but since an important portion of the iron ore was expected from Malay, which was still British territory, and the Philippines, the situation remained unresolved.

The effect of the severance of economic relations on the field of iron ore, therefore was immediate. In view of the fact that hitherto the South had been looked to for superior ores, especially those used in steel manufacture, almost entirely, urgent action was necessary. Hereupon, the Plan for Iron Self-Sufficiency of Japan, Manchuria and China was appended to the revised plan and maximum production was spurred. Before any of these measures could be put into operation, the Greater East Asia War broke out.

E. From the Outbreak of the Greater East Asia War to the Peace.

Report between the Board of Planning as a planning body and the Ministry of Commerce and Industry as an administrative body was somewhat less than satisfactory. It was inevitable that when the expansion plan got under way various obstacles should arise, but such evils, of such great concern to the authorities, such disunity in production administration could certainly not be tolerated in wartime, if in peacetime. The war began shortly, and the establishment of a Munitions Ministry was earnestly demanded on all sides.

In response to this, the government created the Emergency Production Increase Committee in the Cabinet in November 1942, and set up liaison councils in the various offices at the same time. Embarking upon an attempt to devise a control which would serve to unify the production administration machinery and proceeding on the other hand with various preparations for a basic reform in administrative machinery, the

Munitions Ministry was inaugurated in November of 1943, two years after the beginning of the war, as an aid to "the rapid augmentation of munitions production, and particularly the swift expansion of air power."

The revised steel production expansion plan described above can be said to have completed in general the design for self-sufficiency of the steel industry in Japan, Manchuria and China, but in actuality further effort was required, and a policy regarding materials for pig-iron manufacture in particular was still lacking.

The steel industry, which, because of the vast transportation requirements of the Army and Navy, might be called the "transport industry," was affected most greatly by the opening of the Greater East Asia War, with regard to steel production, in the huge orders for Army and Navy Shipping. At the start of the war shipping losses constituted only a slight drain on existing stocks of materials, less than was expected, but with the Guadalcanal operation in August, 1943, pressure began to mount. This tendency showed not the slightest signs of improvement and, as the end of the war drew nearer, grew more acute at a quickening tempo.

From the middle period of the war onwards air raids also menaced steel manufacturing plants, but their effect, compared with that of the reduction of transportation facilities, was relatively light.

The greatest factor in the Greater East Asia War causing fluctuation in steel production, therefore, was transportation, and particularly shipping. A concerted effort was made, accordingly, to devise various measures to safeguard production, more specifically to lighten the load of transportation and to bolster steel production. On this basis the first administrative inquiries were made in June, 1943, when, with a view to increasing self-sufficiency of materials, thorough investigations were conducted in the two NIPPON SEITETSU plants at KAMAISHI and WANISHI.

In April, 1944 an Emergency Steel Production Council was set up in the Munition's Ministry to advance steel production through for special shipping and general steel production measures. Despite their efforts, few results were forthcoming, and so the war finally ended.

II. The Army and Steel Policy.

A. Position of Army in General Economic Industrial Administration (including Steel Industry).

The country's national resources were extremely impoverished at the time of the world changes signalized by the Manchurian Incident, and constituted the weakest point of national defense. The Army's concern, therefore, was great. Suggestions were submitted from time to time for the strengthening and reform of the administrative machinery, with the object of strengthening and expanding national resources, and for the advancement of production policy.

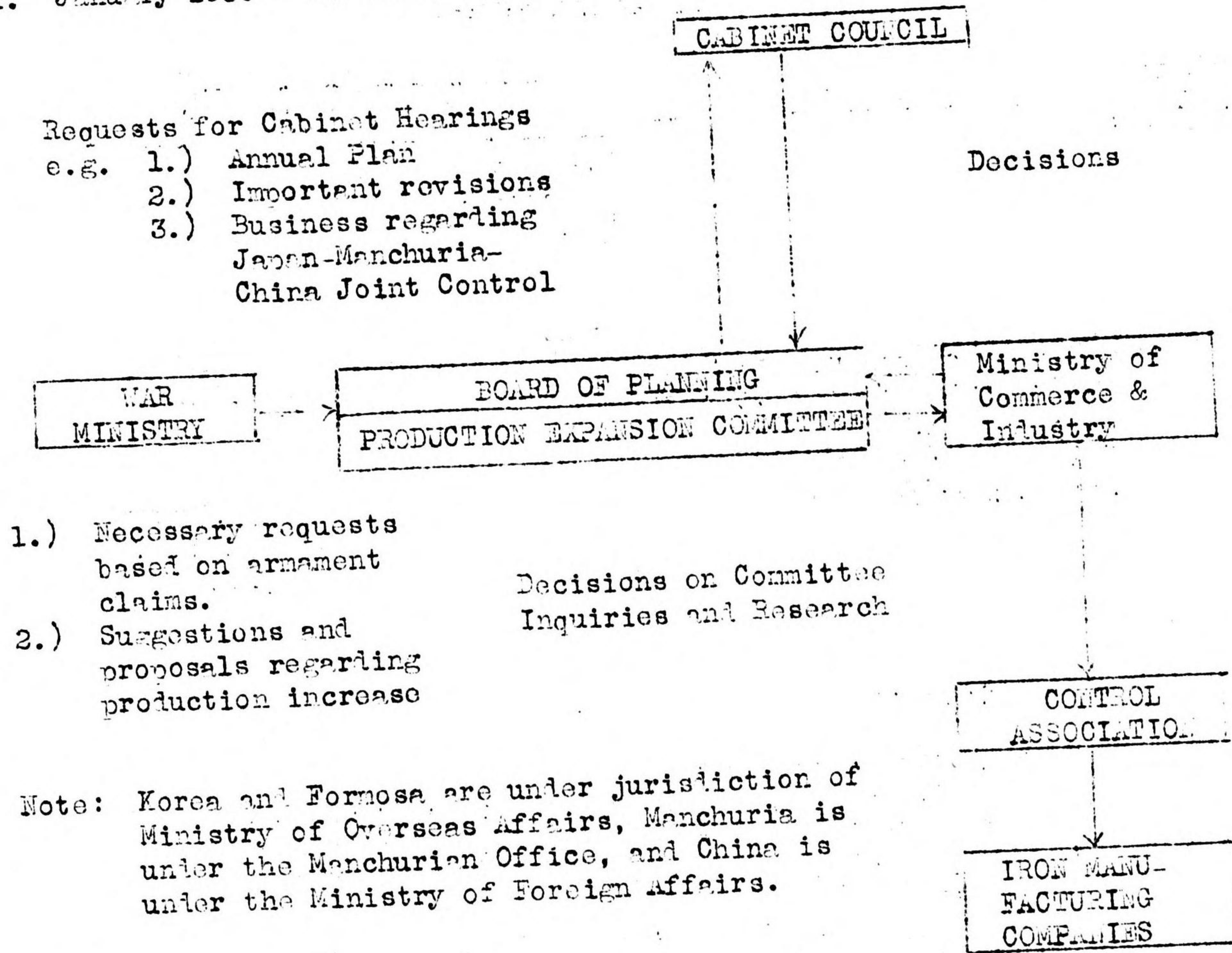
This was not a merely theoretical action to be directed against a specific potential enemy, however, but needless to say, from the standpoint of the Army, which bore the responsibility for National defense, was taken during an international crisis, simply with the object of ensuring and strengthening national defense. Production administration was extremely complex, however, and the complete readying of material power was dependent on the exertions of the production administration offices. The Army remained subsidiary to production administration.

Our military strength has always been subject to the inferiority of its raw materials and production facilities and the far-flung field of operations. Since the Army and the production administration offices sometimes differed as to what was essential, the Army often relied on force for the fulfillment of its demands. Nevertheless, the Army's indirect relation to the production administration was essentially unchanging, for its authority was dependent on the approval of the Ministers connected with industry and finance. Consequently, the actual

production administration, it must be said, remained in the grasp of the various offices concerned until the end.

The above relationships are illustrated below according to their changes with various periods.

1. January 1939 - November 1943.



- 1.) Necessary requests based on armament claims.
- 2.) Suggestions and proposals regarding production increase

Decisions on Committee Inquiries and Research

Note: Korea and Formosa are under jurisdiction of Ministry of Overseas Affairs, Manchuria is under the Manchurian Office, and China is under the Ministry of Foreign Affairs.

Remarks:

Summary of functions of various gov't offices concerned.
Board of Planning

- (1) Matters relating to basic national policy.
- (2) Summaries of Materials Mobilization Plan, Production Expansion Plan, Electric Power Mobilization Plan, Communications Mobilization Plan, Labor Mobilization Plan, Capital Plan, Scientific Mobilization Plan and bases for other national mobilization.
- (3) Matters relating to Japan-Manchuria-China Joint Control, etc. Matters relating to the Materials Mobilization Plan and the Production Expansion Plan which are the foundation of national resources first came under Part 2. Moreover, the Board of Planning, being merely a planning body, delegates administration to the Ministries.

Ministry of Commerce and Industry.

General Affairs Bureau

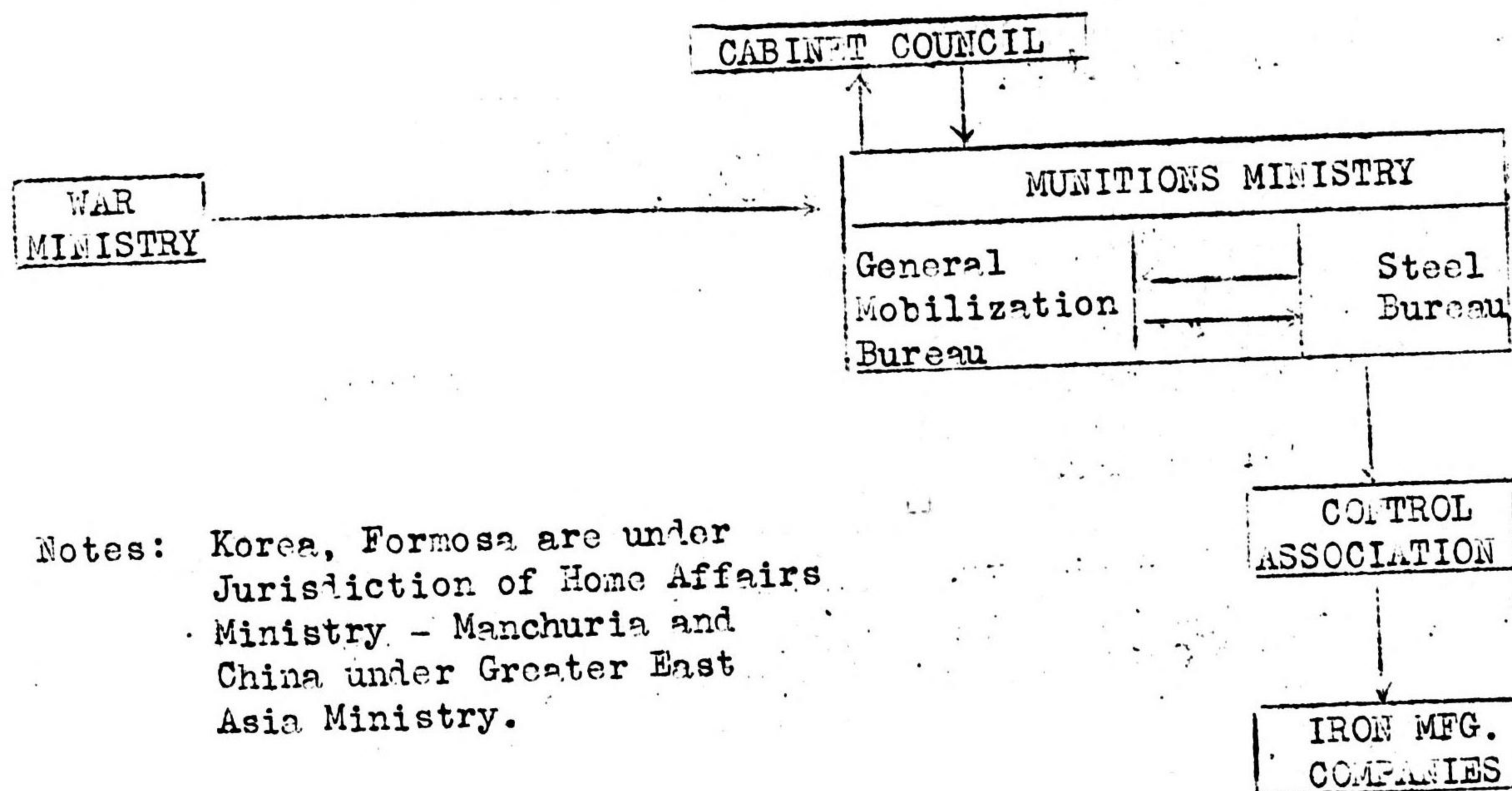
- (1) Coordinated regulation of commercial and industrial policies.
- (2) Joint business concerning establishment and enforcement of National Mobilization Plan.
- (3) Coordinated regulation of business relating to production economy of overseas territories, Manchuria, China, Etc.
- (4) Joint business concerning production expansion.
- (5) Miscellaneous.

Steel Bureau

Business relating to Iron Ore (regulation of demand and supply) and Steel (including Special Steels)

Mines Bureau
 General business relating to non-ferrous metals and Mines
 (including iron ore and ores for special steels)

2. November 1943 - April 1944.



Notes: Korea, Formosa are under Jurisdiction of Home Affairs Ministry - Manchuria and China under Greater East Asia Ministry.

Remarks:

Munitions Ministry.

General Mobilization Bureau

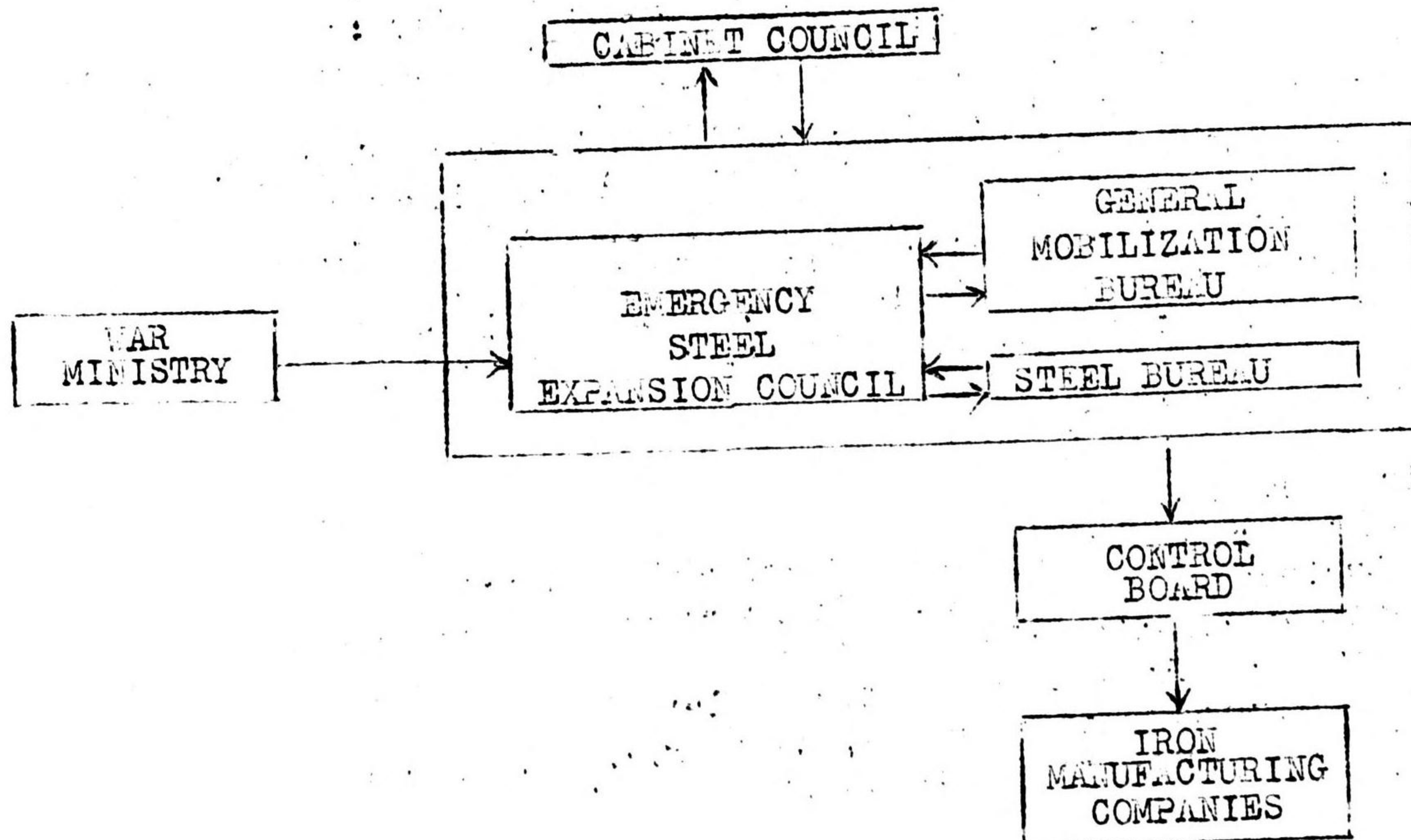
- (1) Matters relating to summaries of Materials Mobilization Plan, Production Expansion Plan, Electric Power Mobilization plan and other bases for national mobilization.
- (2) General matters relating to Mining industry.
- (3) Matters relating to labor management, wages, regulation of capital and economic control in industries concerned.
- (4) Miscellaneous.

Steel Bureau

Business relating to iron and steel

Non-Ferrous Metals Bureau

General business relating to non-ferrous metals and mines (including iron ore and ores for special steels).



Remarks:

Emergency Steel Expansion Council

This council was set up within the Munitions Ministry and was composed of bureau heads from the Munitions and connected Ministries, a committee of section heads, and a civilian economics expert acting as secretary. Its purpose was as follows:

- (1) Extra steel production for special shipping.
- (2) General advancement of steel policy.

"Special shipping" signified that a specified amount of shipping was first deducted from the general Materials Mobilization Transportation Plan and applied toward special steel manufacture for transportation; then the steel produced was further allocated for shipbuilding. It was thereby thought that both the amount of steel produced and the shipbuilding quota would be increased. This was called "special shipping" and its management was made the province of the steel division. Since pressure on surface transportation facilities later made it impossible, however, to institute such special measures with iron alone, procedure was modified so that such measures were taken only for shipping which had exceeded the planned shipbuilding quota.

B. View of Army Regarding Steel Policy and Chief Instances of Army Participation in Steel Production Increase Since 1935.

In view of the extreme importance of steel as the basis of national resources, the Army's basic unchanging idea with regard to steel policy was (1) to foster - the vigorous development of the industry and (2) thereby rapidly establish self-sufficiency.

A description of the part played by the Army since 1935 with regard to steel production increase policy follows:

1. Compulsory Ore Conservation Order to NIPPON SEITETSU K.K.

Since the weakest point in the nation's steel manufacturing industry was the raw materials situation, the War Ministry, the Navy Ministry and the Ministry of Commerce and Industry, with an eye to emergencies, issued in June, 1936, a joint order to the NIPPON SEITETSU K.K., based on Paragraph 9 of the NIPPON SEITETSU K.K. Law, which states: "The competent Ministers may, in the event of military expediency or for the public good, promulgate necessary orders regarding the affairs of the NIPPON SEITETSU K.K.," ordering compulsory conservation of ore. Amounts to be retained under this order were as follows:

Iron Ore (55% plus)	3,000,000 MT
Manganese Ore (30% plus)	115,000 MT

The amount of iron ore over and above that retained for regular use, the amount, that is, retained under order, was 2,650,000 MT, and the total of manganese ore met the quantity specified in the order. The use of this ore retained under order was subject to the authority of the Minister issuing the order. It was employed to allay the insufficient supply of ore from overseas which had existed since before the beginning of the Greater East Asia War, in the following manner:

Iron Ore (2nd Half 1940)	250,000 MT
(2nd Half 1941)	210,000 MT
(1st Half 1942)	600,000 MT
(2nd Half 1943)	400,000 MT
(1st Half 1944)	190,000 MT
Total	2,650,000 MT
Manganese Ore (2nd Half 1942)	78,000 MT
(1st Half 1943)	2,000 MT
(2nd Half 1943)	20,000 MT
(1st Half 1944)	15,000 MT
Total	115,000 MT

2. Plan for Expansion of Primary Production Capacity.
This item is omitted, having been discussed above.
3. Special Importation of Scrap-Iron from U.S. and Conservation of Nickel.

With the development of the China Incident the economic pressure exerted by the Powers steadily mounted. In the Spring of 1940 and ethical embargo was placed on nickel and oil refining technics.

In this connection:

a. Great uneasiness arose as to the future of the importation of American scrap-iron, which was the life blood of the Japanese steel-manufacturing industry. As an emergency measure, necessary revisions were made in the annual materials mobilization plan by a joint decision of the Board of Planning, the War and Navy Ministries and the Ministry of Commerce and Industry, to arrange for the special importation of scrap-iron. This policy progressed with a fair degree of smoothness, and Japan was able to obtain the necessary amount of scrap-iron until the anti-Japanese Scrap-iron Embargo in October of the same year.

Since the basic policy was discussed in "Revisions to the Steel Production Expansion Plan," it is omitted here.

b. Difficulties gradually appeared, owing to the reduced stocks of nickel and other metals of the special steel group, and to meet them the Board of Planning, the War and Navy Ministries and the Ministry of Commerce and Industry devised the following measures:

- (1) Enlargement of domestic refining equipment and conservation of necessary imported ores.
- (2) Establishment of low-content ore treating technics and expansion of facilities.

The Army gave direct instructions to the following firms, with the consent of the Ministries concerned, on the basis of these policies.

(OEYAMA Nickel Industries, Ltd.) Cobalt
(OEYAMA NIKKERU KOGYO, K.K.	(KOREA, near TAIKYU)) Policy

4. Question of Merging Steel Manufacturing Industries.

October - December 1940

The Anti-Japanese Scrap-Iron Embargo was a severe blow to the Japanese steel industry. The subsequent decrease in the steel supply exercised a great effect on the production plans which followed. Since it was impossible to triumph over circumstances with the steel industry in its existing state, the idea was born in the Ministry of Commerce and Industry, the Navy and the NIPPON SEITETSU K.K., to form a new NIPPON SEITETSU K.K. by merging all the steel industries in Japan, with NIPPON SEITETSU K.K. as a nucleus, on the grounds that a new scheme of some kind was necessary. The Army, seeking to avoid the evils of monopoly and to promote the healthy development of the industry, opposed the proposal but was eager for the reform and strengthening of the steel industry's administrative machinery.

The question was finally settled according to the Army's wishes.

5. Economic Isolation Counter-measures.

In June, 1941, with the existence of Japanese troops into French Indo-China, Japan was completely isolated economically. Effects on steel were as follows:

Iron Ore	British-held Malaya
	Philippine Islands

Nickel Ore New Caledonia
 Celebes

Chromium Ore)
Manganese) Philippine Islands

Scrap-iron, pig-iron India

As described above, necessary revisions were made in the production expansion plan and its execution was expected, with the close cooperation of the Ministries concerned. The Army granted the necessary assistance for increased production of iron ore in China.

6. Shipment of Iron Ore from the South.

As operations in the South progressed, beginning in April of 1942, a portion of the iron ore from Malaya and the Philippines began to be shipped back, but the Army endeavored to check it because of the transportation of other essential materials. It is suggested that reference be made to the reports on shipments of goods back to Japan for the quantity of iron ore received from the South from April 1942 to the end of the war.

7. Emergency Ore Production Policy for execution of Guadalcanal Relief Operation.

Because of the serious aggravation of the military situation in the Southeast Pacific Area in the middle of November, 1942, it became necessary for the Army and Navy to have a great deal more shipping allocated to them for a relief operation. The prosecution of this operation had already become very much endangered as regards transportation facilities, however, and materials mobilization was dealt a mortal blow. The minimum quantity of steel demanded for retention was a 3,600,000 MT nucleus of ordinary steel annually.

The Army, accordingly, submitted to the Board of Planning its views on ensuring steel production. The Board of Planning conducted a study of the situation from the end of November, 1942, until the early part of January, 1943, and soon reached a concrete plan which was immediately put into action.

The following important points were dealt with therein.

a. The Immediate Installation of small blast furnaces in areas where raw materials are found.

It was thought that under this plan as great a number of small blast furnaces as the raw materials situation would permit could be installed in China, Korea and other areas possessing raw materials and thus instead of raw materials, manufactured products could be transported, thereby economizing on shipping loads. The danger of installations being hit by air raids would also be lessened through dispersal. Details will be given later.

b. Rapid Increase of iron ore production in Japan and Korea.

Greatly increased production of iron ore near at hand, which should not require surface transportation, or should economize it, was planned. Efforts were also made in Japan to increase the use of iron-sand.

c. Thorough curtailment of raw coal for iron manufacture in North China and utmost conversion to Mishan (Manchuria) Coal.

The allotment of North China coking coal was cut radically and conversion to Mishan coal was urged, in consideration of the properties of the coal, shorter shipping distance, etc.

d. HOKKAIDO was to be made self-sufficient in iron ore and coal.

e. Land transportation insofar as possible for raw materials and manufactured products. Enlargement of freight receiving facilities and transportation facilities in factories for the above.

f. Scrap-iron.

Strengthening of general collection methods.
Institution of special collections.
Construction of scrap-iron stocks.

As regards the results of the above measures, "a." is discussed later. As for the others, they in general achieved the desired results, under the intent guidance of the various government offices concerned. The establishment of self-sufficiency in HOKKAIDO mentioned in the plan was finally acted upon as a result of the 1943 Steel Investigation.

8. Steel Administration Investigation (June 1943)

The first administrative investigation was conducted in the NIPPON SEITETSU K.K. plants at KAMAISHI and WANISHI, with the object of increasing self-sufficiency. The Maintenance Bureau Head, from the Army, accompanied the party, and a number of the War Plans Section participated as an adviser.

9. Research on Steel Production Increase Policy to meet new Armament Plans.

The Army and Navy, with the cooperation of the Board of Planning and Ministries concerned, made a study of this problem, beginning at the end of August 1943, establishing the following total domestic steel requirements for the execution of the new Armament Plans:

Ordinary Construction al Steel	5,100,000 MT
Special Steel	1,000,000 MT
Forged and cast steel	550,000 MT
Pig-iron for castings	1,300,000 MT

As a result of a searching examination, the conclusion was reached that it was possible to take immediate action on the following points.

- a. Setting up of stronger steel administrative leadership machinery.
Setting up of a consistent ore-to-steel organization comprising officials and civilians alike.
cf. Summary of function of Ministry of Commerce and Industry and Munitions Ministry given previously.

- b. Large-scale expansion of domestic iron-ore resources.

Fiscal years)	Japan 4,500,000)	anticipated (including stocks at mines)
of 1944)	Korea 5,000,000)	

- c. Rational regulation of distribution of raw materials in order to reduce transportation load.

All previous capital connections between mines and manufactories were to be liquidated, and raw materials distribution was to be regulated so as to lighten the transportation load.

- d. Curtailment of North China coking coal and conversion as far as possible to Mishan coal.
Fixing of coking coal allotment at approximately 10%.
- e. Land transportation insofar as possible for raw materials and manufactured products.

Continental iron manufacture raw materials (coal, iron ore) and manufactured products were to be transported, as far as land transport facilities permitted, to those ports in Korea from which convenient shipment could be made to Japan, economizing and safeguarding surface transportation.

- f. Increased installation of small blast furnaces in all parts of the continent.
- g. Improvement of efficiency of small blast furnaces in all parts of the continent.
- h. Strengthening of scrap-iron policy.
Strengthening of control of special steel scrap, in addition to "f." of "7," supra.
- i. Improvement of repair facilities.
- j. Inventory of steel stocks, insofar as tolerance permits.
- k. Raising of percentage of manufactured products.
- l. Efficient utilization of potential steel manufactured products.

The results of this study were turned over to the Ministry of Commerce and Industry and other related offices, which immediately went to work to put them into effect.

10. Formulation of Operation Plans by Ministry of Commerce and Industry.

On the basis of the results of the above study, a Control Board was added to the Ministry of Commerce and Industry at the end of September which commenced an investigation to formulate operation plans. The details of this study were in general the same as those given above and their individual investigation required about one month. The plan began to go into effect about November.

The Plan did not achieve the results hoped for at the time of planning, because the situation changed radically for the worse subsequently, administrative authorities were important and there was no effective leadership. It was indeed deplorable that circumstances were so little altered.

11. Policy with regard to Loss of Marshalls and Gilberts (February 1944)

Operational demands to meet the ever graver situation in the Eastern Pacific Area called for further allocation of shipping. The Army desired, therefore, from the Munitions Ministry the following points.

- a. The still further intensification of the aforementioned policies to conserve cargo space.
- b. Banking of blast and coke furnaces where necessary to conserve efficiency.
- c. Elimination of passenger exresses from essential main lines and establishment of a period of freight transport reinforcement as matters of Stringent Army policy.
- d. Establishment of closer relations in Army-Navy Liaison Dept.
- e. Improvement of efficiency of blast furnaces on the continent.

The Munitions Ministry, cognizant of the gravity of the situation, was deep in a study of these measures, but attention was given the Army's proposals and measures were devised to carry out the above.

12. Emergency Steel Production Council.

This council was set up within the Munitions Ministry in April of 1944, to attack the problem of increased steel production. The council's objectives were as follows:

- a. Increased steel production by means of special shipping.
- b. Promotion of other general steel policies.

The Army was represented in the Council and gave its whole-hearted cooperation. It submitted suggestions occasionally and requested their execution. Among them were the following:

- a. June or thereabouts.

In addition to desiring the promotion of the aforementioned policies, the Army desires all coke furnaces to be made completely operational, with emphasis on ammunition and liquid fuels. Because of difficulties in obtaining raw materials, the latter desire was not realized.

- b. Period from September to November.

As a result of four detailed examinations, conducted as "Studies of the Present National Pig-Iron Production Situation," disclosing many defects in pig-iron production leadership, it was desired that measures be taken to correct them.

B. Studies by National Resources Council.

The increasing gravity of the situation necessitated still further investigation of national resources. The War, Navy and Munitions Ministries, therefore, as part of the business of the National Resources Council conducted a study from December 1944 to the early part of January, 1945, of measures to strengthen pig iron production, based on an evaluation of the situation to follow.

Before the results of this study could be acted upon, the Philippines Operation had begun and preparations were being made for the final defense of the homeland. At this juncture a positive increased steel production program could not be abandoned.

From March of this year on, land and surface transportation power fell off rapidly, because of the redeployment of troops from the continent and because of the effect of intensified air raid damage to communication lines. Nothing could be done from the point of view of steel, and so the war finally ended.

C. Plan for Steel Production Expansion in Direct Charge of Army.

1. Iron Manufacturing Industry in the South.

Since June of 1942 there had been a proposal to conduct charcoal iron manufacture in the area under the military administration of the Southern Army. This suggestion was allowed to lay until the beginning of 1943 when it was requested that scrap iron in the area and charcoal pig-iron expected to be produced shortly be used, and that steel manufacturing pressing and rolling facilities be moved to make self-support possible. Since both questions concerned the South, they were submitted to and passed by Committee No. 6 in the Board of Planning, and their execution was made the responsibility of the Army, as the area was under military administration.

a. Small charcoal blast furnaces.

AREA	COMPANY	PLANT	BLAST FURNACE CAP X NO OF FURNACES (IN MT PER DAY)	NOMINAL CAPA- CITY	DATE OF COMPLE- TION
Malaya	Nippon Seitetsu K. K.	Ipoh	25 X 3	15,000	1-8-44 2-12
Malaya	Nichinan Seitetsu K. K.	Taiping	20 X 2	10,000	1-8-44 1-10
Malaya	Nippon Kokan K. K.	Tamangang	15 X 3	13,500	Inter- rupted
Malaya	Nippon Kosyo K. K.	Djoengoeng	30 X 2	18,000	1-7-44 1-9
Total				66,500	

b. Steel Manufacturing and Rolling Installations.

AREA	COMPANY	PLANT	INSTALLATION	REMARKS
MALAYA	Nippon Sei- tetsu K. K.	Port Swettenham	Open Hearth Furnace 25 X 2 Medium and Small Model Thick and Medium Sheet Rollers	1 Furnace Completed Machinery has been carried in. 2/3 completed.
SUMATRA	Nippon Kokan K. K.	Telok Niboeng	Open Hearth Furnace 15 X 1 Medium and Small Model Thin Sheet Rollers	Plans changed to move installations to Java - Equip- ment awaiting removal
JAVA	Asano Jukoogyo K. K.	Semarang	Open Hearth Furnace 25 X 2 Medium and Small Model Thin Sheet Rollers	15 X 1 Open Hearth furnace moved from Sumatra - accessories belonging to furnace almost complete, others untouched.

2. Special Army Iron Manufacture.

A summary follows of the iron manufacturing plan formulated by the Army with the consent of the government offices concerned as a part of the emergency policy for the insurance of steel production for the Guadalcanal Operation.

a. Aim.

The Army was to carry on the independent iron manufacture, with consent of the government offices concerned, with the object of augmenting materials mobilization contributions and the supply obtained by the Army. Administration was civilian, and the initiative and responsibility of the industrialists were respected.

b. Outline.

(1) The conduct of business in Japan and Korea was under Ordnance Administration Headquarters, in China and Manchuria under respective local armies, and the whole was under the general control of the War Ministry.

(2) The procurement of materials, the ordering of tools, the raising of funds, the securing of sites, etc. were handled through the Army.

(3) The procurement of raw materials for iron manufacture was handled through the Army.

(4) Manufactured products were largely incorporated into the Army Mobilization framework, and were used to satisfy Army demands and, partly, for the producers' own use.

(5) The purchase price of manufactured products was regulated according to the principle of cost price.

(6) Ordnance Manufacturing Industry Special Subsidiary Laws, etc., were applied, when, necessary for the execution of this plan.

c. Content and results of plan. Given in separate chart.

III. OTHER QUESTIONS.

A. Small Blast Furnaces.

1. Aim.

a. To quickly establish rapid and simple iron manufacturing installations where raw materials were to be found, to promote the conservation of transportation by transporting manufactured products instead of raw materials, and to reduce the danger of air raids through dispersal.

b. The selection of prominent homeland iron manufacturing companies was encouraged, and construction materials and necessary machinery were to be obtained, where possible, by transfer. Extra-speedy construction was planned, with the concerted assistance of the Control Board.

B. Outline of Plan.

Small Blast Furnace Plans

AREA	COMPANY	PLANT	BLAST FURNACES	NOMINAL CAPACITY MT/yr.
Korea	Nippon Seitetsu K. K.	Kenniho	20 x 10	50,000
"	" " "	Seishin	20 x 10	50,000
"	Chosen Seitetsu K. K.	Heinan	20 x 10	50,000
"	Korekawa Seitetsu K. K.	Hokuhei	20 x 5	25,000
"	Toshinaga " "	Shako	20 x 5	25,000
"	Nippon Kokan K. K.	Genzan	20 x 10	50,000
"	Kanagabuchi Kogyo K. K.	Heijo	20 x 10	50,000
"	Nippon Muentanko K. K.	Kaishu Chinnampo	20 x 10	50,000
	TOTAL		20 x 70	350,000
Formosa	Takao Seitetsu K. K.	Takao	20 x 5	25,000
"	Taiwan Jukogyo K. K.	Taihoku	35 x 1	8,750
	TOTAL		20 x 5 35 x 1	33,750
Mongolia	Ryuen Tekko K. K.	I-hua	20 x 20	100,000
"	Gokyo Kogyo K. K.	I-hua	20 x 5	25,000
	TOTAL		20 x 25	125,000
China	Hokushi Seitetsu K. K.	Shih-Ching- Shan	20 x 10	50,000
"	Kairaku Tanko K. K.	Tang-Shan	20 x 20	100,000
"	Sansei Sanryo K. K.	Ta-yuan	40 x 2	20,000
"	" " "	Yang-Chuan	20 x 1	5,000
"	Chusan Seitetsu K. K.	Tien-Chin	20 x 5	25,000
"	Nippon Kokan K. K.	Ching Tao	250 x 3	225,000
"	Nippon Seitetsu K. K.	Man-An-Shan	20 x 20	100,000
	TOTAL		20 x 50 40 x 2 250 x 3	525,000
GRAND TOTAL			20 x 156 35 x 1 40 x 2 250 x 3	1,033,750

Notes: Computation of Nominal Capacity.

1. Over 250 MT Capacity X 250 (Days operative in year)
2. 250 MT Capacity X 300 (Days operative in year)

C. Reasons for Adoption of Small Blast Furnace Method Policy.

The advantages and disadvantages expected from the small blast furnaces were as follows:

Advantages:

1. Simpler and quicker manufacture of machinery than for large blast furnaces.
2. Since there are no special heavy materials used at the site of installation, they would be simpler than the larger furnaces, basic construction work would also be simpler because construction materials are much lighter. Therefore, installation would be easier and quicker than for large furnaces.
3. They are simpler to operate. The fire-zone and down-blast are simpler, and since the equipment is very elementary, much of the work could be done by hand.

Disadvantages:

1. They are very sensitive to weather and raw materials.
2. The volume of materials necessary per metric ton of manufactured products, with complete equipment is not nearly so economical as with the large furnaces.
3. Production cost is much higher.
4. The coke ratio is much greater.
5. More labor is required.
6. The life of the equipment is short.
7. The manufactured product is very poor in quality.
8. The technics of operation are a problem.

As is clearly shown above, this method is not the backbone of iron-manufacture. Its adoption was a stratagem demanded by the need to economize transportation. Consequently, although its future was uncertain, there was no alternative measure under the circumstances, and it was thought that the solution of difficulties through continued work and study was not necessarily beyond hope.

AREA	COMPANY	PLANT	CAPACITY AT END OF 1944
KOREA	NIPPON SEITETSU K.K.	KEMMIHO	20 X 10
	" " "	SEISHIN	20 X 10
	CHOSEN SEITETSU K.K.	HEIMAN	20 X 7
	KOREKAWA SEITETSU K.K.	HOKUEI	20 X 5
	TOSHINAGA SEITETSU K.K.	SHAKO	20 X 3
	NIPPON KOKAN	GENZAN	20 X 3
	KANEGABUCHI KOGYO K.K.	HEIJO	20 X 3
	NIPPON MUEN TANKO K.K.	KAISHU	20 X 2
" " " "	CHINNAMPO	20 X 4	
FORMOSA	TAIKAO SEITETSU K.K.	TAKAO	20 X 3
	TAIWAN JUKOGYO K.K.	TAIHOKU	35 X 1
MONGOLIA	RYUEN TEIKO K.K.	I-HUA	20 X 10
	GOKYO KOGYO K.K.	I-HUA	20 X 4
CHINA	HOKUSHI SEITETSU K.K.	SHIH CHING-SHAN	20 X 11
	KAIRAKU TANKO K.K.	T'ANG-SHAN	20 X 20
	SANSEI SANGYO K.K.	TA-YUAN	40 X 2
	" " "	YANG-CH'UAN	20 X 1
	CHUSAN SEITETSU K.K.	T' IEN-CHIN	20 X 5
	NIPPON KOKAN K.K.	CHING-TAO	250 X 3
	NIPPON SEITETSU K.K.	MA-AN-SHAN	20 X 10

FISCAL YEAR of 1943	FISCAL YEAR OF 1944				TOTAL
	I	II	III	IV	
20,128	15,828	12,616	8,711		
8,164	6,530	11,076	7,861		
1,234	2,530	933	858		
686	1,104	382	1,062		
19	821	829	1,214		
0	1,509	1,323	1,440		
0	1,572	1,164	874		
1,033	952	961	1,008		
207	338	548	1,071		
TOTAL	31,471	29,832	24,009		
3,561	3,007	3,635	1,800		
683	1,749	1,353	355		
TOTAL	4,244	4,988	2,164		
4,438	2,293	1,171	3,728		
2,969	1,786	1,565	2,096		
TOTAL	7,407	2,736	5,824		
12,760	3,266	3,785	5,926		
9,725	10,032	12,819	15,908		
2,790	1,090	216	1,246		
1,819	839	1,230	1,627		
4,857	4,278	3,668	11,309		
1,317	5,798	8,670	15,098		
3,763	3,142	1,178	3,270		
TOTAL	37,031	31,566	54,384		
80,153	68,219	69,122	86,471		

E. Reasons for Failure of Small Blast Furnace Policy.

This policy, founded on the above prospect, achieved no measure of success and was in general a failure. The reasons for this failure were as follows:

1. Miscalculations in both the quantity and quality of raw materials to be had.

As regards the reduction of shipping of iron manufacturing materials on the continent to Japan because of decreased surface transportation, the retention of raw materials on the premise that they would be used locally was generally uncertain, and although raw materials plans were made, the true state of cargo space did not grow as bad as was expected. Then, too, the recognition of the situation by iron manufacturers in Japan did not necessarily coincide with that of the Army authorities. There was also a lack of fervor in action taken concerning the low allotment of raw coal from North China, acknowledge in the plans at the time. In addition, the coal supply was considerably affected by the fairly severe blow dealt by the unexpected intensification of strafing attacks by the American air force on trains in China. The greatest miscalculation, however, was in the future of the coal supply, resulting from giving the supply of North China coal to Japan lowest priority with the turn to small blast furnaces, whereas formerly, being used continually in large blast furnaces and in railroads on the continent, it had had top priority.

2. The neglect of coke furnaces for small blast furnaces. Coke furnaces, which should have had priority, were made subordinate to the hurried construction of blast furnaces.

3. Miscalculations regarding the technical future of small blast furnaces.

These furnaces proved more sensitive than was expected to materials and weather: therefore

- a. Considerable restrictions were imposed on raw materials used, and more labor than expected was required to circumvent these difficulties.

- b. Changes in the design of wind heaters, etc. was unavoidable.

4. Fulfillment of labor requirements was difficult.

5. Disturbances of public peace had considerable effect.

F. Relations of Army and Steel Control Association.

The Steel Control Association was under the supervision of the Munitions Ministry and had no direct jurisdictional relations with the Army. For this reason, all formal inquiry, liaison, etc. originating with the Army was carried on via the Munitions Ministry (prior to whose establishment, with the Ministry of Commerce and Industry). Business liaison between individuals, exchange of opinions, requests for materials adjustment, necessary investigations, etc., however, were all carried on when necessary.

The Control Association was a body, in short, established under an Essential Industries Group Order (whose parent law was the Total Mobilization Law), whose object was the perfection of wartime controls, with the close cooperation of government and civil officials, under leaders who were industrial experts and who respected originality and responsibility. The actual composition of this Control Association chiefly as regards personnel (nearly all the officials and most of the office staff being from NIPPON SEITETSU K.K.), suggests that its chief concern was the perpetuation of NIPPON SEITETSU K.K. All policies formulated by it bore on NIPPON SEITETSU alone, and all manner of evils arose.

The Army was constantly concerned over the direction taken by the Control Association, by the same token that it opposed the great merger of iron manufacturers. In response to the Association's injustice and irrationality, the Army always demanded reconsideration and was persevering in its determination to have justice and soundness.

G. Adjustment of Steel Industry with other Industries.

The steel industry is the basis of all industry, and it is no exaggeration to say that a country's steel production determines the scale of national production. Therefore, in carrying out production plans, needless to say, the steel industry must first be firmly established. At the time the production expansion plan was being put under way, unfortunately the nation's steel industry had not yet reached the level hoped for, and so the main body of attention naturally had first to be directed to the expansion of steel production.

Until the outbreak of the Greater East Asia War, planned production was not of such great importance. Pressure from other industries made it generally possible to execute plans, but since the outbreak of the war, wartime inevitable increases in military supplies, allocation of shipping for operational purposes, the reduction of transportation facilities because of increased shipping losses, scarcity of labor, damage to factories, etc., all formed enormous bottlenecks. Production was gradually lowered, growing very much worse in the fiscal year of 1943 and after. So that industries with production expansion plans were acutely constrained. In time, the necessary adjustments were made between these industries.

The basic principle of adjustment is to find a common point between the steel industry and other industries in reference to the distribution of materials, so that the supply and consumption of steel agree most efficiently. That is to say, in production expansion planning, the reduction of steel supply has its cause in the difficulty of obtaining raw materials occasioned by the reduction of shipping. A surplus of equipment is created, on the other hand, and although the usual emphasis was placed on the expansion and increased production of raw materials, to speed up self-sufficiency of iron manufacturing materials, the pressure on allotments of materials, etc. to the steel and other industries increased. The degree of pressure was much stronger than against other planned industries. This adjustment was under the supervision of the Division 2 of the Board of Planning until the establishment of the Munitions Ministry in November of 1943, when it was put under Section 2, Mobilization Division, Total Mobilization Bureau, Munitions Ministry.