STRATEGIC MATERIALS

CHROME ORE

Additional tonnage of chrome ore for stock pile obtained this week.

MANGANESE

Large additional tonnage obtained this week. Lack of bottoms and high ocean freight rates restraining movement to this country. A contract for the purchase of domestic manganese ores was recommended to the Reconstruction Finance Corporation. Arrangement will necessitate building a new plant on the Cuyuna Range in Minnesota for treatment of manganiferous iron ores. Negotiations are continuing regarding development of off-grade manganese ores in Nevada.

QUARTZ CRYSTALS

Committee set up to assist in procurement standards has recommended specifications, sizes, inspection, and purchase procedure. This material is being incorporated into a recommended procurement plan.

On the cotton barter agreement 41,731 tons of the 86,000 in the arrangement have arrived in this country. Afloat is an additional 16,578 tons. The Rubber Reserve Company has purchased 23,351 tons, 6,571 tons of which are afloat.

Additional tonnage purchased for the stock pile this week. Conferences held with container users, can makers, and Government divisions regarding substitutes for tin cans. Research laboratories working on some of the ideas brought out. At present no need for actual substitution, but carefully laid out plans essential.

Plan for construction of U. S. plant to clean off-grade ores approved by Army and Navy Munitions Board, Procurement Division of Treasury, Bureau of Mines, State Department, and is awaiting final clearance by the Coordinator of Purchases.

CRITICAL MATERIALS

Storage: Very constructive meetings were held between a group of engineers representing the industry and representatives of the Army and Navy on the question of the best location of storage facilities for the Army and Navy stocks of 100 octane gasoline. Various problems of design connected with these storage facilities were also discussed.
Buying Committee: The first meeting of the Aviation Gasoline Buying Committee of the Defense Supply Corporation is being held this week to discuss the various problems involved in securing bids.

Gasoline Pipe Lines: Consideration is being given to the desirability of urging the industry to construct certain gasoline pipe lines to fit in with the general defense program.

Chemicals

Cotton Linters: Meeting held with representatives of cotton linters industry this week. Meeting arranged by the National Cottonseed Products Association. Assurance given that considerable quantities of surplus linters available which can be acquired without disturbing normal price structure. Government owns 8,000,000 bales of cotton, possible to use in place of linters in the event of emergency.

Alpha cellulose from wood pulp has also been approved for manufacture of smokeless powder, but due to minor disadvantages, research has been inaugurated to try to overcome these deficiencies, but in real emergency we are assured even this material could be used.

Graphite

Stocks on hand in U.S. very low. Supplies urgently needed. Steamers scheduled to pick up sizable shipment at Madagascar canceled. State Department investigating this cancellation. If future calls by Dutch steamer prohibited will try to have Maritime Commission have U.S. boats call to secure supplies of this critical material.

Essential Materials

Industrial Diamonds

Negotiations still under way with Diamond Syndicate for purchase of needed supply. Recommendations made for personnel to assist Procurement Division in inspection and purchasing of stockpile.

Power

Advice from twelve airplane manufacturing plants as to power requirements indicates no present difficulty in securing adequate supply. Total requirements over and above present demands are for 42,190 kw by 1941, 47,550 by June, 1941, and 48,600 by September, 1941. Requirements are widely distributed about the country. Neoprene process of making synthetic rubber requires large supply of calcium carbide; power requirements 50,000 kw. The source of this will be determined as soon as exact location has been indicated.

Pulp and Paper

Results of survey announced. This shows 1941 supply of pulp will be sufficient. The increased production of pulp by domestic industry and expansion in imports from Canada will more than offset decline in shipments from Sweden, Finland, and Norway. Principal problems are special grades of unbleached sulphite and sulphate. Rapid increase in use of waste paper, particularly for shipping containers, has helped maintain supply.
STEEL

Armor Plate:

A. Heavy Forged: Expansion program at Charlestown, West Virginia, Navy owned plant operated by Carnegie-Illinois, is progressing. All facilities at this plant 100% owned by the Government. Facilities needed for expansion at Midvale plant ordered and committed for by the Navy Department. Title to be assumed later by Midvale.

B. Light Rolled: Report being prepared on entire requirements and capacities for this material.

Stress Relieved Steel for Aircraft Projectiles: Specifications being lowered to enable more general participation by steel companies. Survey of industry being made in accordance with new specifications.

Heavy Forgings: Negotiating for additional forging capacity in various steel plants.

Survey of Machine Steel Casting Capacity: Cast steel armor is now being proposed for use in tank manufacture. British and U. S. requirements indicate possible shortage in steel foundry machined casting capacity. A meeting has been called of representatives of the industry to determine available capacity and to advise as to requirements.

E. R. Stettinius, Jr.
To: Mr. Sidney Hillman  
From: C.R. Dooley  
Subject: Progress Report - Week Ending September 7, 1940

Date: September 10, 1940

1. I am constantly conferring with Government agencies concerned with national defense.

2. Correspondence with industrial relations men of some twenty corporations resulted in 115 names being suggested of experienced personnel and training men competent to help in the field administration of our work. These letters also indicated a great personal interest and enthusiasm.

3. After reviewing the regional organizations of several Government departments, which range from 5 to 13, we are agreed on 12 which coincide with the Federal Employment Service.

4. The Federal Committee on Apprenticeship has agreed upon our request to have their field men assist industry with short-term specialized training and upgrading, along with their regular work of apprenticeship. I attended hearings before the Budget Committee and the Congressional Appropriations Committee in connection with the budget of the Federal Apprenticeship Committee.

5. As a result of a conference with lens grinders and instrument makers held in Washington on August 28th, a plan of training special operators through upgrading was agreed upon. This conference was attended by representatives from Bausch and Lomb, Eastman Kodak, Sperry Gyroscope, American Telephone and Telegraph, General Electric, Leeds and Northrop, Frankford Arsenal and the Navy Ordnance Department. Mr. M. J. Kane of AT&T was secured to follow up the results of this discussion and to write the material in training manual form. He is now visiting the Rochester companies above-named and will have his report ready within two weeks. Mr. Fricke, Foreman of the Instrument Department of the Frankford Arsenal, is with him.

6. On September 4th a meeting was held with industrial relations men from Baltimore representing the Glenn Martin Company, Rustless Steel, Bartlett-Heywaid, Westinghouse Radio Division, and Western Electric Company. A number of Staff people and Department representatives also attended this conference. The industrial relations men were unanimous in stating their inability to report labor needs on the basis of Government contracts, but said they could report them on the basis of their respective plants. They said a shortage of labor would show up statistically but actually the supply will be obtained through vocational school training and upgrading on the job. Vocational schools have served them well but more such facilities are needed. They stated their willingness to fill out the questionnaire of the Labor Department but felt that it would be of little value. Approving the principle of the worksheet, they thought the method of gathering data through trained interviewers, as practiced by the Employment offices, was preferable. The importance of personal
contact was greatly emphasized.

7. Law students in New York City are taking Civil Service examinations and obtaining positions as apprentices in the Brooklyn Navy Yard, using this as a meal ticket, and thus keeping bonafide apprentice material out. At a luncheon with Mr. Flemming, he described how this matter would be taken care of by making it possible for the selections to be made further down the list from among those who had had vocational training and intended to follow skilled trade work permanently.

8. At a meeting held in Detroit on September 7th and attended by a small group of manufacturing executives and a small group of labor leaders, the question of upgrading in the tool and die industry was thoroughly discussed and agreed to by all parties, with the definite understanding that both the executives and the labor men will have a difficult job selling the idea to others. Interest in the defense program was 100% enthusiastic on the part of all present.

9. We have borrowed Mr. William Conover from the United States Steel Corporation and Mr. J. P. Mitchell from the Western Electric Company. These two men, together with Mr. Frank Cushman, Consultant for the Office of Education, are beginning a discussion this morning of the whole problem of training for supervision. Various members of the Staff will sit in and plans for promoting educational work in the field of supervision will be developed.

10. A meeting is being called for Friday of this week in Washington, to be attended by representatives from a number of tool and die manufacturers for the purpose of laying the groundwork for developing an upgrading training program in a manner similar to that now being carried on in the field of instrument makers and lens grinders. Some of the firms represented at this meeting will be Pratt and Whitney, Brown and Sharpe, Warner and Swazey Company, Westinghouse, Remington Arms, and several others.

11. A general summary of the reactions obtained from all industrial contacts so far indicate: (a) That there is no serious concern over shortage of labor; (b) That training through upgrading, plus the regular apprenticeship training for certain carefully picked young employees, will meet the needs; (c) That the need for managers and supervisors is urgent; (d) That actual orders are not yet forthcoming and the companies do not know just how they stand with regard to labor needs, but they are making plans and setting up relationships with schools and establishing their own training programs in anticipation of what is to come; (e) That the vocational schools are doing a good job for industry.
STRATEGIC MATERIALS

CHROME ORE  Negotiations continuing for the development of certain domestic deposits.

MANGANESE  Additional tonnage obtained this week. Negotiations regarding the development of off-grade manganese ores in Nevada are continuing. Recommendations of Technologic Committee on Manganese for investigation of beneficiation processes have been endorsed by the Defense Commission.

TIN  Additional tonnage purchased for stock pile this week. Rate of purchasing is increasing. Interested and competent groups are being requested to present definite plans for the erection of a tin smelter. Special committee of the National Academy of Sciences has started hearings on various deinterest processes. Many suggestions are being received by the different sections of the Defense Commission concerning substitutes for tin. The Tin Section of this division invites all those having such ideas to submit them for clearance by this section.

CRITICAL MATERIALS

AVIATION GASOLINE  The first meeting of the Aviation Gasoline Buying Committee was held last week with the directors of the Defense Supplies Corporation. There will be further meetings this week to expedite requests for bids.

A survey on aviation gasoline capacity made by the Bureau of Mines indicates substantial agreement with earlier approximate information and shows that some production facilities for both 92 and 100 octane gasoline will have to be installed before the plane program is completed.

Gasoline Storage: The Industry Committee of Terminal Engineers held several discussions with Army and Navy representatives with regard to designs for underground gasoline storage.

CHEMICALS  Cotton Linters: Further conversations have been held with representatives of the cotton linters bleachers with reference to
the price of raw materials and production costs of chemical pulp.
At this Division's request, studies are being made of storage
capacity and the results and recommendations will be discussed at
a meeting this week.

**Chemical Stock Piles:** The program for accumulating stock piles
of toluol and cotton linters is awaiting the decision of the Defense
Supply Corporation officials (a subsidiary of the Reconstruction
Finance Corporation) as to how purchases of the stock pile will be
handled.

**Export Licensing:**

**Drugs:** A study is being made by the Drug Resources
Advisory Committee as to the strategic or critical nature
of certain drug materials with a view to recommending them
for restriction on the export license list.

We have recommended that applications for export
licenses of ammonia, ammonium compounds and nitrates in
excess of $500 be reviewed before approval.

**Sulfuric Acid:** A resurvey is being made of the sulfuric acid
industry with reference to the projected location of munitions
plants.

**Nitrites and Toluol:** Our estimates of available supplies of
nitrites and toluol are being reviewed with special reference to
revised estimates of military and civilian requirements.

**GRAPHITE:**

Stocks on hand in United States very low. State Department
negotiating for American South African Lines ship to pick up large
graphite cargo at Madagascar. Alternative plan arranged with
Maritime Commission for United States boat to stop if above plan
fails.

**WOOL**

Negotiations on storage of wool being continued.

**ESSENTIAL MATERIALS**

**INDUSTRIAL DIAMONDS**

Negotiations with Diamond Syndicate and others still under way
for purchase of supply of industrial diamonds.

**LUMBER**

Working closely with Quartermaster staff in arranging for pur-
chases of lumber for cantonments.

**PULP AND PAPER**

D. G. Everest, President of the Marathon Paper Mills Company,
has been appointed Group Executive and Charles W. Boyce, Vice
President of the Northwest Paper Company, has been appointed Assistant Group Executive.

STEEL

Light Rolled Armor: Previous estimates of requirements will probably be further reduced due to substitution of considerable tonnage of cast steel armor.

Scrap Iron and Steel: The Defense Commission has recommended to the President an embargo on all grades of scrap iron and steel. Within the next few days it is quite possible a Presidential Order will be issued.

E. R. Stettinius, Jr.
Memorandum to the President

From W. L. Batt

Subject: SCRAP RUBBER AND SCRAP TIN

It is recommended that no action be taken on scrap rubber or scrap tin at this time. There will not be a critical situation in our supplies of rubber or tin until shipping from the Dutch East Indies and the Malay Peninsula is cut off.

Rubber—There is an abundant supply of scrap rubber available for reclamation; 800,000 tons of rubber goods become scrap annually, of which only 200,000 tons are normally collected for reclaiming purposes. When our rubber supply becomes critical, the first move should be the expansion of our reclaiming capacity. This will be a simple matter and can be easily accomplished before present industry and Government stocks are exhausted. These stocks now represent 11 months normal supply, and the situation is improving every day. Any official indication of a shortage might well bring a run on finished goods and hamper our acquisition of a stockpile.

Tin—No action is recommended on stimulating recovery of tin scrap from old containers because the amount which can be salvaged is inconsequential. We need about 80,000 tons of fine tin per year, and even at the war-time price of $1.10, 400 tons of fine tin was all the tin salvage industry produced from old containers. The solution to the tin problem when that problem becomes critical will not lie here, but rather in the direction of the greatly expanded use of substitutes. The substitutes are being continually studied by the Industrial Materials Division. Meanwhile, the situation is improving daily, with reassuring increases in our stockpile, and the furtherance of our plans for a tin smelter.

W. Batt
THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE

FEDERAL RESERVE BUILDING
WASHINGTON, D. C.

INDUSTRIAL MATERIALS DIVISION

WEEKLY OPERATIONS PROGRESS REPORT OF SEPTEMBER 26, 1940

STRATEGIC MATERIALS

ANTIMONY Survey to verify figures on stocks and consumption is being made through the Bureau of Mines.

CHROME ORE Recommendations made for the Procurement Division to purchase in Turkey British ore. Maritime Commission has been asked to supply shipping facilities.

MANGANESE Contracted for additional large tonnage for stock pile. Metals Reserve Company has accepted proposed plan for manganese procurement, also approved by the Army and Navy Munitions Board. Continuing conferences with domestic producers.

MERCURY Contract made by Procurement Division for 50% of stock pile, deliveries extending over a period of one year.

MICA Negotiations still proceeding with British Government for purchase of mica.

QUARTZ CRYSTALS Army and Navy Munitions Board studying recommendations for revised specifications and purchase procedure.

RUBBER Stock pile condition as of September 14 is as follows: 42,453 tons in this country; 19,300 tons afloat; 35,000 tons additional purchased.

TIN Large tonnage for stock pile purchased this week. Three interests have presented definite proposals for United States Tin Smelter.

CRITICAL MATERIALS

ASBESTOS Recently completed survey of Bureau of Mines being studied, particularly as applied to the amosite and blue grades to be included in the stock pile.

AVIATION GASOLINE Proposed purchase program for aviation gasoline still held up by legal technicalities. Study initiated through Bureau of Mines to determine crude oils adapted to aviation gasoline production. This study will be basis for asking states to change crude oil allowables.
if and when needed. Underground storage committee making definite progress in design. Actual installations and results of recent bombings in England are to be discussed this week with Canadian expert.

CHEMICALS

Military and Civilian requirements for nitrogen compounds, toluol, cotton linters, sulfuric acid and other raw materials used in powder and explosives were reviewed at a meeting of the Subcommittee of the Army and Navy Munitions Board. Requirements are being revised as a result in line with projected powder production schedules. Canadian and British requirements are being included.

Nitrate: Chilean nitrate situation is being studied in conjunction with the Division of Commercial and Cultural Relations between American Republics.

INDUSTRIAL DIAMONDS

Sample shipments enroute. Purchases expected shortly. Inspection and purchase procedure of Procurement Division will be ready to function in about ten days.

ESSENTIAL MATERIALS

LEATHER

Study under way of requirements and inventory of horsehides.

LUMBER

Working with the Quartermaster office and the Production Division of the Commission regarding procurement of lumber required in camps and cantonments.

POWER

Available Capacity: Summary made of additional capacity in operation during 1940, 1941, 1942. Total new capacity for period 1939 to 1942 inclusive is 7,760,000 kilowatts.

TEXTILES

Mr. Robert Stevens has returned to his company.

STEEL

Galvanized Roofing and Siding for Army Cantonments: Advised War Department of large supplies of galvanized roofing and siding immediately available for cantonment construction, this to relieve situation caused by sudden demand on lumber industry. Instructions sent by Army to certain districts authorizing the use of galvanized roofing and siding.

Wire: Survey being made of diamond dies for wire drawing as a possible scarcity is indicated. Principal former source was France.

Expediting Deliveries: From time to time calls are received to expedite deliveries of urgently needed steel products. Through the outstanding cooperation of industries concerned, quick delivery is arranged.

E. R. Stettemius, Jr.
THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE

FEDERAL RESERVE BUILDING
WASHINGTON, D.C.

September 26, 1940

MEMORANDUM TO THE PRESIDENT

FROM: E. R. Stettinius, Jr.

SUBJECT: TIN SUPPLIES MOVING TO THIS COUNTRY AT GREATER RATE THAN EVER BEFORE

Purchases for the stock pile up to September 23 were 25,404 tons, of which
- 8,025 tons delivered
- 3,585 tons afloat
- 11,610 tons

During August 12,400 tons arrived
End of August 22,364 tons afloat for U.S.
29,495 tons were Consumer stocks end of July.

When we compare these figures with the usual monthly arrivals of from six to eight thousand tons and the tonnages afloat around eight thousand tons, we can see the manner in which the flow to this country has been increased since the first of July.

The International Tin Commission is giving orders to the Dutch East Indies to increase production to a maximum; the flow to this country shows that the output of the mines has reached the stage of full production. This assures a maximum supply coming to the United States for the stock pile.

Proposals for a tin smelter in this country have been submitted by four strong organizations; two more are definitely under way and it is expected there will be a further one received. This will give seven proposals which are to be studied carefully by this Commission and recommendations made to the Metals Reserve Company.

E. R. Stettinius, Jr.
MEMORANDUM TO THE PRESIDENT

From:  E. R. Stettinius, Jr.
Subject: UNDERGROUND STORAGE OF AVIATION GASOLINE.

A committee of representatives of the Army and Navy and engineers for the petroleum industry have agreed upon general specifications for underground storage tanks as follows:

1. Tanks to be preferably vertical cylinders for economy, minimum target area and concussion resistance.
2. Capacities to range from 10,000 to 50,000 barrels.
3. A 100 ft. maximum diameter is recommended for tankage in rolling country in order not to present too large a target. This can be increased in mountainous country where planes have to fly at higher altitudes.
4. Tanks to be spaced in irregular pattern with a minimum distance from shell to shell of 200 feet.
5. Tanks to be 20 feet in depth unless especially favorable soil conditions are encountered, which would make it economical to increase this depth.
6. It is considered sufficient to protect such storage by concealment rather than to attempt to construct storage of bomb proof design. Minimum coverage recommended to consist of four feet of earth over nine inches of reinforced concrete.
7. Provide each storage tank farm with dual power service, ethyl blending plant, and facilities for truck, tank car, or barge loading.
8. Possible arrangement of tank farm would be circular arrangement and perhaps groups of circles.
9. All pipe lines would be dual buried lines - one within the ring of tanks and one without, with suitable cross connections to tanks; thus assuring a minimum of capacity loss through damage to a tank or tanks.
10. Power system would also be dual. Designs of tanks of several manufacturers are being studied to determine one most suited for needs.

More information on foreign experience is needed as evidence points to tanks above ground still operating in the vicinity of serious bombing.

With this very definite progress in tank type and design, and farm type and design, activities will be directed to strategic locations for the tank farms.
MEMORANDUM TO THE PRESIDENT

From: E. R. Stettinius, Jr.

Subject: MERCURY

Fifty percent of the stock pile of mercury was contracted for by the Procurement Division this week. This was with the New Idria Company for 5,000 flasks (76 pounds). The price was well under the present market, deliveries to extend over a period of one year. This purchase was particularly favorable in view of the price which has been prevailing for some time.

Recommendations for purchase have been held up because domestic output exceeds requirements and there was no urgency in securing a stock pile. By waiting for the softening of the price, a very favorable purchase was made.
THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE
FEDERAL RESERVE BUILDING
WASHINGTON, D. C.

September 25, 1940

MEMORANDUM TO THE PRESIDENT

From: E. R. Stettinius, Jr.

Subject: CHROME ORE

A conference was held by this Division of the Commission with other interested governmental agencies regarding purchase of British held chromite in Turkey. As a result the State Department is making representations to the Turkish Government to release the British Government from certain obligations in this connection. Meanwhile we have recommended that the Procurement Division take steps to purchase the ore and we have asked the Maritime Commission to supply the necessary shipping facilities.

E. R. Stettinius, Jr.
Respectfully forwarded to the President:

[Signature]

E.M.W.
To: General Edwin M. Watson
From: William L. Batt
Subject: CRUDE RUBBER

If Ed were here, I think he would send this over to you for transmission to the President.
MEMORANDUM TO THE PRESIDENT

From: E. R. Stettinius, Jr.

Subject: CRUDE RUBBER

Good progress is being made in building up the stock pile of crude rubber. The status as of September 21 is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased - total</td>
<td>124,050 long tons</td>
</tr>
<tr>
<td>R.F.C. Barter</td>
<td>57,702 long tons</td>
</tr>
<tr>
<td>Delivered - total</td>
<td>43,383 long tons</td>
</tr>
<tr>
<td>Afloat</td>
<td>34,581 long tons</td>
</tr>
</tbody>
</table>

E. R. Stettinius, Jr.
General Edwin M. Watson
The White House
Washington, D. C.
General Watson

Will you please clear these with the President? Many thanks.

W. L. Batt
TO: The Honorable Franklin D. Roosevelt

FROM: Mr. William L. Batt

SUBJECT: Payment for Bauxite on Imports from Dutch Guiana

At the Commission meeting last week you asked me a question with respect to the method of payment for bauxite imported from Dutch Guiana. The following information may be helpful:

The Aluminum Company of America owns the bauxite deposits in Dutch Guiana, out of which come virtually all United States' imports of bauxite.

Payment for these imports involves, therefore, merely a transfer on the company's books.

W. Batt
MEMORANDUM

TO:    The Honorable Franklin D. Roosevelt
FROM:  Mr. William L. Batt
SUBJECT: Some Aspects of the Wool Situation

At the Commission meeting last week you expressed an interest in an over-all picture of wool. The following brief summary may be helpful:

In recent years, approximately 76% of the apparel wool consumed in this country has been produced domestically, the remaining 24% being imported. The great bulk of the imports has been in the coarser grades. Almost no carpet wool is produced in this country. Even in apparel wools, however, domestic wool is generally of the finer grades. For example, only 1% of domestic apparel wool falls in the lowest grades as contrasted with 26% of the imported wool. The coarser grades, it may be noted, can if necessary be substituted for the finer grades with, of course, less satisfactory results.

In the accompanying table, imports of wool are broken down by grades and by countries of origin for the years 1937 - 1939. It will be noted that the largest part of our imports of the finer grades of wool has come from Australia and New Zealand. It will also be seen from the table that carpet wool has formed a large part of the imports from South American countries, particularly from Argentina.

In a major emergency, according to the calculations made by the Army and Navy Munitions Board, there would be a deficit of 960,000,000 pounds of wool over a two-year period. This assumes that civilian consumption continues at its normal rate and that all imports of wool are curtailed.

The proposed storage of 250,000,000 pounds of Australian wool as a strategic reserve in this country, the arrangements for which appear to be on the verge of completion, would reduce the amount of this potential deficit.

When the new wool clip becomes available in South America, it should be possible to acquire some more wool from that source. Total annual production of apparel wool in Argentina and Uruguay is, however, probably not more than 300,000,000 pounds. Other South American sources are of negligible importance.
### U. S. Wool Imports by Principal Countries of Production

**Annual Average, 1937 - 1939**

(Thousands of Pounds)

<table>
<thead>
<tr>
<th>Carpet Wool</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>38,256</td>
</tr>
<tr>
<td>Uruguay</td>
<td>471</td>
</tr>
<tr>
<td>British India</td>
<td>25,994</td>
</tr>
<tr>
<td>China</td>
<td>11,104</td>
</tr>
<tr>
<td>New Zealand</td>
<td>9,029</td>
</tr>
<tr>
<td>U. K. and Ireland</td>
<td>11,682</td>
</tr>
<tr>
<td>Others</td>
<td>33,089</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>129,625</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Apparel Wool, Not Finer Than 40's</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>10,892</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1,077</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4,819</td>
</tr>
<tr>
<td>Others</td>
<td>3,049</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,837</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Apparel Wool, Finer Than 40's</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>8,293</td>
</tr>
<tr>
<td>Uruguay</td>
<td>12,657</td>
</tr>
<tr>
<td>Chile</td>
<td>879</td>
</tr>
<tr>
<td>Australia</td>
<td>34,883</td>
</tr>
<tr>
<td>New Zealand</td>
<td>7,104</td>
</tr>
<tr>
<td>Others</td>
<td>9,401</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73,217</strong></td>
</tr>
</tbody>
</table>
2 Wall Street

October 1, 1940.

Hon. Franklin D. Roosevelt,
The White House,
Washington, D. C.

My dear Mr. President:

When I last saw you I told you of the report being made on economic controls in England at the direction of the Prime Minister. I promised to see that you would have a copy of that report. However, it occurred to me that you would rather have that taken up with you by Ed Stettinius who framed the questions and I have, therefore, sent copies of the report direct to him.

You may be interested to know that, at the direction of the Prime Minister, seven men were placed at work on this report and they canvassed all the various departments in order to make it complete. It seemed to me that you might find many items of interest in this study.

Sincerely yours,

(Signed) Bill Donovan
Memorandum to the President
From E. R. Stettinius
Subject: PACIFIC COAST STEEL INDUSTRY STUDY

You will recall our recent conversation relative to steel production on the Pacific Coast.

You will find herewith a chart showing capacities, production, and consumption of the various producers, which I am sure you will find of interest.
PACIFIC COAST STEEL INDUSTRY
(TERRITORY INCLUDES WASHINGTON, OREGON, CALIFORNIA, IDAHO, UTAH, NEVADA & ARIZONA)

CAPACITY
THOUSANDS OF NET TONS

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>PIG IRON</th>
<th>INGOTS</th>
<th>FINISHED STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. STEEL</td>
<td>193</td>
<td>494</td>
<td>342</td>
</tr>
<tr>
<td>BETHLEHEM</td>
<td>-</td>
<td>426</td>
<td>363</td>
</tr>
<tr>
<td>JUDSON</td>
<td>-</td>
<td>86</td>
<td>54</td>
</tr>
<tr>
<td>PACIFIC STATES</td>
<td>-</td>
<td>55</td>
<td>41</td>
</tr>
<tr>
<td>NORTHWEST</td>
<td>-</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>WEST COAST</td>
<td>-</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>SIMMONS</td>
<td>-</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>*SIERRA</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>193</td>
<td>1078</td>
<td>837</td>
</tr>
</tbody>
</table>

*Organized March 1940 for electric reduction of iron ore

PROD'N & CONSUM'N OF FINISHED PRODUCTS

SOURCE OF FINISHED STEEL CONSUMED
THOUSANDS OF NET TONS

<table>
<thead>
<tr>
<th>SOURCE OF FINISHED STEEL CONSUMED</th>
<th>THOUSANDS OF NET TONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIFIC COAST PRODUCTION</td>
<td>1,000</td>
</tr>
<tr>
<td>BIRMINGHAM</td>
<td>800</td>
</tr>
<tr>
<td>SPARROWS POINT</td>
<td>400</td>
</tr>
<tr>
<td>ALL OTHER SOURCES</td>
<td>200</td>
</tr>
</tbody>
</table>

COMMENTS

(1) Available iron ore deposits are restricted in size or not economically located.
(2) Coking coal is scarce. Only supply close to iron ore deposits is in Utah.
(3) Electric power supply is ample. In this connection it should be noted that:
   (a) Electrical production of pig iron from iron ore is practicable only with extremely low power cost.
   (b) Electrical production of steel from pig iron is not commercially feasible.
   (c) Electrical production of steel from scrap is accepted practice.
(4) Scrap is available in sufficient quantities to support a reasonable expansion in the steel industry.
(5) Possibilities of increasing production are complicated by the fact that steel which is now brought into the Pacific Coast market consists of a wide range of products, grades and sizes. The consumption of individual items is not large enough to permit economic local production. Even in the case of such an important classification as sheets and strip the total demand would keep one continuous sheet mill busy only six months of the year.
STRATEGIC MATERIALS

ANTIMONY
Approximately 990 tons antimony arrived in New York from China via Indo-China last week.

MANGANESE
Interdepartmental Committee approved proposed plan for manganese procurement.

TIN
Additional stocks of tin obtained this week. Efforts being made to arrive at an early decision regarding a tin smelter. Committee being formed to assist in selecting best smelting process submitted. Metals Reserve Company not receiving offers as Japan-Axis Pact caused price to advance over 1¢ per pound.

TUNGSTEN
Approximately 5,500 short tons tungsten arrived in New York last week via Indo-China.

CRITICAL MATERIALS

AVIATION GASOLINE
Underground Storage Committee discussed designs and bombing results in England with Canadian Defense Ministry. Suggested storage layouts submitted to Army and Navy. Discussions held with Bureau of Mines regarding survey of crude oils suitable for making high grade aviation gasoline. Progress made in eliminating legal difficulties connected with purchase of aviation gasoline but no definite action possible on purchases yet.

CHEMICALS
Military and civilian requirements for nitrogenous materials reviewed at meeting of Subcommittee of Army and Navy Munitions Board. Study revealed surplus of nitrogen over next two years, assuming production in second year reflected output of new Ordnance owned and operated ammonia plants.

Ammonia: Study has been made of relative merits of various sites for synthetic ammonia plants. Proximity to supply of good coking coal and low freight rates outstanding requirement.

Chilean nitrate: Comparison disclosed use of Chilean nitrates instead of synthetic ammonia for manufacture of nitric acid and ammonium nitrate would cost approximately twice as much.
Cotton Linters: Arrangements made for stock piling of bleached cotton linter pulp by operators of smokeless powder plants.

GRAPHITE

Steamer now at Madagascar loading mica and will proceed to Tamatave to load some 2,000 tons crystalline graphite. Clearance obtained by State Department with Vichy Government for this negotiation.

INDUSTRIAL DIAMONDS

Negotiations now active with Diamond Trading Company and others. A representative of the Diamond Trading Company is here from England. A meeting is to be held with him this week to set up procedure for securing a stock pile.

ESSENTIAL MATERIALS

LUMBER

Centralized buying of lumber instituted by Quartermaster Corps at suggestion of Defense Coordinator of Procurement in connection with four camps released September 28. It is expected this method will continue on other camps to be released.

STEEL

Members of Steel Group of this Division will attend conference October 6 called by Leon Henderson between representatives of scrap and steel industries to discuss procedure for stabilization of scrap prices.

British Steel Requirements: Application from British for sources of supply for 20,000 tons of forgings and stampings for tanks received and names of several companies suggested.

Expediting Deliveries: Urgent request of General Brett of Air Corps of War Department to expedite delivery on certain steel for aircraft manufacture is being investigated.

Nozzles, Sleeves and Runner Brick: Those products are essential in open-hearth operations. Information received indicates a possible shortage in capacity to meet full requirements. Several steel companies surveyed as to present and prospective needs. Arrangements made with one of the leading producers to confine his activities to above three products, eliminating all other lines. It is expected this plan will provide ample capacity for all requirements.

Powdered Iron: Survey of industry to develop adequate capacity to meet all defense program requirements is being made.

E. R. Stettinius, Jr.
MEMORANDUM TO: Mr. Marvin McIntyre

I think the President would like to glance at the attached.

Attachment
PSF: Council of Nat. Defense

THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE

FEDERAL RESERVE BUILDING
WASHINGTON, D. C.

October 11, 1940

MEMORANDUM TO THE PRESIDENT

From: E. R. Stettinius, Jr.

Subject: TIN SMELTER

Eight proposals have been submitted to us for a tin smelter in the United States using Bolivian ores. Early this week these plans were turned over to a committee of the National Academy of Sciences consisting of four individuals selected for their technical knowledge. The task of this committee is to decide on the one best proposal for carrying out tin smelting in the United States. The following companies have submitted proposals:

- Patino Mines and Enterprises
- Phelps Dodge Corporation
- J. M. Irwin and Company
- American Metal Company
- Guggenheim Brothers
- Hooker Electro Chemical Company
- Van den Broek (Dutch Interests)
- Port Wentworth Corporation

After two days' examination the committee determined that five of the plans are about on the same level from the technical standpoint, and now additional information is being secured to determine cost figures. It is expected that within the next week a definite determination will be possible as to the one best plan.

It is anticipated it will take about one year from the determination of the best suited plan to get a smelter in operation. It is expected that this plant will be financed by the R.F.C. although at least two of the proposals were submitted on the basis of the companies' doing the entire financing themselves.

The accomplishment of this smelter arrangement will in some measure relieve us from dependency on the East Indies. As is expected the supply of tin will be drawn practically entirely from Bolivia.

[Signature]
E. R. Stettinius, Jr.
MEMORANDUM TO THE PRESIDENT

From: E. R. Stettinius, Jr.
Subject: CRUDE RUBBER

Further progress is being made in building up the stock pile of crude rubber. The status as of October 5 is as follows:

- Purchased - total: 133,632 long tons
- R.F.C. Barter: 60,641 long tons, 72,991 long tons
- Delivered - total: 54,016 long tons
- Afloat: 34,364 long tons

[Signature]

E. R. Stettinius, Jr.
MEMORANDUM FOR THE PRESIDENT

FROM: E. R. Stettinius, Jr.

The Army-Navy Munitions Board, the chemical industry, and the Chemicals Division of the Advisory Commission to the Council of National Defense have worked out practical plans to meet the first year's requirements of the munitions plants that have been authorized on the following essential materials, namely:

Cotton Linters; Toluol; Nitrogen; Sulfuric Acid.

Cotton Linters

Arrangements have been made for the accumulation of a stockpile of purified cotton linters by utilizing the present idle purification capacity which will permit the munitions plants to operate for one year without facing a shortage of linters. This program is designed to keep the purification plants in operation at their capacity throughout this period thereby eliminating the necessity for a Government owned cotton purification plant. These purified cotton linters are to be purchased at a price not exceeding 7½¢ per lb., exclusive of any storage charges that may be necessary. This will give the producers of linters a price of 3 to 3½¢ per lb. which is considered a good return to the farmer and likewise a fair price for the Government. This received the approval of Mr. Chester Davis' and Mr. Leon Henderson's Divisions before receiving the approval of the Commission as a whole.

Toluol

Similar action will be taken with regard to toluol just as soon as the operating contracts for the TNT plants are signed. In the case of toluol, arrangements are set up to purchase 10,000,000 gallons at a price not to exceed 30¢ per gallon. This likewise received the approval of Mr. Henderson as well as that of the Commission as a whole.
This will stimulate full production from the by-product coke oven industry. In addition a synthetic toluol plant has been approved to produce toluol from petroleum at the rate of 2200 bbls. per day. This plant, together with the increased production from by-product coke industry will meet the requirements of the munitions plants now contemplated.

Nitrogen

The industry has cooperated fully by increasing their nitrogen capacity and in also arranging with the Ordnance Division to construct two new nitrogen plants, one of 250 tons capacity per day, and the second of 150 tons capacity per day. These plants have been approved by the Army-Navy Munitions Board and are awaiting the approval of the Defense Commission. In addition there is being considered the construction of a smaller plant at Muscle Shoals.

We have been informed that the two new plants will be financed in the first instance by industry. Industry has anticipated the necessity for increased capacity and as a result have all their engineering plans completed and orders have been placed for necessary equipment. This in addition to their present excess capacity will meet the requirements of the presently contemplated munitions plants.

Sulfuric Acid

There is ample sulfuric acid capacity in the country to meet all the requirements but in some localities it may be necessary to increase the production of 40% oleum required in TNT plants. However this capacity can be added within a period of not to exceed three to four months and will be available when the TNT plants are completed.
STRATEGIC MATERIALS

CHROME ORE
Additional small tonnage chrome ore purchased. Procurement plans and specifications approved by Advisory Commission and presented to R.F.C. for execution. Procurement Division of Treasury to buy high-grade metallurgical chrome ore from Turkey through British Government. Shipping arrangements taking form.

MANGANESE
Procurement plan approved by Export-Import Committee. Purchase of domestic ore continuing.

MANILA FIBER
Meeting held this week with cordage processors for further examination of manila fiber situation.

SYNTHETIC RUBBER
R.F.C. has assumed responsibility for future development of plans for producing synthetic rubber. Engineering data received by this division turned over to R.F.C.

TIN
Meetings held with Bolivian tin producers in attempt to arrive at terms for contract to purchase Bolivian ores. Definite conclusions have not been reached. Market price still above Metals Reserve Company purchase price.

TUNGSTEN
Proposal made last week by domestic producer for over 2,000 tons of concentrates favorably considered by Procurement but cannot be accepted with funds available because of time element. We will recommend to R.F.C. for action.

CRITICAL MATERIALS

AVIATION GASOLINE
Army decided G-4 should review requirements for 100 octane aviation gasoline. Accordingly, preliminary meetings held with members of this group and Joint Aeronautical Board. It is expected conclusions will be reached this week.

ALUMINUM
Plans being made for further increases in production of aluminum to meet military and civilian requirements. It is estimated annual capacity by July 1942 will be well over double the capacity of 1939. It is expected increases in aluminum fabricating capacity will keep pace with production of ingot aluminum and meet demands of defense program. Bauxite supply sufficient to carry us over period of 8 years.
CHEMICALS
Activated carbon plants approved to be built at Zanesville, Ohio and Postoria, Ohio. Several proposals from private industry to construct synthetic ammonia plants under consideration.

Cotton Linters: Offers from private industry to construct cotton linters bleacheries being considered.

INDUSTRIAL DIAMONDS
Possibilities of industrial diamond production in Arkansas being reviewed. Committee of specialists to formulate invitations for bids and examine samples. Sample of Diamond Trading Corporation in New York awaiting inspection.

LEATHER
Meeting held this week in Chicago with horseride tanners. Meeting to be held October 23 with Federal Specifications Committee to complete recommendations for changes in specifications covering sole leather. Survey made and sent to Quartermaster's office of supplies of upper leather available over next few months.

WOOL
Arrangements consummated by R.F.C. for storage in U.S. of emergency reserve of 250 Million pounds of British-owned Australian wool.

ESSENTIAL MATERIALS

LUMBER
Lumber awards completed for first four camps covered by policy of centralized buying. Instructions given for purchasing lumber for next four camps to be constructed on same centralized basis.

Airplane Spruce: Study of Sitka spruce for aircraft construction being brought up to date.

POWER
Increased power supply for aluminum will require 512,500 kilowatts, all of which has been arranged for or is in process of negotiation.

E. R. Stottinius, Jr.
THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE
FEDERAL RESERVE BUILDING
WASHINGTON, D. C.

CONFIDENTIAL

October 24, 1940

MEMORANDUM FOR THE PRESIDENT
FROM: E. R. Stettinius, Jr.

Supplementing the message just given to you through General Watson, the Aluminum Corporation have today committed themselves to a price reduction on aluminum from 18¢ to 17¢ a pound, making it an over-all reduction of 3¢ a pound since last year. This announcement will be made on November 1st.
STRATEGIC MATERIALS

ANTIMONY The recommended stock pile has been increased from 10,000 to 18,000 Short Tons. Over 33% of this has been purchased. Prospects for continuance of imports from Mexico are encouraging, some 5,600 Tons coming from this source in 1939.

CHROME ORE Revised specifications on metallurgical ore accepted by the Army and Navy Munitions Board and ore contract has been let. Efforts continue to move metallurgical ore from Turkey. Arranged for purchase of metallurgical lump ore from New Caledonia. Negotiations started with domestic concern for development of deposits in Alaska.


MERCURY Domestic production for September was a new record. Additional purchases made from Arkansas field.

QUININE Deliveries have been made of over 11% of the programmed stock pile. Sufficient bark is in this country and being processed to take care of an additional 40%. Another 40% has been purchased and is awaiting shipment, and the other 10% is afloat. The situation is being resurveyed to ascertain whether additional quantities will be necessary.

RUBBER This Division is following certain tests being made of rubber yielding bushes and trees grown in the Western Hemisphere. Tests will be held this week. It is expected that small quantities of rubber may result which would make this source available in case of extreme shortage.

TIN The Technological Committee is still working on its investigation concerning tin smelter.

TUNGSTEN Contract arranged with an American company for the purchase of tungsten concentrates. Purchase is to be made by the Metals Reserve Company which has accepted our recommendations.
CRITICAL MATERIALS

CHEMICALS

Additional proposal received to build with private capital a nitrogen plant in the Middle West of one hundred tons per day capacity. Proposal also received for an ammonia plant which appears to have low cost possibilities since it will be located near the Gulf Coast, where there are large quantities of hydrogen available.

GRAPHITE

Shipment of graphite from Madagascar has been considerably expedited and relatively large tonnage in shipment will considerably relieve shortage now experienced by the trade.

INDUSTRIAL DIAMONDS

Facilities for inspection, storage, etc. in the New York Procurement Office are being perfected.

LEATHER

Discussions were had with the Quartermaster Corps regarding modification and specifications to broaden possible sources for leather supply and thus contribute toward better price stability in the entire market. Quartermaster Corps procurement officers have been advised of the advantages to be gained by advance information regarding requirements.

ESSENTIAL MATERIALS

LUMBER

Arrangements have been made with the Bureau of Research and Statistics to determine supplies and requirements for lignum-vitae and toak. Investigation shows that supply of lumber is adequate for all purposes.

POWER

The Bonneville administration has brought to our attention the need for special expediting of materials required for serving the Aluminum Company of America in the Bonneville area. This Division was represented at a special meeting of the Federal Bureau of Investigation, the Federal Power Commission, and the Utilities on the subject of time bombs in and around power stations.

STEEL

Machined Steel Casting Capacity: Meeting held last week of presidents of outstanding steel casting companies and tank manufacturers to discuss requirements and capacities for cast armor for medium tanks. Colonel Warner of the Ordnance Department presided.

British Steel Requirements: Progress made in conjunction with homogeneous armor plate plant of the Republic Steel Corporation. Plant designed to be adequate for British requirements and to be available in event of need for U. S. tanks.

Diamond Dies: Information gathered on plants manufacturing diamond dies. Committee being assembled to prepare report with recommendations as to how to care for needs.
Shut-down and Unused Open-hearth Capacity: Survey being made to determine excess capacity available and connect it with plants where requirements are beyond capacity.

E. R. Stettinius, Jr.
THE ADVISORY COMMISSION TO THE COUNCIL OF NATIONAL DEFENSE
FEDERAL RESERVE BUILDING
WASHINGTON, D. C.
INDUSTRIAL MATERIALS DIVISION

WEEKLY OPERATIONS PROGRESS REPORT OF NOVEMBER 7, 1940

STRATEGIC MATERIALS

CHROME ORE
Additional small tonnage chrome ore purchased. Movement of ore from Turkey hampered by invasion of Greece, but ships have now been secured to take large proportion of this. Contracts under negotiation for substantial tonnage metallurgical ore from Southern Rhodesia. Licensing of chromium chemicals discussed.

MANGANESE
Additional tonnage manganese ore purchased. Amount contracted for now exceeds recommended stockpile, but failure of delivery of large proportions domestic ore expected. Continued discussions on development of Brazilian manganese resources.

MERCURY
Production continues to exceed domestic requirements.

RUBBER
Laboratory analyses being made of rubber content of rabbit bush, guayule and castilla, and of percentage extracted by Stacom process. Quantity available probably will not warrant expense involved.

TIN
Contract signed with Bolivian tin producers. Report from Technological Committee on tin smelter expected this week.

Geological survey is going to send representative to investigate available tin supplies after necessary clearances effected through State Department.

CRITICAL MATERIALS

AVIATION
GASOLINE
Discussions held this week with Army and Navy representatives on 100 octane storage program. Final recommendations and estimates of requirements for next few years expected from Army within a few days. Report of Advisory Committee of Engineers on underground storage completed and has been submitted in part to Navy representatives.

CORK
Review of cork situation under way.

ESSENTIAL MATERIALS

PULP AND PAPER
Wood Pulp: Quantity available for purchasing mills not equal to requirements but consumption somewhat less than normal.
Waste Paper: Ample supply available; demand has increased.

British Steel Requirements: Republic Steel Corporation armor plate plant contract prepared and awaiting cable approval from England for final execution.

Chrome-Molybdenum Seamless Tubing: Requirements heavy for aircraft program; survey being made of plant capacity.

Diamond Dies: Progress made in providing adequate supply for our own and British requirements.

Extra Wide Plates: Contract prepared by Navy to provide full utilization of 206" wide plate mill of Lukens Steel Company.

Galvanized Roofing and Siding: Quartermaster using galvanized roofing and siding in cantonments.

Homogeneous Armor: Plant facilities required to take care of newly developed Navy need for homogeneous armor plate. Requirement several thousand tons for splinter plates.

Specifications: Steel Specification Committee submitted recommendations for expediting steel production by simplifying existing specifications. Follow-up procedure set up to take advantage of recommendations.

E. R. Stettinius, Jr.
ALUMINUM—ESTIMATED MONTHLY SUPPLIES VS TOTAL REQUIREMENTS
JANUARY, 1939—JULY, 1942

TOTAL REQUIREMENTS ASSUMING CIVILIAN REGTS STABILIZED AT 1940 LEVEL
SECONDARY PRODUCTION
ImportS
TOTAL SUPPLY
PRIMARY PRODUCTION

MILLIONS OF POUNDS

1939 1940 1941 1942

MILLIONS OF POUNDS

0 10 20 30 40 50 60 70 80
STRATEGIC MATERIALS

CHROME ORE
American and British efforts have been successful in chartering neutral ships to move Turkish metallurgical ore. Negotiations continuing for purchase of 75,000 tons of Rhodesian metallurgical ore.

MANGANESE

MERCURY
On recommendation of this Commission, Army and Navy Munitions Board has lowered stockpile to 10,000 flasks. Funds previously allocated to purchase of excess are being transferred to purchase of chrome ore.

QUARTZ CRYSTALS
Negotiations under way by Procurement Division for major part of remaining stockpile requirements.

RUBBER
Accumulation of stockpile slowed by rise in price above maximum agreed upon. International Rubber Regulation Committee meeting in few days and may authorize additional releases of rubber which should cause price to recede so that purchases may be resumed. Manufacturers studying new processes of tire manufacture using metallic plies to conserve use of rubber.

SYNTHETIC RUBBER
Du Pont has just started operation of new plant, doubling available supply of neoprene from 500,000 pounds to 1,000,000 pounds a month.
Du Pont, on its own initiative, has instituted priorities for neoprene to assure fulfillment of defense requirements.

TIN
Additional small tonnage purchased by Metals Reserve Corporation for stockpile.

TUNGSTEN
Stockpile figures of Army and Navy Munitions Board lowered at suggestion of this Commission. Funds previously allotted turned over for purchase of chrome ore. Chinese ore now moving down Burma Road and additional will be moving to this country as soon as shipping arrangements affected.

CRITICAL MATERIALS

AVIATION GASOLINE
Agreement made with Army and Navy representatives for purchase and storage of 100 octane gasoline. Recommendation made to Secretaries of
War and Navy that purchases be made directly by appropriations. Report of Advisory Committee of Engineers on aviation gasoline storage distributed to those interested in the service departments. Report will be used as basis for design of majority of tanks installed in 1941.

CHEMICALS

Strontium chemicals recommended to Ordnance Department for immediate purchase. Production facilities comparatively small.

Cotton Linters: Purchase of bleached cotton linters by operators of munitions plants under orders of Ordnance Department proceeding normally and comparatively large tonnage has been acquired.

Coke: Survey being made of coke supplies and requirements. Also a regional survey and estimate of new construction of coke ovens is being made.

ESSENTIAL MATERIALS

COPPER

Report prepared on requirements, uses, and available supply of copper. Meeting held with leading copper producers in which this report was the basis of discussion. Data secured from this meeting being used to complete study.

LUMBER

Housing requirements for 1,000,000 men in military service will be 90 per cent completed by January 1, 1941. No delays encountered because of lack of lumber.

POWER

Survey being made by Federal Power Commission of present and possible future power requirements, this to give a factual basis for planning any program of expansion.

STEEL

Iron Ore: A statistical study has been made of the status of iron ore supplies through the winter period and indications are that there will be an adequate supply available right up to the first of May when the Lake shipments are resumed.

TEXTILES

Material benefits expected from relaxation of requirements that 100 per cent domestic wool be used by Army. War Department action will tend to ease prices.

Uniform Cloth: To relieve situation in cotton khaki uniform twill, alternate specifications have been worked out with Quartermaster Corps. This will provide several million yards within the next few months and will allow additional mills to participate whose machinery was not adaptable to regulation cloth.

ZINC

Report completed on requirements and capacity for civilian, defense, and British needs. Meeting this week with the industry to discuss current position and possible expansion of smelting facilities.

E. R. Stottinius, Jr.
11/20/40

Dear Pa,

Will you please clear this with the President? Many thanks.

Ed
STRATEGIC MATERIALS

ANTIMONY
Substantial part of the recommended stockpile has been secured. Further accumulation not being made as Munitions Board has not approved stockpile accumulation as recommended by Defense Commission.

MERCURY
Domestic production now exceeds consumption. Industry stocks increasing; therefore no additional stockpile accumulation is being made.

MICA
Negotiations with the British Government for mica purchase are continuing. Prompt decision expected.

QUARTZ CRYSTALS
Contracts for purchase of major portion of remaining requirements arranged by Procurement Division. Sizable deliveries will be made within next few months.

RUBBER
Stocks of crude rubber in the hands of the industry and the Government as of October 31 are as follows: In the United States, 259,140 tons; afloat for the United States, 166,837 tons, a record high figure.

TIN
Final report of Technological Committee studying tin smelter received, and passed to Reconstruction Finance Corporation for final negotiations on four proposals which have been made. Small addition to stockpile purchased during this week.

TUNGSTEN
Additional Chinese ore to be shipped from Rangoon during December. Heavy increase in demand for ferro-tungsten for defense orders has developed, necessitating releases from stockpile.

CRITICAL MATERIALS

AVIATION GASOLINE
Purchasing of stockpile still awaiting agreement by War Department officials on quantities and arrangements for storage program.

CHEMICALS
Potash: A survey of potash supplies indicates temporary shortage. Two largest producers building additional capacity. Elimination of exports will make possible meeting domestic demands.

Patents: As a result of meetings with Patent Commissioner Coe, a Patent Advisory Board is to be set up to cooperate with the patent office regarding withholding patents of military value.
Paint Industry: Survey of paint industry indicates ample supply of all raw materials. Some shortage of Chinese wood oil is apparent but substitutes available. Shortage of shellac also but curtailment use and substitution of synthetic finishes will meet needs of this type of coating. White lead, zinc oxide, and other pigments for paint purposes show ample production.

Year's supply of iodine on hand; additional stocks can be acquired on short notice.

Graphite

Shipment of graphite from Madagascar due here early in December. This will relieve the situation in the industry considerably.

Industrials

Meeting by Procurement Division planned with industrial consumers to review specifications for purchase of diamonds and for stockpiling.

Essential Materials

Copper

Study under way of exports to determine flow of export copper; method of importing foreign copper for stockpile purposes is under investigation.

Lumber

Lumber procurement and deliveries proceeding in accordance with requirements. More orderly Government buying evidently bringing lower prices.

Power

Arrangements are actively under way to meet the various power requirements as the needs for the aluminum program develop. These involve both private and public supplies.

Steel

British Requirements: New British requirements for gun forgings will require immediate survey of forging plants to determine available capacity. Present plants capacity substantially taken up with United States requirements. Survey being arranged.

Chrome Molybdenum Seamless Tubing for Airplanes: British and United States airplane requirements for chrome molybdenum seamless tubing have been summarized and demands so large that additional plants will have to be established. Two definite possibilities for such additional plants have been provided.

Copies of emergency plant facilities contract forms, together with application for certification being sent to all interested steel companies.

Zinc

Meetings being held concerning zinc requirements and supplies.

E. R. Stettinius, Jr.
MEMORANDUM

November 20, 1940

TO: The President
FROM: Leon Henderson
SUBJECT: In lieu of seeing the President

Here are a few observations about the Defense Commission.

1. The great volume of contracts has been placed. (About $9.6 billion) The level of business activity is the highest (128 FRB) in the nation's history, and the wholesale price level is about 80. (It was 96 in 1929 and reached 88 in 1937.) When the Commission started, there were no shortages of raw materials, skilled labor or capacity to produce. Under these circumstances, any mistakes in timing of contracts, -- and there were many -- were mostly concealed by the wealth of unused resources. (Lumber and wool got out of hand.)

2. The Army is said to have a $6 billion request in the making, and the Navy $2 or $3 billion. Knudsen's bomber program would require $2 billion. The British want about $4 billion. Auxiliary defense requests (defense highways, etc.) probably total another $1 billion. Regardless of the size of your budget a substantial increase in defense orders is facing an economy which is now encountering bottlenecks. It seems clear to me that some programming is decidedly in order and that precious, golden months will be lost unless certain elementary decisions are made, -- decisions which involve high policy, but which are needed if Knudsen, Nelson, Hillman and myself are to do our proper jobs.

3. I feel you should know in advance that the Defense Commission will shortly make a suggestion to you that you ask an informal group, consisting perhaps of State, War, Navy, and some defense commissioners, to organize the acute questions, with adequate material necessary for your determination. If this group contained Forrestal, Patterson, Wells, Knudsen, Nelson and myself, it would represent most of the necessary elements for planning defense policies. Those responsible for defense need to know the best guesses as to what we will be defending, when -- and particularly, what it
takes in the way of planes, guns, ships, tanks and supplies. Also -- what can the British, and other foreign countries, get. Also, how much the country can produce. Once determined, Fiscal and Monetary Policy and Labor Supply would also need to be brought into the picture.

4. The above would furnish a basis for Knudsen's production scheduling, Nelson's procurement planning, and Hillman's labor supply. (I just can't speak too emphatically about the critical necessity of getting these under way. If we did, a lot of priority and price headaches of later months could be avoided. Nelson, particularly if you gave him the go-ahead sign, could use idle capacity now for items we are sure to need later.)

5. There is clear need, too, for outlines and some action in our country for what the British call "economic warfare". You will receive soon a memorandum from the Commission, prepared by Ed Stettinius and me, indicating the tremendous stock-piling which Japan seems to be carrying out through purchases here for her own and Germany's account. (The British Ambassador will probably speak to you also.)

We will surely need many of these items and we could help the British by "exclusive buying" of many goods -- besides helping the South American program in the bargain.

Beyond this are several other economic matters which might well be synchronized in the Commission, if you desired, such as:

A. Canadian-American economic and industrial collaboration.

B. Foreign ownerships in this country including patents, stock ownerships, etc. We might need this in a hurry. (I talked with Lord Selschett at length about this.) The Russians are buying copies of all our patents since 1934.

C. Participation of American companies in foreign cartels, patent pools, etc. (Bausch and Lomb, and Sperry Gyroscope are examples.)

D. New plans for broader export and import control.

E. Gold purchasing policy - Japan, Russia, etc.
Floyd Odum is giving me some quiet help in reviewing these matters and applying his ingenuity to suggestions. If you disapprove, please let me know.

6. The time has come, I believe, to tighten up on centralization of purchasing. Nelson has gotten real control over many quartermaster items, and to my mind, has prevented several scandals. I'm scared about other fields. I'll never feel right until all procurement is centralized.

7. The Commission may soon suggest to you that all contracts up to date be reviewed, preferably by a special board, before the new Congress comes in. This board could suggest lessons to be learned re contract policies, organization, and might, if personnel is well selected, stave off incipient congressional interferences.

8. The Commission still needs a Co-ordinator and Don Nelson is still the best bet. He would be elected, almost unanimously, if you wanted to handle it this way.

9. Knudsen ought to give up his "clearance of contracts" function, turn it over to Nelson, and pay real attention to expediting planes and other defense material production. (You could get plane production figures from Morgenthau's man, George Haas, and check up independently.)

10. The Defense Commission ought to review Army and Navy budget requests.

11. I understand many persons have charts or plans for reorganizing the Commission, -- including Knudsen, Harold Smith and Stettinius.

12. No one is pushing the new British program which has been kicking around for five weeks. Your 50 - 50 policy needs to be spelled out to Knudsen and the Army.

Leon
November 28, 1940

Dear Missy,

In the enclosed letter to the President I have noted my observations concerning the operation of the Defense Commission. I feel that it is extremely important that the President receive these at this particular moment and will appreciate your handing him the letter.

With warm personal regards, I am

Sincerely,
The Honorable,
The President of the United States,
Washington, D. C.

My dear Mr. President:

Permit me to volunteer some observations from within the Defense Commission.

McReynolds has done a remarkable job. In his highly original and wise manner, he has, during the formative period of the organization, kept the Commission in the line of progress while at the same time he has recognized each Commissioner as being supreme in his own function. This has kept morale and initiative at a high pitch and has done much to overcome the business man's innate dread of "red tape" in Government.

The formative period is over. The hard pull lies ahead. The great vote of confidence in you has eliminated suspense. All hands are on deck for full steam ahead. They don't want a Chairman - they want you as the "boss" and they want more definite clearance, more direction of procedure. I feel this in my contacts with members of the various staffs and with the Commissioners themselves.

First they feared they would be hampered. Then, thanks to Mac's unsurpassed technique, they were delighted that they were not. Now they have confidence and would welcome, - in fact, they want him to tighten clearance, procedure and administrative control. We are making every effort to render more effective the coordination and central administrative machinery of the Secretary's Office. We are also working to make contract procedure tighter, to insure orderliness and protection to the Government.
To the President,
Page 2.

A word from you to McReynolds, to take a stronger hand, would do the trick. I feel certain the Commissioners would welcome a gathering within the Office of the Secretary of all clearance functions, both with the Commission and with other government agencies. He has been asked by three Commissioners to do just this, but he will not without a word from you.

Strengthening of Mac's position as head of the Office of Emergency Management would in no wise dampen the ardor of any Commissioner, whereas the superimposing of a strong Chairman definitely would. They would always know, with Mac, that they could contact you directly when necessary.

This I believe is the psychological time to draw closer without a change of structure. In this way, individual initiative and action would be rendered more effective and intelligent by virtue of better understanding of a centralized procedure for clearance of contracts, locations, policies and ideas.

The presumption of this letter I consider my duty. Mac would not. I must. I am confident the Commissioners would sustain my observations.

Faithfully yours,

[Signature]
STRATEGIC MATERIALS

CHROME ORE Large additional tonnage contracted for in the Philippines to be brought in for stockpile as rapidly as shipping facilities are available. Turkish ore now being loaded in Greek bottoms. Negotiations under way for two additional boats, one to come directly by way of the Suez and the other for trans-shipment outside of the war zone. Negotiations under way looking toward development of extensive low grade deposits in Montana.

MANGANESE Arrangements made by the Metals Reserve Corporation for the purchase of additional large tonnage South African ore. Deliveries from previous purchases just starting.

MICA Negotiations with the British Government for mica purchases continuing.

QUARTZ CRYSTALS Inspection is bottleneck. Steps recently completed by Procurement in cooperation with Bureau of Standards to speed up inspection. Shipments of large proportion of stockpile contracted for being held off until material on hand has cleared inspection.

RUBBER Further purchases of crude prevented since market price remains above maximum stockpile purchase price.

TIN Additional tonnage purchased by Reconstruction Finance Corporation. Current price slightly above maximum stockpile price. Tin smelter negotiations are expected to be completed shortly.

TUNGSTEN Additional tonnage of California concentrates purchased by Metals Reserve Corporation. Delivery to start middle of 1941 because of needed increase in mine and plant capacity.

CRITICAL MATERIALS

AVIATION GASOLINE Revised program of War Department on 100-octane gasoline has not yet been received. Figures shortly available showing war and peace demands for both Services over next few years will serve to decide whether proposed purchases of 100-octane gasoline for 1941 are adequate.

CHEMICALS Chemical Division has recommended purchase of large tonnage of
Chilean nitrate to further facilitate the friendly Western Hemisphere interchange.

INDUSTRIAL DIAMONDS

Further discussions being held on the selection procedure and the settling of certain policies regarding the source of supply and the methods of selection.

ESSENTIAL MATERIALS

LUMBER

Cantonnement Construction: Conference held with Production Department, contractors, representatives of the Quartermaster Corps to discuss progress on Northern cantonnements and straighten out any supply difficulties encountered. Two additional conferences to be held, one in the South and one in the West to cover cantonnements in those areas.

Teak and Lignum-vitae: Conference held with British lumber representative and other United States Government agencies to discuss supply of teak and lignum-vitae. No current conflict in the needs of the two Governments. Agreed to hold conference regarding Sitka spruce for aircraft in case of conflict with British needs.

POWER

Efforts continued to secure power requirements for aluminum company at two locations; one involving 50,000 kilowatt hours has been assured as available by the Federal Power Commission and the other is being given further attention and study.

STEEL

Specifications: Committee of the industry on specifications is working on revision of specifications for steel shells. Changes expected to expedite greatly production of shells. Specifications for wire and other products involving chemical and physical limits have been amended so as to make production more practical and thus facilitate supply.

TEXTILES

Conference with representatives of Agriculture and Tariff Commission unanimously recommended all foreign cottons of staple length, 1 and 11/16 inches and over, be exempted from import quotas. Tariff Commission has recommended favorable action on this.

ZINC

Survey of requirements and supply indicates that shortage in zinc smelting capacity is being remedied by construction now in progress or planned. Method of estimating zinc requirements for brass fabricating capacity are being reviewed to check accuracy of methods as additional assurance that capacity is sufficient for all needs.

CONSERVATION AND RECLAMATION

Meeting held with representatives of Division of Transportation and State and Local Cooperation and Waste Material Dealers. Further conference to be held with representatives of scrap iron and steel institute. Additional meeting arranged with scrap and reclaimed rubber industry.
Dear General Watson:

I neglected to leave this report with the President after the meeting yesterday. Would you be good enough to give it to him for me? Many thanks.

Sincerely,

Nelson A. Rockefeller
Coordinator

Brigadier General Edwin Watson
Secretary to the President
Washington, D. C.
MEMORANDUM

FOR: THE PRESIDENT

FROM: NELSON A. ROCKEFELLER, COORDINATOR

SUBJECT: CURRENT DEVELOPMENTS

November 28, 1940

This memorandum summarizes a few of the current developments in the program of this office.

I  SPECIAL MISSION INVESTIGATING AGENCIES AND EMPLOYEES OF AMERICAN FIRMS AND CORPORATIONS DOING BUSINESS IN LATIN AMERICA

PURPOSE: Immediately after the creation of the office of Coordinator, a special mission was sent to Central and South America to verify charges that certain United States concerns which operate branches or use agencies in the other Republics are employing aliens whose strong totalitarian interest, sympathy or affiliations are prejudicial to the United States and other democratic nations. In many cases it was charged that advertising funds supplied by American firms, and at the disposal for placement by their agents, were being contributed to the maintenance of hostile newspapers in the other Republics. The mission also was requested to study and propose practical business alternatives for firms which might be asked to change their agencies or to discharge employees.

PERSONNEL: The mission is composed of two representatives of this office, one representative of the State Department and one from the Federal Bureau of Investigation.

REPORT: The mission has now studied the situation in fourteen countries and has filed detailed reports which contain (1) conclusive evidence to substantiate charges against many agencies and (2) practical recommendations for changes of agencies and employees. The reports of the
1. Large numbers of American firms are now represented by German, Italian, rational and a few Japanese agents who are unquestionably strongly pro-Nazi.

2. In all cases, except that of Bolivia, national or American firms exist which are fully qualified to handle virtually all the accounts now held by undesirable agents, at least as well as they are now being handled.

3. A majority of the pro-Nazi agents are now soliciting American accounts with the expectation of dropping them as soon as normal trade is restored.

4. Substantial amounts of advertising are being placed in anti-American newspapers by agents of American firms, frequently without regard to the possible value of the advertising from a business standpoint.

An, substantial amount of important information on radio programs, and news services has also been imported.

The entire body of information has been made available to the Commercial Intelligence Division of the Commerce, which is constantly answering inquiries of its control, and to the Federal Bureau of Investigation.

I am now prepared to move into the action stage through the approach to American firms. Three members of the group returning to this country on December fourth, and there will be among all the interested departments that prompt action be taken.

Annex hereto is a map which spots the cities covered by our mission.
II INTER-AMERICAN DEVELOPMENT COMMISSION

The Inter-American Development Commission is sending the Vice Chairman of the Commission, Mr. Oreamuno, and one of the Commissioners, Mr. Magalhaes, to South America next week for the purpose of establishing advisory sub-committees of the Commission in the capitals of the ten South American Republics.

This mission has been discussed with Under-Secretary of State Sumner Welles, who has promised to enlist the active cooperation and support of the United States Diplomatic Missions throughout South America and who, acting in his capacity as Chairman of the Inter-American Financial and Economic Advisory Committee, will also request assistance and cooperation of the various Latin American Governments concerned.

The mission of Mr. Oreamuno and Mr. Magalhaes will cover South America and a second mission will be dispatched to set up sub-committees in the Republics of Central America, Mexico and the Caribbean areas.

By establishing representative committees of the Inter-American Development Commission, composed of nationals of their respective countries, it is believed that the work of the Commission will be greatly expedited in stimulating increased trade between the Americas and in stimulating growth of industrialization in Latin America.

III REDUCTION OF POSTAL RATE ON BOOKS TO LATIN AMERICA

For a considerable period of time the high postage rate on books to Latin America has handicapped efforts to promote a more effective cultural interchange in the field of literature. The postal rate for books to Latin America is 12¢ a pound, the domestic rate is 1½¢ a pound.

It has been cheaper to send books from Europe to Latin America than from this country. We have been able to send books to the Philippine Islands and Hawaii more cheaply than to Mexico and countries south.
During the past week this Office has discussed the matter with the Post Office Department and it now appears that the Postmaster General will agree to a reduction of the rate to 4¢ a pound. The Cultural Relations Division of the State Department, the representatives of the Library of Congress, as well as publishers, are agreed that the decrease in the rate will result in a very substantial increase in the number of books sent to South America. It will enable us to take real advantage of the fact that book shipments from Europe have now been cut off completely.
Dear Pa,

Will you please clear this with the President? Many thanks.

Ed

12/5/40

file

Confidential

Statt

2 - 40
Aviation Gasoline  In connection with the 3,000,000 barrel stockpile, the Industrial Materials Division believes that 2,000,000 barrels should be accumulated before July 1, 1941 and 1,000,000 barrels between July 1 and December 31, 1941. By December of next year a slight addition to production capacity will be required.

Petroleum Advisory Committee. It has been suggested that the Army and Navy Munitions Board set up a Petroleum Advisory Committee so as to obtain reasonable estimates of requirements in respect to other petroleum products.

Chemicals

Potash. Meeting was held with the heads of the leading companies producing potash, with a view to securing adequate supplies for agriculture and the National Defense Program.

Ammonia. Because of large industry stocks the anticipated supply of ammonia and ammonia compounds is believed adequate to meet the estimated overall demand.

Patents. A committee has now been set up to pass on patent applications where for military reasons granting of the patents should be withheld.

Chrome Ore

Tight shipping situation growing worse. Private consumers report inability to charter ships to bring ore to this country. Anaconda Copper Mining Company has taken definite steps to bring into production low grade chromite deposits in Montana.

Copper

Procedure being worked out for acquiring stock pile.

Graphite

Purchased 468 tons this week for stock pile. This is part of a shipment of 3,550 tons of Madagascar flake, the remainder of which will go to industry.

Industrial Diamonds

Stock pile purchase held up temporarily pending a Government decision on general matter of policy.
Lumber

Activities of the War Department's Fixed Fee Division are being geared in with those of its Procurement Division. This will assure an orderly follow-up on deliveries of lumber and mill work against orders that have been placed.

Manganese

Tight shipping conditions growing worse. Negotiations initiated for the purchase of prospective output from Three Kids deposits in Nevada, estimated at 50,000 tons per year for three years.

Mercury

Production in October ran well ahead of consumption.

Power

Contract has been signed with West Penn-Monongahela Power Company for requirements of DuPont's Morgantown nitrate plant.

Rubber

The International Rubber Regulation Committee, meeting at London November 28, increased the rubber quota from 90% to 100%, effective January 1. It also applied the clause permitting 5% excess exports, deductible in some subsequent period.

Tin

Decline in tin prices has resulted in moderate offerings being made to the Metals Reserve Corporation. Industry stocks in October decreased 530 tons.

Zinc

Entire subject of zinc requirements and supply is still being investigated.

Conservation and Reclamation

Conferences have been held with persons engaged in handling scrap iron and steel, rubber, tin, and aluminum. As a result of these meetings, substantial progress has been made in determining the problems involved in the more intensive collection of these scrap materials without dislocating the waste material industry.

E. R. Stettinius, Jr.
December 7, 1940

Mr. Stephen Early
The White House
Washington, D. C.

Dear Steve,

The attached is self-explanatory. The President raised it with me a few days before he left. I know you aren't bothering him with anything other than essentials. However, as this contains important facts, it occurred to me he might wish to have it while he is in the Caribbean.

Hoping you can get a little sunshine while there, and with best wishes,

Sincerely yours,

E. R. Stettinius, Jr.

Attachment
MEMORANDUM TO:    THE PRESIDENT
FROM:              E. R. Stettinius, Jr.
SUBJECT:           Manufacture of Gasoline on
                   Trinidad, Aruba and Curacao.

Last Thursday you inquired if gasoline could be manufactured on Trinidad and Aruba Islands.

Crude oil to the extent of 60,000 barrels per day is produced in Trinidad and there are refineries owned by an English company with a present capacity of 50,000 barrels. That capacity is now being considerably increased.

Most petroleum products except lubricating oils can be produced, including ordinary motor gasoline and Navy fuel oil. The present capacity for 100 octane gasoline is quite small but is being increased. I understand all the present expansion is for the purpose of supplying the British Government.

There are large refineries on Aruba and Curacao owned by the Standard Oil Company of New Jersey and the Shell Oil Company which refine crude obtained from Venezuela. They can manufacture large quantities of motor gasoline and fuel oil and can also produce 100 octane aviation gasoline, depending for the latter, however, on importing some of the ingredients from this country. The production of the latter material by the Shell Oil Company is not now possible as the final finishing operation was done in Holland.
My dear Mr. President:

In your conference on November 28, you requested data as to steam ships now operating on the Great Lakes that by reason of their construction are sea-worthy and are of a size that can be moved through the lower canals.

The information is enclosed, having been provided by Mr. A. T. Wood, my consultant on lake transportation. You will note that there are 17 U. S. vessels and 116 Canadian vessels, all within the 261 feet overall length and 45 feet in beam.

Respectfully yours,

Ralph Budd
Transportation Commissioner.

The President,
The White House,
Washington, D. C.
### List # 4

#### Page # 1

**CANADIAN LAKE VESSELS - ST. LAWRENCE CANALS**

Size Not Exceeding 251 Feet Overall Length And 45 Feet In Beam

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<th>Year Built</th>
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<th>Gross Tons</th>
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<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Nicholson Transit Co.</td>
</tr>
<tr>
<td></td>
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<td>ROCKWOOD</td>
<td>1899</td>
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<td>TAMPOCO</td>
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Note: These vessels are not considered suitable for ocean service.
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<thead>
<tr>
<th>Name</th>
<th>Year Built</th>
<th>Keel Length</th>
<th>Beam</th>
<th>Gross Tons</th>
<th>Operated By</th>
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<tr>
<td>ADRIAN ISELIN</td>
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<td>(Ships)</td>
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<td>251</td>
<td>43½</td>
<td>1992</td>
<td>Boland &amp; Cornelius</td>
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<td></td>
<td>Marine Trust Building</td>
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<td>*JACK</td>
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<td>2622</td>
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<td>*KING</td>
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<td>43½</td>
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<td>BACK BAY</td>
<td>1908</td>
<td>251</td>
<td>43</td>
<td>2382</td>
<td>Cartland Steamship Co.</td>
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<td>(Bulk Freighter,</td>
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<td>Machinery Aft.)</td>
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<td></td>
<td>Chicago, Illinois</td>
</tr>
<tr>
<td>List # 1</td>
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<thead>
<tr>
<th>Year</th>
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<th>Beam</th>
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<th>Remarks</th>
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<td>Garland Steamship Co. 206 So. LaSalle St. Chicago, Illinois</td>
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<td>STEEL CHEMIST (Bulk Freighter, Motor Vessel, Machinery Aft.)</td>
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<td>42$\frac{3}{4}$</td>
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<td>STEELVENDOR (Bulk Freighter, Motor Vessel, Machinery Aft.)</td>
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<td>FRED W. GREEN (Self-unloader Reconstruction)</td>
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<td>253</td>
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<td>J. B. JOHN (Bulk Freighter, Machinery Aft.)</td>
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<td>250</td>
<td>43</td>
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<td>MARITA (Bulk Freighter)</td>
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<td>30</td>
<td>632</td>
<td>Copper Steamship Co. Rockefeller Building Cleveland, Ohio Buckeye Steamship Co. Rockefeller Building Cleveland, Ohio</td>
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<td>TRISTAN (Bulk Freighter, Machinery Aft.)</td>
<td>1911</td>
<td>253</td>
<td>43</td>
<td>2294</td>
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</tbody>
</table>

* Have Refrigeration Equipment.

* Not considered suitable for offshore ocean service.
Dear Mr. President:

I am handing you herewith a confidential report on the activities of my department during the past six months.

The report has been prepared in such a way as to enable you to see quickly what progress has been made with respect to the various industrial materials.

Because of the form and material contained, it is believed that you will find the report of continuing usefulness for reference in considering questions regarding industrial materials.

Sincerely yours,

E. K. Stettinius, Jr.

The President
The White House

December 19, 1940
December 19, 1940

Dear Mr. President,

You will recall at a recent meeting the question was raised as to the feasibility of constructing an overland shipway to supplement the Sault Ste. Marie, Michigan, locks.

I have had a confidential engineering report prepared thereon, which I am pleased to hand you herewith, together with a short digest of the report.

Sincerely yours,

E.H. Stettinius, Jr.

The President
The White House
Subject: Sault Ste. Marie, Michigan

Proposal

Construction of an overland ship railway to serve as an alternate route to route of water-borne traffic now passing through the Soo locks.

Conclusion

That project is not feasible as (1) Construction of lake vessels such as to render them vulnerable to considerable damage in the process; (2) Also, if built in same vicinity would be subject to same hazards as the locks and due to nature of construction would be even more vulnerable, and (3) Difficult to see how could handle 15,000 boats in 210 days (present load).

Alternates

(a) Additional locks in vicinity of the Soo or a ship elevator.

1. Would only partially improve situation from a vulnerability standpoint.

(b) Extension of a railroad from vicinity of Duluth to Escanaba, Michigan, which would have following advantages:

1. Most ore carried from mines in cars; this haul would be 300 miles more.
2. As an alternate route should be, is several hundred miles from the Soo.
3. Would result in definite shortening of present all-water haul.

(a) Estimated would increase carrying capacity of present fleet by 25%.

A. Believed a double tracked line including rolling stock would cost $77 million with capacity for 60 million tons of ore per season.

(a) If 3 tracks, 90 million tons ore capacity and estimated cost $104,000,000.

(b) Or might be more feasible to rehabilitate and increase capacity of two existing rail lines between Duluth and Escanaba.
PSF: Council of National Defense
CONFIDENTIAL MEMORANDUM
SAULT SAINTE MARIE
MICHIGAN, U.S.A.

DECEMBER 12, 1940
New York, December 12, 1940

CONFIDENTIAL MEMORANDUM
SAULT SAINTE MARIE, MICHIGAN

Proposal

We have been asked to consider the practicability of constructing an overland ship railway to connect some suitable point at the lower end of Lake Superior with a similar point at or near the head of Lake Huron, such a ship railway to serve as an alternate to the route of water-borne traffic now passing down the St. Marys River and through the Soo Locks.

Conclusion

After consideration of the proposal, we have concluded that such a ship railway is not feasible. Most of the vessels engaged in the transport of ore on the Great Lakes, particularly those built during the last 20 years, are close to one standard dimension - 600 ft. long by 60 ft. beam, and carrying around 12,000 gross tons of ore, on 20 feet of draft. These vessels are extremely narrow and extremely shallow in proportion to their length. Their lack of depth gives them relatively little longitudinal strength compared with that of an ocean vessel of corresponding size. In order to facilitate rapid handling of ore, these vessels have only a fraction of the number of stanchions, decks and transverse bulkheads that would be built into an ocean vessel of corresponding size, which restricts their resistance to vertical, transverse and torsional stresses.
It is our opinion that the construction of the standard lake-type ore carrier is too frail and it does not have sufficient structural strength to permit the vessels to be taken out of water when fully loaded without risk of severely damaging them. Also, the shipway if constructed in the general vicinity of the present locks would be subject to the same hazards as the locks and by the nature of its construction would be even more vulnerable.

Shipping Through the Soo

Most of the iron ore used in the production of steel in this country is mined in Minnesota and transported by rail to the head of Lake Superior where it is loaded into lake ore carriers and transported therein direct to the unloading docks of the steel companies on the lower lakes; except in certain important instances there is a final rail haul to the point of consumption. In the passage from Lake Superior to Lake Huron all vessels must pass through the locks at Sault Sainte Marie - a single drop of approximately 20 feet. The open season for this shipment is about 210 days per year and the tonnage of ore brought down has reached approximately 65,000,000 gross tons in a season. When the return trips of the ore boats empty or carrying coal are added to the trips down loaded with ore, it will be found that approximately 15,000 such ship-passages per season probably are made through the locks. Even if the suggested ship railway could be designed to handle boats of the frail type of the lake boats, it is difficult to conceive of a successful operation of the magnitude that would be required to handle 15,000 boats in 210 days.
Alternate

One alternative would be to increase the number of locks in the vicinity of the Soo but this would still only partially improve the Soo transportation from a vulnerability standpoint. The same conditions would hold in respect of a ship elevator of the type used on the Hohenzollern Canal in Germany as shown in Exhibit No. 1, attached.

It would appear that a logical basis for an alternate for the passage through the Soo Locks would be to keep the ore moving in the cars in which it was originally loaded and extend the rail haul to some lake port below the Soo if such can be found within reasonable distance. Study of the map, Exhibit No. 2, shows that such a discharge point is luckily to be found at Escanaba, Michigan, on Lake Michigan where ore in comparatively small tonnage is already handled in this way over the Chicago & Northwestern Railroad. To handle ore from the Minnesota ranges all-rail to Escanaba means in effect an extension of one of the present ore roads from the vicinity of Duluth to Escanaba, a distance of approximately 300 miles.

It is believed if an alternate to the present Soo route is required that this suggested railroad from Duluth to Escanaba is both feasible and practicable. Its location is happily several hundred miles from the Soo as an alternate route should be and with the connecting ore roads it would serve as an outlet for all the Lake Superior iron ranges. Because the distances from Escanaba to the principal destination ports at the foot of Lake Michigan and on Lake Erie are much shorter than the present all-water hauls
from Duluth, definite shortening of the round-trip time of the ore boats will result and this is an important consideration when ships are badly needed. From Escanaba the steaming distance to Chicago and return is 1,080 miles shorter than from Duluth and to Cleveland 620 miles shorter. The commencement of ore deliveries in the spring is often delayed several days before the ice at the head of St. Mary's River is sufficiently open to permit a smooth flow of traffic through the Soo.

The advantages of shipping out of Escanaba may be expressed another way by stating that the use of such a railroad as suggested with sufficient rolling stock and terminal dock facilities at Escanaba would increase the carrying capacity of the present fleet of lake ore boats by at least 25 per cent.

Cost of Railroad

The suggested railroad from Duluth to Escanaba would be approximately 300 miles long. If constructed as a double-track road it would have a capacity of approximately 60,000,000 tons of ore per season and cost about $77,000,000 including necessary rolling stock. If constructed of three tracks the capacity would approximate 80,000,000 tons and cost would be about $104,000,000.

It might be more feasible to rehabilitate and increase the capacity of the two existing rail lines that connect Duluth and Escanaba although this could be determined only after study.

If an alternate to the Soo route is required we recommend, not that a ship railway be undertaken or that additional
locks be provided, but that the above described railroad development be considered.

Very truly yours,

FORD, BACON & DAVIS, INC.

Vice President
Barge Elevator with 118-Foot Lift

EXHIBIT NO. I

THE GOLIATH AND ENVIRONS

The barge elevator, and the bridge connecting it with the Hohenzollern Canal. To give the elevator a sufficiently firm footing, it had to be built somewhat removed from the uphill, and this accounts for the bridge, which is 314 feet long and has a lead trough to prevent leakage. Approximately 300 exploratory borings were made before the site for the structure was selected. On the upper level close to the elevator is one of the storage-battery locomotives that are used to tow barges in and out of the trough.

AT THE UPPER LEVEL

At the top is the Hohenzollern Canal end of the elevator with the gates open and a barge about to enter the trough under its own power. In the glass-enclosed section at the top of the structure, right, are the pulleys over which pass the 436 wire cables from which the trough and counterweights are suspended. The latter are in the form of heavily reinforced concrete slabs—192 in number—each 25 feet long, 1.6 feet thick, and weighing 33 tons.

READY FOR THE ASCENT

The trough at the lower level with a barge and its tug in position. Immediately above them, in the foreground, is one of the two engine rooms that span the trough.
Metals Reserve Company is postponing action on purchase of asbestos pending completion of a restudy of the situation by the Bureau of Mines.

Plans have been completed for constructing additional capacity for the manufacture of chlorates.

The shipping situation is increasingly acute. Industry stocks last week recorded a small decline. New metallurgical facilities for smelting are under consideration, and this will further increase consumption. A contract for the purchase of a large tonnage of South African chromite was completed during the week by R.F.C.

Results of a questionnaire on copper refining capacity indicate sufficient plant equipment for any requirement so far contemplated, although there is some anticipated shortage in domestic copper itself. The United States Copper Association is circulating a monthly questionnaire on fabricators' stocks and commitments.

A survey is being made of the requirements for small dies over the next twelve months.

It has been suggested that an advisory group be set up to work with the Army and Navy on the quality aspects of fuels and lubricants required for defense.

A study has been made of the practicability of substituting certain varieties of Ceylon lump and chip graphite for Madagascan flake in crucible manufacture. The survey indicates that such substitution will be feasible.

Conferences are being held toward formulating a new committee to review the entire purchase program.

The Munition Board has given informal approval to the Defense Commission's recommendation that fifty million jewel bearings be purchased for Government stock pile.
Leather

The last directive for 1,500,000 pairs of service shoes developed an over offering of 50 per cent. It is understood that the Quartermaster Corps will purchase 1,700,000 pairs at a price acceptable to them.

Lumber

Steps have been taken to relieve the local shortages in certain sizes of lumber needed for cantonments. Strike in the West Coast lumber industry has been settled.

Manganese Ore

No further contracts for ore from India or South Africa are being negotiated pending a survey of the shipping situation.

Mercury

During the week, 550 flasks were delivered against Government contracts. Heavy demand from Germany has increased the price set by the Mercury Cartel (Spain and Germany) from $200 to $250 per flask. U. S. requirements are being met by domestic production, with domestic prices now at $165 to $168 per flask.

Power

Results of a recent survey by Edison Electric Institute show additional generating capacity some 500,000 kw larger than was previously reported for instrumentalities contributing to the public supply. Additional data have also been made available with respect to capacity installed or to be installed by industrial plants.

Rubber

Stocks of crude rubber held in this country by Government and industry at the end of November were 277,000 tons, compared with 105,000 tons as of November 30, 1939.

Steel

During the past week, recommendations have been made for Certificates of Necessity covering the installation of additional coke, pig iron, and steel capacity.

Tin

Despite good consumer demand, the R.F.C. has acquired additional tonnage for the stock pile during the past week.

Zinc

A detailed review of Army-Navy requirements has been instituted.

E. R. Stettinius, Jr.
MEMORANDUM TO: THE PRESIDENT
FROM: E. R. Stettinius, Jr.
SUBJECT: Interim Report on Raw Steel Requirements and Capacity

Our analysts have assembled most of the available information on raw steel requirements and capacity short of an engineering investigation. Below are furnished the salient figures:

**Capacity**

<table>
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<tr>
<th>Description</th>
<th>Millions of Net Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present steel ingot output rate</td>
<td>79</td>
</tr>
<tr>
<td>Present rated capacity</td>
<td>83</td>
</tr>
<tr>
<td>American Iron and Steel Institute estimate of maximum working capacity, assuming certain step-ups in scrap and pig iron</td>
<td>85</td>
</tr>
<tr>
<td>Steel ingot capacity expansions in process, available in 1942</td>
<td>1.5</td>
</tr>
</tbody>
</table>

During 1940, capacity has been increased from 81.8 to 83.0 million tons. Of the 1,200,000 tons increase, 900,000 tons was in electric furnace steel, an increase of 50% in electric steel capacity.

**Requirements**

**Historical points of reference:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Millions of Net Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous peak (1929) output (approximating domestic plus export demand)</td>
<td>63</td>
</tr>
<tr>
<td>Average output last ten years</td>
<td>38</td>
</tr>
<tr>
<td>1939 output</td>
<td>53</td>
</tr>
</tbody>
</table>

CONFIDENTIAL
Possible requirements in fiscal year 1942:

<table>
<thead>
<tr>
<th>Description</th>
<th>Net Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible civilian demand, assuming $90 billion annual income</td>
<td>71.5</td>
</tr>
<tr>
<td>Estimated direct defence and export (primarily British)</td>
<td>20.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>91.7</strong></td>
</tr>
</tbody>
</table>

**Development of a Program**

It is clear from the figures above that foreseeable direct defense and British requirements are less than one-fourth of present capacity. At the same time, present capacity largely exceeds any foreseeable civilian requirements. However, our estimates indicate that if these demands are combined there will be some shortage in the fiscal year 1942.

Ascertainment of the actual ability of the industry to produce, as indicated above, requires an engineering investigation. There are various possibilities which might assist the industry to step up production substantially. Any further expansion of capacity that may be necessary after allowance for such possibilities may raise the question of how to the industry in connection with further over-capacity for the period after the emergency is over. This is obvious since even present capacity greatly exceeds estimated civilian requirements.

I have assigned to Mr. Gano Dunn the engineering investigation of the present and potential actual production capacity. He will conduct this investigation with the utmost speed and thoroughness. Based on his investigation, we will promptly recommend practical ways in which the situation can best be dealt with from the national viewpoint.
December 19, 1940

Dear Mr. President,

Recently we discussed the question of building an overland shipway across the Isthmus of Tehuantepec, Mexico.

For your information, I enclose an engineering report on the subject which I had prepared on a confidential basis. There is also enclosed for your convenience a one-page digest of its major points.

Sincerely yours,

[Signature]

The President
The White House
Subject: Confidential Memorandum on Isthmus of Tehuantepec, Mexico.

Proposal

To construct an overland shipway across Isthmus designed to transport ocean-going ships up to 10,000 or 15,000 tons maximum loaded displacement.

Conclusion

Is possible from mechanical standpoint, could be constructed in reasonable time, and would transport ships of size suggested but believe should not be built.

Engineers' Opinion on Certain Points

1. Cost from $525 million (for 10,000 gross tons) to $570 million (for 15,000 tons).
2. Under favorable conditions, take three years to construct.
3. Operating costs per ship carried would probably range from four to five times Panama Canal toll.
4. Believe 95% of our Naval vessels could be handled; probably three days required to effect transfer; in order to handle 2,000 vessels per year might be more than 20 vessels on the ways at one time.

Objections

1. Vulnerability of the way and of the ships while out of water.
2. Slowness of transfer by the ship railway.
3. Liability of structural damage and fire damage to vessels and consequent excessive insurance cost on merchant vessels.
4. High construction and operation costs.
5. Unsuitability of such a large sum on project, success of which is problematical when considered such funds would provide substantial addition to Navy or go far towards a second ocean Canal.

Alternatives

1. Rehabilitation and double tracking of railway across Isthmus between Puerto Mexico and Salina Cruz and an oil pipe line under right of way. (Probable cost $25 million.)
   (a) In peace times using sea-trains for inter-coastal service might be profitable but competitive with existing services.
   (b) Of course, would not accomplish full purpose of ship railway.
2. Construction of Nicaraguan Canal (probable cost $700 million; 10 years to construct.
3. Combination of these two might be seriously considered.
Respectfully forwarded to the President

E.M.W.


12/26/40

Dear Pa,

Hereewith our Weekly Progress Report. Will you please see that it gets in the "basket"?

Many thanks.

[Signature]

[End]
**Industrial Materials Division**

**Weekly Operations Progress Report of December 26, 1940**

<table>
<thead>
<tr>
<th>Chemicals</th>
<th>Cotton linters: Bleacheries have increased their capacity about 20 per cent and are now able to bleach approximately all of the linters that are available.</th>
<th>Alpha-cellulose: The possibility of increasing production of alpha-cellulose is being investigated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>Purchase by the Metals Reserve Company of 100,000 tons of foreign copper will probably allay any fears of a market shortage.</td>
<td></td>
</tr>
<tr>
<td>Diamond Dies</td>
<td>Manufacturers report progress in developing facilities for drilling small dies. Steps are being taken to secure sufficient amounts from the British to meet requirements of wire drawing industry until domestic manufacturers are able to produce the needed supplies.</td>
<td></td>
</tr>
<tr>
<td>Graphite</td>
<td>Negotiations are now under way for the purchase of Ceylon crystalline lump and chip graphite as a substitute for Madagascar flake.</td>
<td></td>
</tr>
<tr>
<td>Iron Ore</td>
<td>Study of the iron ore situation indicates that supplies of ore in 1941 should be adequate to meet the needs of all blast furnaces.</td>
<td></td>
</tr>
<tr>
<td>Leather</td>
<td>The supply of chrome tan upper leather suitable for Army shoes appears adequate.</td>
<td></td>
</tr>
<tr>
<td>Manganese Ore</td>
<td>Contract has been signed for a large tonnage of ore to be produced from the Three Kids property in Nevada. Delivery will extend over a period of 3 ½ years.</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>Further purchases for Government stockpile have been recommended, because of the heavy buying by England of mercury now in this country.</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>It has been recommended to the Commission that nickel be added to the materials requiring license for export.</td>
<td></td>
</tr>
</tbody>
</table>
Oil

A meeting was held with the Transportation Division to discuss railroad aid in the event that a serious tanker shortage should occur.

Textiles

Conference held with members of Mr. Davis' division and the Department of Agriculture to discuss securing of an adequate supply of extra-long staple Sea Island cotton.

Tin

Mr. W. F. Foshag, Curator of Mineralogy for the National Museum and temporarily assigned to the U. S. Geological Survey, will shortly start for Mexico to make a preliminary survey of placer and lode tin prospects. He will be accompanied by Mr. Carl Fries.

E. R. Stettinius, Jr.
RESPECTFULLY FORWARDED TO THE PRESIDENT:

Confidential
1/2/41

Dear Pa,

Will you please clear this with the President? Many thanks.

Ed
INDUSTRIAL MATERIALS DIVISION

WEEKLY OPERATIONS PROGRESS REPORT OF JANUARY 2, 1941

Asbestos
Replies so far received by the Bureau of Mines, in response to a questionnaire, indicate no difficulty in securing increased imports of African grades.

Aviation Gasoline
The Air Corps has agreed to finance a survey by the Bureau of Mines of crude oils suitable for the production of Aviation Gasoline.

Coke
Questionnaire on beehive and by-product coke production and capacity is now being sent out by the Bureau of Mines.

Copper
Data has been made available on Canadian brass orders placed with domestic mills and on the corresponding diversions of Canadian copper and zinc to fill these orders.

Diamond Dies
Recommendation made that Defense Supplies Corporation act as intermediary in securing supplies of small diamond dies from the British, and in selling them to industrial consumers in the United States.

Iridium
Detailed requirements for defense purposes are being reviewed.

Jewel Bearings
Specifications as to sizes and shapes for the stock pile are being secured from watch manufacturers.

Lumber
Requirements of millwork for the defense housing program are being surveyed. It is probable that millwork will be available as needed, but careful planning will be necessary to avoid congestion of orders.

Survey is being made of plywood supplies available for the tent camp at Abilene, Texas.

In connection with recent Quartermaster Corps purchases, lumber prices have shown a further weakening tendency.
Petroleum

All petroleum patent applications pending in the patent office have been reviewed. Survey has also been made of applications for export licenses covering petroleum patents.

Steel

Armor: With the establishment of a definite tank delivery program, it is now possible to determine homogeneous armor requirements by months.

Emergency Plant Facilities: Studies are being made of problems connected with applications for, and issuance of, Non-Reimbursement Certificates.

Tin

W. R. Grace & Company have been appointed agents of the R.F.C. to receive and sample ores in Bolivia.

Tungsten

Sizable tonnage of Chinese ore was shipped from Rangoon on December 21.

Zinc

Survey of zinc concentrate supply from foreign sources has been completed. Assistance of the Bureau of Mines has been enlisted in reviewing this supply situation and extending the inquiry to domestic concentrate production.

E. R. Stettinius, Jr.
RESPECTFULLY FORWARDED TO THE PRESIDENT:

E. M. W.
Chromite: Industry stocks declined slightly during November. Meeting of all parties interested in development of low grade Montana ore scheduled for this week.

Copper: New long-range estimates of Army-Navy ordnance requirements call for greatly increased quantities of copper, together with a large expansion of brass sheet-rolling capacity.

Diamond Dies: Some further progress has been made in developing facilities for manufacturing small dies.

Electric Power: Recently reported additions will bring the total of additional generating capacity to be installed in 1941 and 1942 to approximately 6,335,000 kw.

Ethyl Alcohol: Conferences with respect to ethyl alcohol and molasses have been held with representatives from Cuba.

Iridium: Bureau of Mines survey shows refiners' stocks decreased in 1940.

Manganese Ore: Industry stocks increased about 33,000 tons in November.

Mercury: Domestic production declined slightly in November and consumption increased, resulting in a reduction of about 500 flasks in industry stocks.

Mica: Some additional Indian block and splittings have been purchased.

Petroleum: Meeting was held with Petroleum Division of Army-Navy Munitions Board seeking estimate of quantity and quality of petroleum requirements.

Steel: Conferences have been held with respect to problems arising in connection with the amortization of emergency plant facilities.

Tungsten: The supply situation was canvassed at a conference with representatives of industry, held January 3.
Several ships carrying wool for the United States' reserve stock are expected to leave Australia shortly.

New long-range estimates of Army-Navy ordnance requirements call for greatly increased quantities of zinc. Data have been obtained on the production of zinc oxide and sulphate, zinc in lithopone, and on the use of zinc die castings by the automotive industry.

E. M. Stettinius, Jr.
PERIOD AVERAGES ON WHICH CHART SHOWING "POUNDS PER CAPITAL" HAVE BEEN TABULATED.

<table>
<thead>
<tr>
<th>Five Year Period</th>
<th>Average Annual Production (Inpits &amp; Castings)</th>
<th>Average Population</th>
<th>Pounds Per Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881 to 1885, Incl.</td>
<td>1,746,473 N.T.</td>
<td>53,993,362</td>
<td>65.5</td>
</tr>
<tr>
<td>1886 &quot; 1890, &quot;</td>
<td>3,687,895 &quot;</td>
<td>60,389,327</td>
<td>122</td>
</tr>
<tr>
<td>1891 &quot; 1895, &quot;</td>
<td>5,236,825 &quot;</td>
<td>66,861,772</td>
<td>158</td>
</tr>
<tr>
<td>1896 &quot; 1900, &quot;</td>
<td>9,452,730 &quot;</td>
<td>73,385,202</td>
<td>260</td>
</tr>
<tr>
<td>1901 &quot; 1905, &quot;</td>
<td>17,212,083 &quot;</td>
<td>80,787,882</td>
<td>428</td>
</tr>
<tr>
<td>1906 &quot; 1910, &quot;</td>
<td>24,826,798 &quot;</td>
<td>88,776,727</td>
<td>560</td>
</tr>
<tr>
<td>1911 &quot; 1915, &quot;</td>
<td>31,785,886 &quot;</td>
<td>96,093,771</td>
<td>660</td>
</tr>
<tr>
<td>1916 &quot; 1920, &quot;</td>
<td>46,838,598 &quot;</td>
<td>102,962,946</td>
<td>909</td>
</tr>
<tr>
<td>1921 &quot; 1925, &quot;</td>
<td>111,136,918 &quot;</td>
<td>110,829,946</td>
<td>740</td>
</tr>
<tr>
<td>1926 &quot; 1930, &quot;</td>
<td>&lt;54,186,962 &quot;</td>
<td>&lt;119,362,156</td>
<td>910</td>
</tr>
<tr>
<td>1931 &quot; 1935, &quot;</td>
<td>&lt;27,553,544 &quot;</td>
<td>&lt;125,365,531</td>
<td>440</td>
</tr>
<tr>
<td>1936 &quot; 1940, &quot;</td>
<td>&lt;52,333,862 &quot;</td>
<td>&lt;129,683,006</td>
<td>810</td>
</tr>
<tr>
<td>1940</td>
<td>&lt;66,981,662 &quot;</td>
<td>&lt;131,410,000</td>
<td>1020</td>
</tr>
</tbody>
</table>

Capacity Figures

<table>
<thead>
<tr>
<th>As of</th>
<th>By</th>
<th>Net Tons</th>
<th>Lbs. Per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/40</td>
<td>Institute</td>
<td>84,152,000</td>
<td>1275</td>
</tr>
<tr>
<td>12/31/40</td>
<td>Gano Dunn</td>
<td>87,576,099</td>
<td>1320</td>
</tr>
<tr>
<td>12/31/41</td>
<td>Gano Dunn</td>
<td>91,124,718</td>
<td>1370</td>
</tr>
</tbody>
</table>

5/14/41.