

PRESIDENT'S SECRETARY'S FILE
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Office of Production Management:
Defense Progress: June 1941
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Defense Contracts*

Weekly Progress Reports from the following Defense Divisions and Agencies:

Office of Price Administration and Civilian
Supply

Transportation Division

Office of Coordinator of Health, Welfare and
Related Defense Activities

Division of Defense Housing Coordination

Division of State and Local Cooperation

Report #46
June 4, 1941
Copy #B-1

- C O N F I D E N T I A L -

OFFICE OF PRICE ADMINISTRATION AND CIVILIAN SUPPLY CONFIDENTIAL
Leon Henderson, Administrator

June 4, 1941

Weekly Operations Progress Report

On May 28 an announcement was made that a schedule of price ceilings on hides would be imposed in the immediate future. The ceiling will be based on a price of 15 cents for hides of light native cows, July take-off.

Upon representations by this office, coffee quota was increased by 5 percent.

Mr. Donald Nelson's office rejected coffee bids on advice of this office and a meeting will be called with the coffee industry to work out a program for stabilizing coffee prices by release of inventories now held by a few large houses.

A meeting was held with the Tennessee Valley Authority on supply of concentrated phosphatic materials. Tennessee Valley Authority was asked to submit data on cost of doubling size of present ammonia plant for fertilizer use.

Letters were addressed to ammonium sulphate people asking that both domestic and export price be held at present levels.

A civilian allocation program for copper was adopted by this Division and a priorities order in accordance therewith was issued by the Office of Production Management.

An order was issued in cooperation with the Priorities Division of the Office of Production Management to arrange for handling of steel requirements of consumers who cannot obtain satisfactory deliveries.

A representative of the Transportation Unit is meeting with the railroads in Chicago to secure a lower rate for lumber being shipped east from the west coast.

The Interstate Commerce Commission recently handed down a decision in a lumber case upholding the contention of our office that a dollar increase in the shipping rate of lumber from west to east was unreasonable and unwarranted.

TRANSPORTATION DIVISION
Ralph Budd, Commissioner1237
CONFIDENTIAL

Weekly Operations Progress Report

June 4, 1941

This office gave out a press statement on June 2 concerning the record-breaking movement of iron ore on the Great Lakes during the month of May -- totaling 11,081,000 long tons. The tonnage now handled will also be increased by the use of Canadian boats under recent legislation that passed Congress.

The railroads on May 15 reported total freight car ownership of 1,652,378 with 94,957 cars or 5.9% in bad order. Serviceable car supply (ownership minus bad orders) was 1,557,421 an increase of 131,000 cars since September 1, 1939. It is now anticipated that on October 1 of this year there will be 1,617,000 serviceable cars available for handling the peak traffic. Average daily freight car surplus during the period ending May 15 was 93,340 cars with no shortages being reported.

As of Friday, May 30, there were a total of 12,871 cars under load at 32 principal ports on the Atlantic, Gulf, and Pacific Coasts. Average daily unloading at the same ports during the previous 48 hours was 2,632 cars, indicating that as a whole the port situation is being handled without undue car delay.

The railroad storage situation at principal ports continues to be satisfactory. As of May 27, report showing the railroad storage situation at 18 principal ports indicates total storage capacity for 97,902 carloads, with 24,001 carloads in storage, leaving vacant capacity for handling 73,901 carloads. The total figure includes covered piers, open piers, and ground storage. Taking covered piers alone, the total space is for 44,578 carloads with only 8,405 carloads in storage, leaving vacant covered pier capacity of 36,173. New York City, which is the point of heaviest movement, showed 3,435 carloads in covered pier storage against a total capacity of 8,289 carloads, leaving available space for 4,854 additional carloads.

The movement of Government grain from the middle west to eastern elevators is at present underway; some of this going to interior points and some to seaboard elevators. The present orders call for movement of approximately 15,000,000 bushels, which undoubtedly will be increased. In view of the nearness of harvest date in the winter wheat states, special instructions have been forwarded to eastern railroads by the Association of American Railroads asking that grain cars be returned to the west promptly. The number of grain cars in storage for handling the winter wheat crop is in excess of 20,000, which represents a considerable increase over the number in storage at this time last year for the grain movement.

The truckmen's strike, which started June 2 in Pittsburgh, includes truckers handling less than carload freight to and from railroad freight houses. The three railroads involved -- Pennsylvania, Pittsburgh and Lake Erie, and Baltimore and Ohio -- are unloading

TRANSPORTATION DIVISION (Continued)

freight from cars into their freight houses for holding. When freight houses become full, it will be necessary to hold freight in cars.

Employees of storage warehouses in San Francisco Bay area were out on strike June 2. San Francisco railroads, in order to prevent use of freight cars for storage purposes, have embargoed all steamship traffic offered for movement from piers to strike affected warehouses.

WAREHOUSE SECTION

Reports of space in public merchandise warehouses (not refrigerated) as of May 30th in five port cities are as follows:

	<u>Percent Occupied</u>	<u>Vacant Space</u>
San Francisco	75%	500,000 Sq.ft.
Philadelphia	91.7%	350,000 "
Boston	68%	2,350,000 "
New Orleans	71%	1,200,000 "
New York	84%	2,000,000 "

OFFICE OF COORDINATOR OF HEALTH, WELFARE AND
RELATED DEFENSE ACTIVITIES
Paul V. McNutt, Coordinator

CONFIDENTIAL

June 4, 1941

Weekly Operations Progress Report

The Nutrition Committee Conference was attended by more than 900 people representing every State in the Union, Hawaii, and Canada. The people were not only specialists in nutrition but educators, social workers, physicians, dentists, nurses, representatives of consumer groups, labor organizations, religious, and other influential groups. In addition to the general meetings there were sectional meetings which evolved specific recommendations which would help to motivate a Nutrition program. A condensation of these recommendations will be sent to the President.

The Subcommittee On Nutrition Movies met and recommended certain policies which would be followed in working out a joint sponsorship of films by commercial organizations and the Federal Security Agency. Popular movies on nutrition are much needed to interest and educate various groups in the population that are not reached otherwise.

Mr. Thomas E. Rivers, who has been on loan from the National Recreation Association has, under the direction of the Personnel Division of the Federal Security Agency, recruited the entire field personnel of the Division of Recreation which now totals 71 and is daily demonstrating its competence in performing a very difficult and necessary task. On March 10, 14 were on the job, and on May 19, 55 were on the job, 7 employments completed and 7 more in process. These men and women come from 22 States and are now serving in 12 regions and in nearly 60 defense areas.

Following completion of four weeks' training, assignments have been made to field training stations in Maryland and Virginia from the Orientation Class at the National Institute of Health, Bethesda, Maryland. A medical officer and a sanitary engineer have been assigned to the Director's office in District 2, to relieve the stress incident to the National Defense Program.

In addition, two reconnaissance teams have been making field surveys of important defense areas in the South and in New England. Each team includes a medical officer and a sanitary engineer.

The following additional assignments of local recreation field representatives have been made:

Robert W. Crawford
Harry L. Thompson
Harold L. Burk

Chester, Pennsylvania
New York City
Connecticut defense
industrial areas

144

1240

DIVISION OF DEFENSE HOUSING COORDINATION
C. F. Palmer, Coordinator

CONFIDENTIAL

June 4, 1941

Weekly Operations Progress Report

Status of the Defense Housing Program as of May 31, 1941

<u>Status of Projects</u>	<u>No. of Family Dwelling Units</u>	<u>Change this Week</u>	<u>Trailers</u>
Housing under allocation	96,753	9,493	2,309
Under construction contract	64,474	1,504	2,109
Housing completed	13,274	1,003	390

Status of Surveys

The following reports were received during the week ending May 31:

BES Labor Reports: Quad City Area, Illinois-Iowa; Watertown, New York; Kingsbury-LaPorte, Indiana; Allegheny County, Pennsylvania; Oshkosh, Wisconsin.

WPA Vacancy Report: Alexandria, Louisiana

FHA Housing Reports: Washington, D. C.; Baltimore, Maryland; Seattle, Washington.

No new surveys were requested.

DIVISION OF STATE AND LOCAL COOPERATION
Frank Bane, Director

CONFIDENTIAL

June 4, 1941

Weekly Operations Progress Report

1. Aircraft warning service

The aircraft warning service program throughout the country continued to receive the attention of the Division. Representatives of the Division participated actively in the furtherance of the program in each of the Interceptor Command areas. Special emphasis was placed on development of the service in the New England and Middle Atlantic States and other States in the Northeast Interceptor Command area.

2. Teletype exchange service for State law enforcement agencies

Conferences were held with representatives of the War Department and the Department of Justice regarding a proposal of the Defense Communications Board that State law enforcement agencies install teletype exchange service, and related problems of defense communications.

3. Defense council activities

Summaries based on reports from the Governors and defense councils, were prepared on the organization and major activities of defense councils in the States. Official defense councils or similar agencies have been established in 46 States, the District of Columbia, and approximately 1200 localities.

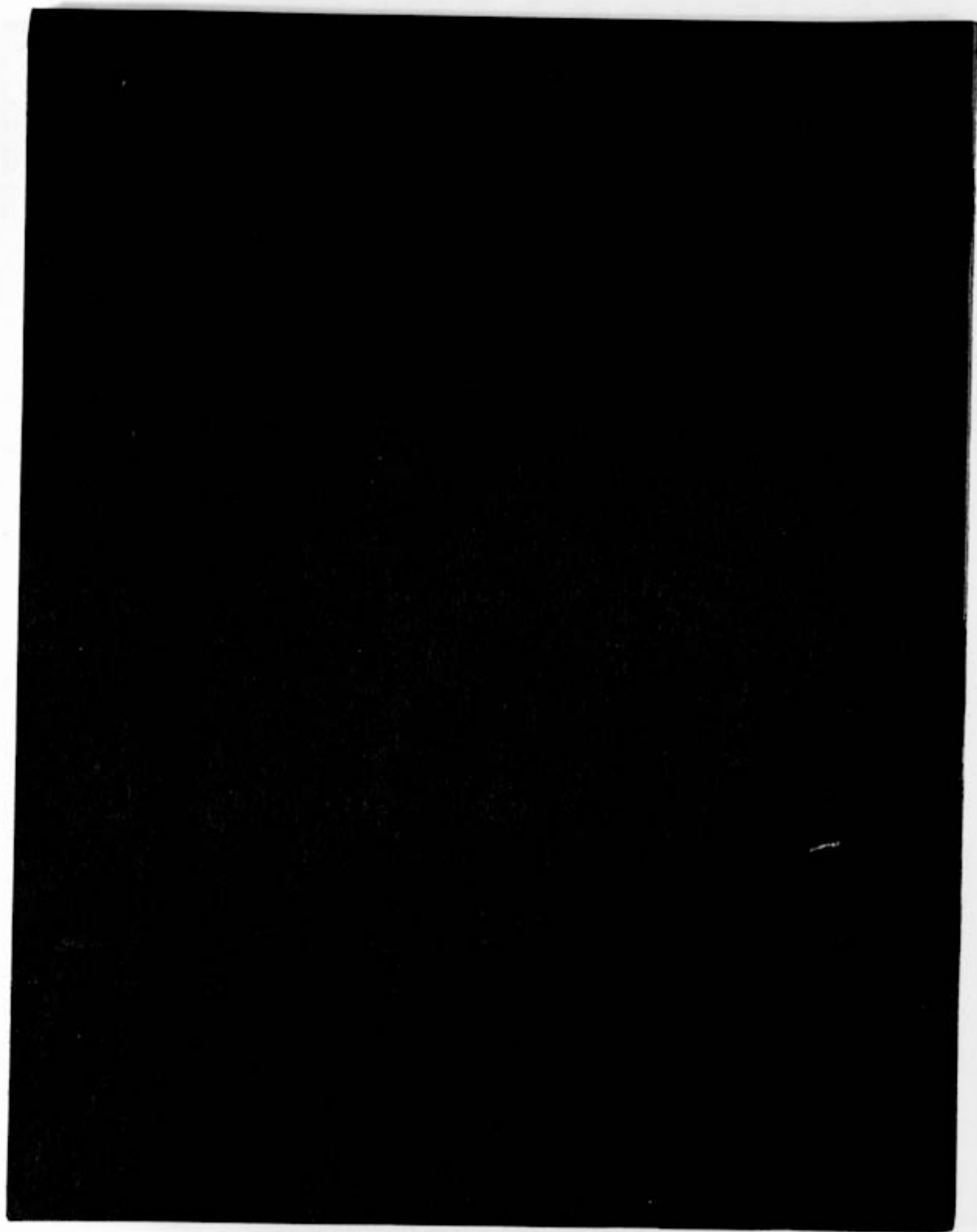
4. Publications of the Division

- a. Conferences were held with representatives of the War Department on the civilian defense bulletin on protection against gas, which is to be published by this Division.
- b. Numerous requests continued to be received from public officials, defense councils, and the public for civilian defense materials issued by the Division.

5. Community facilities

Information was furnished in response to inquiries from various State and municipal officials as to pending community facilities legislation and related matters.

6. At the invitation of Mayor Scully of Pittsburgh, Pennsylvania, the Associate Director of the Division spoke at the organization meeting of the Pittsburgh council of defense on May 29.



SUMMARY
OF
DEFENSE PROGRESS

BUREAU OF
RESEARCH AND STATISTICS
STACY MAY, CHIEF

ECONOMIC ANALYSIS SECTION
MORRIS A. COPELAND, CHIEF

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revelation of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

SUMMARY OF DEFENSE PROGRESS

NUMBER 43

JUNE 6, 1941

BRIEFS OF CONTENTS

	<u>Page</u>
● THE EXISTING BRITISH DEFICIT of 12,000 tactical planes cannot be overcome prior to July 1942 under the present schedule for turning over American planes to Britain. If beginning immediately the entire United States tactical plane output as now scheduled were sent to Britain, British-Axis parity could be achieved five months earlier, i.e., in February 1942.	2
● NEW INDEXES OF DEFENSE EQUIPMENT compare total deliveries through April to total production requirements. The index for major combat ships shows total deliveries through April to be 13 percent of total production requirements. Companion indexes show deliveries through April in relation to production requirements for planes (8 percent), for guns (7 percent), and for combat vehicles (6 percent). The index of monthly production of airplanes in May was two points lower than in April. The index of total airplane deliveries through May was 10 percent of production requirements.	4
● TOTAL UNITED STATES EXPORTS to the United Kingdom during the first quarter of 1941 amounted to \$282 million. At this rate, about four years will be required to export the materials provided under the terms of the British-Aid program.	9
● INCREASED STOCKPILES for chrome ore, mercury, mica, and quartz crystals and a stockpile for industrial diamonds have been recommended by OPM. Delivery for the stockpiles has been restricted because of stringent shipping facilities.	10
● OVERTIME AND MULTISHIFT OPERATIONS have influenced significantly the expansion in defense production. Total overtime hours in eleven defense industries increased by 36 percent between December 1940 and March 1941. The major part of the increased employment in these industries has gone to man the second and third shifts.	15

SUMMARY OF DEFENSE PROGRESS

	<u>Page</u>
● THE NUMBER OF EMPLOYEES in labor disputes involving stoppage of work in plants with defense contracts has increased 150 percent in the past five months from 39 thousand in January to 98 thousand in May.	18
● DATA IN DEFENSE PROGRESS SERIES indicate that the authorized defense program has increased by \$190 million and promises soon to reach \$50 to \$55 billion. Cash disbursements in May were less than in April.	20

SUMMARY OF DEFENSE PROGRESS

NUMBER 43

JUNE 6, 1941

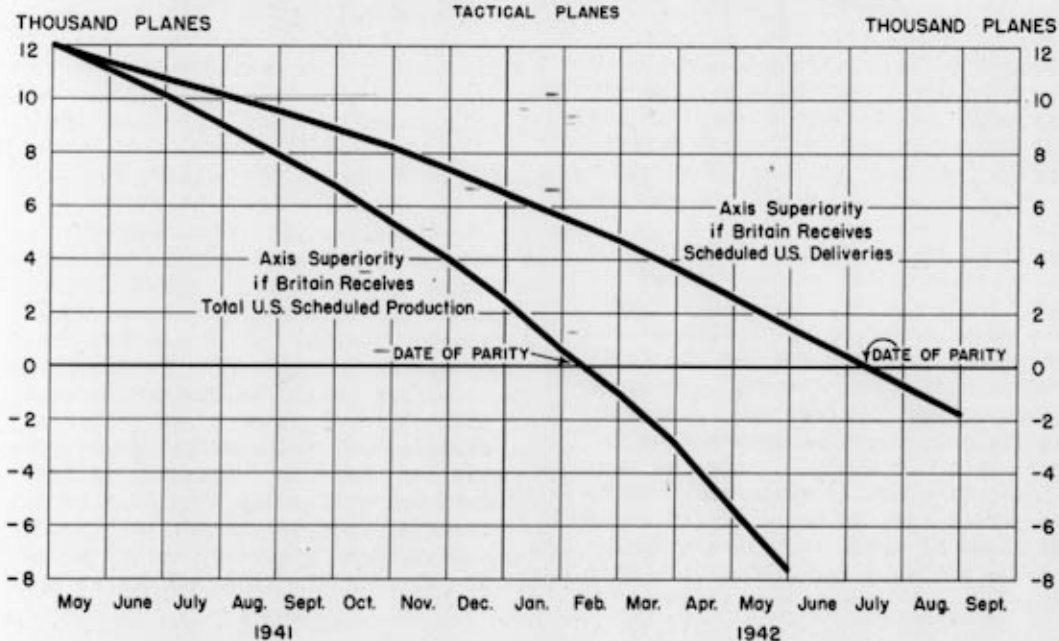
BRITISH-AXIS AIR PARITY

THE EXISTING BRITISH DEFICIT OF 12,000 TACTICAL PLANES CANNOT BE OVERCOME PRIOR TO JULY 1942 UNDER THE PRESENT SCHEDULE FOR TURNING OVER AMERICAN PLANES TO BRITAIN. IF BEGINNING IMMEDIATELY THE ENTIRE UNITED STATES TACTICAL PLANE OUTPUT AS NOW SCHEDULED WAS SENT TO BRITAIN, BRITISH-AXIS PARITY COULD BE ACHIEVED FIVE MONTHS EARLIER, I.E., IN FEBRUARY 1942.

Current estimates of airplane stocks, production, and losses indicate that Great Britain, on the basis of the present schedule of deliveries of American tactical planes, will not achieve air parity with the Axis until July 1942. If

all tactical planes now scheduled to be produced in the United States were delivered to Great Britain, she would achieve air parity with the Axis by February 1942. The decline in Axis air superiority is shown in the accompanying chart in terms of these

AXIS AIR SUPERIORITY AND
FORECAST OF BRITISH-AXIS AIR PARITY DATES



JUNE 6, 1941

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two bases: (1) United States production scheduled for Great Britain, and (2) total United States production.

It is estimated also that the British monthly rate of production of tactical planes plus the scheduled deliveries from the United States will continue to be below the Axis monthly rate of production until September 1941. The British plus the total American monthly output of tactical planes is probably at present greater than that of the Axis by some 200 tactical planes.

Since the question of effective air equality is the most dramatic and the most serious of the present conflict, the question may be raised whether these estimated dates of parity are not too far in the future, in view of the present acceleration of the tempo of conflict. The seriousness of the problem is revealed when it is realized that, if the British should suffer no losses in the coming months while the Axis continues to lose planes at the present average rate and if all the tactical planes scheduled for production in the United States should be delivered to Britain, she will not achieve air parity with the Axis before November 1941.

On the basis of available information it appears that the Axis powers have, at present, about 12,000 more tactical planes than Great Britain. If trainer planes are included, the Axis advantage in terms of numbers of planes would undoubtedly be greater, but for the purpose of estimating the relative fighting strength of the two air forces trainer planes have not been included in the comparison. Present United States delivery and production schedules taper off some time in

1942, but in calculating the dates of parity, production and deliveries have been continued at the levels attained in the peak months. It is assumed that the Axis powers are losing on the average through combat, crashes, and retirements, the same amount as their monthly production of tactical planes and that Great Britain is producing 200 planes more per month than she loses.

Since Great Britain's rate of losses of tactical planes is less than that of the Axis powers, the average age of the British stock is increasing in relation to that of the Axis. Moreover, newer planes may be of later type and qualitatively superior to older planes. Hence, the attainment of numerical equality will not necessarily indicate qualitative equality. It is difficult to say at what point a larger number of older planes is equal in effect to a smaller number of qualitatively superior planes, but it seems probable that the date of qualitative parity is after the date of numerical parity. An allowance for the disposition of the Axis air fleets over wider areas than the British may offset the effect of any estimated increase in age of the British air fleet.

If the British are to be given air parity sooner than present delivery schedules call for and if the United States is to build up an air fleet of her own of significant dimensions, present production schedules must be revised upward and a far more strenuous production effort must be made. Such a revision may appear stupendous by ordinary standards, but in terms of the needs and exigencies of the hour it would be hard to label any possible effort extravagant.

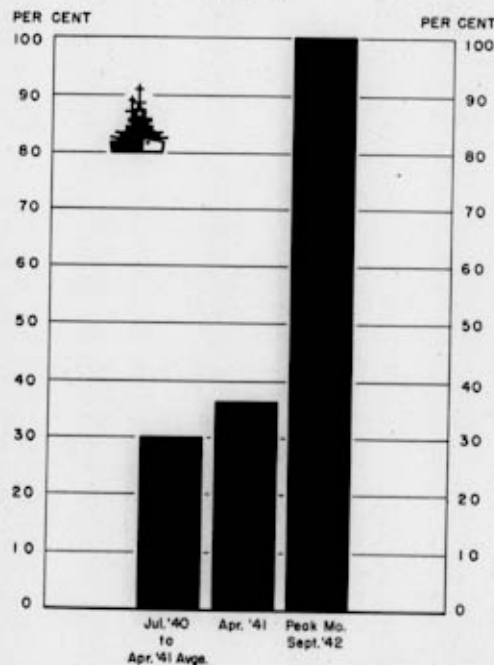
PRODUCTION OF SELECTED DEFENSE EQUIPMENT

NEW INDEXES OF DEFENSE EQUIPMENT COMPARE TOTAL DELIVERIES THROUGH APRIL TO TOTAL PRODUCTION REQUIREMENTS. THE INDEX FOR MAJOR COMBAT SHIPS SHOWS TOTAL DELIVERIES THROUGH APRIL TO BE 13 PERCENT OF TOTAL PRODUCTION REQUIREMENTS. COMPANION INDEXES SHOW DELIVERIES THROUGH APRIL IN RELATION TO PRODUCTION REQUIREMENTS FOR PLANES (8 PERCENT), FOR GUNS (7 PERCENT), AND FOR COMBAT VEHICLES (6 PERCENT). THE INDEX OF MONTHLY PRODUCTION OF AIRPLANES IN MAY WAS TWO POINTS LOWER THAN IN APRIL. THE INDEX OF TOTAL AIRPLANE DELIVERIES THROUGH MAY WAS 10 PERCENT OF PRODUCTION REQUIREMENTS.

Several new defense progress indexes, supplementing those given on pages 2 and 3 of Issue Number 42 of Summary of Defense Progress, are presented in the accompanying charts and in the tables of Defense Progress Data. One of these is a monthly production rate index for major combat vessels and is a companion to the indexes shown last week for airplanes, combat vehicles, and guns.^a The remaining indexes are total production indexes in which total production between July 1940 and April 1941 and production requirements of combat vessels, airplanes, guns, and combat vehicles under the defense program are compared. The defense program, as used

here, includes the requirements of the Army, Navy, and allocated portion of Defense Aid (Lend-Lease). In the case of airplanes the program has been expanded to include production under British orders placed in this country. An analysis of the progress being made in increasing the number of men under arms in United States military establishments is also presented.

The "Two-Ocean Navy" program calls for the ultimate construction INDEX OF MONTHLY PRODUCTION RATE SHIPS



^a General comprehensive indexes have been developed to make allowances for differences in effectiveness and production difficulties among various types of planes, ships, vehicles, and guns. In the case of airplanes and combat vehicles, the basis of the allowance is the size of the individual plane or vehicle; of guns, the fire power and range of each weapon; of major combat vessels, the total man-hours required in constructing each vessel. The vessel production indexes are based upon work completed as indicated by man-hours worked, rather than the number of ships delivered, because of the long time periods involved in building individual vessels.

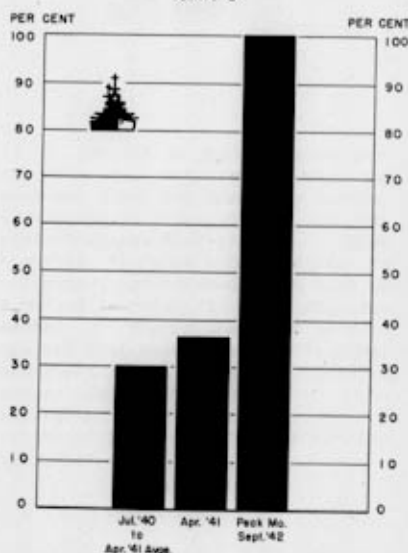
PRODUCTION OF SELECTED DEFENSE EQUIPMENT

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of 385 additional combat ships, totaling over 2 million tons, which will increase the United States Navy to 692 major combat ships, totaling almost 3.5 million tons. The chart below shows the newly constructed index of the monthly production rate for some of the major vessels under the program. ^b

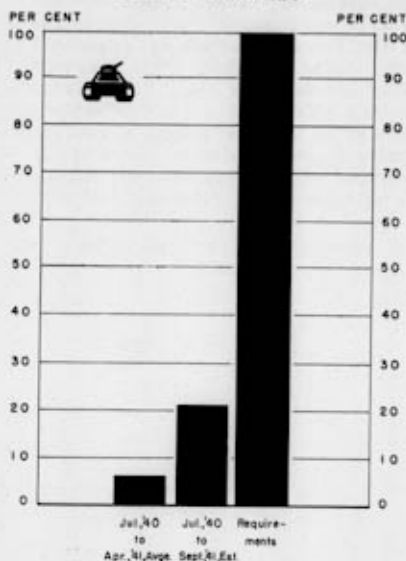
Naval ship construction will reach a peak in September 1942 under present schedules. During April the index of combat ship production reached 36 percent of this peak, according to preliminary data. The ship production index led the other three indexes. The indexes of production of guns, combat vehicles, and airplanes at the same time were 30, 32, and 33 percent, respectively. The ship production index, however, increased only 20 percent over the average between July 1940 and April 1941, while the indexes for planes, combat vehicles, and guns increased between 75 and 100 percent in the same period.

Combat Vehicles. The index of total production at the end of April of combat vehicles was 6, indicating that only 6 percent of the total production requirements had been delivered, mainly scout cars. Production of light tanks is scheduled to be stepped up by July or August and deliveries of personnel carriers should be commenced early in the

^b Battleships, aircraft carriers, destroyers and submarines. Complete data are not yet available for cruisers, but available information indicates that the inclusion of these vessels will not affect the index materially.

summer, so that the index of total production at the end of September of all combat vehicles will amount

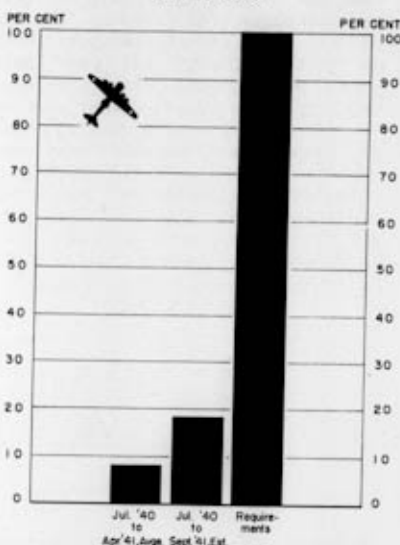
INDEX OF TOTAL PRODUCTION
COMBAT VEHICLES



to 21 percent of present production requirements. Requirements at the present time include only a relatively small proportion of the complete "Defense Aid" program. When the full "Defense Aid" program is allocated and ordered there will be a marked increase in total requirements. It should therefore be recognized that when revised requirements are made available, the index number for September will be considerably lower than the present estimated index of 21 percent for September.

Airplanes. The index of total production of military airplanes through the end of April was only 8 percent of the estimated United States and British production re-

INDEX OF TOTAL PRODUCTION
AIRPLANES

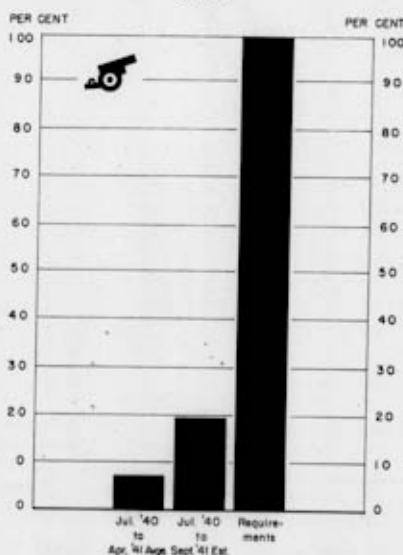


quirements of almost 77,000 planes. Existing schedules indicate that by the end of September 1941 only 18 percent of these requirements will have been produced.

Over 9,500 planes, or 12 percent of the total number in the program, have actually been produced. But this number includes an unduly high proportion of training planes and a low proportion of heavy bombers. The difference between the 8 percent as measured by the production index and the 12 percent rate as measured by the number of planes delivered illustrates clearly that measuring progress simply in terms of the number of planes produced may create too optimistic an impression.

Guns. The index of total production to the end of April of Army-type guns amounted to less than 7 percent of United States and allocated "Defense Aid" production requirements. As in the case of combat vehicles, total production requirements for these guns will be increased as further allocations of "Defense Aid" funds are made. Production of guns is scheduled to be stepped up during the summer and by the end of September over 19 percent of present scheduled requirements should be produced. The increase will be dominated by production of

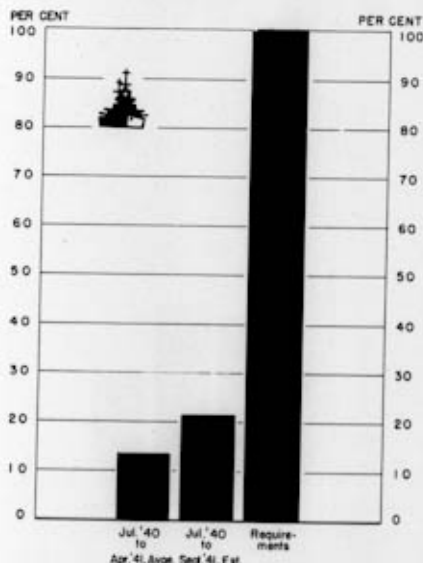
INDEX OF TOTAL PRODUCTION
GUNS



small arms and infantry-supporting weapons, but deliveries of medium field artillery guns will have an appreciable effect on the index.

Naval Vessels. As the index presented in the attached chart indicates, the naval vessel program was the furthest advanced of the four indexes at the end of April. At that time over 13 percent of the present contemplated work on the Navy shipbuilding program was completed. However, in considering the Naval program, it should be kept in mind that the "Two-Ocean Navy" expansion program incorporated some vessels which were actually under construction prior to the start of emergency defense preparation in July 1940. If the index of production was limited only to that portion of the work performed since July 1940 (as is the case for the other three indexes), then the index

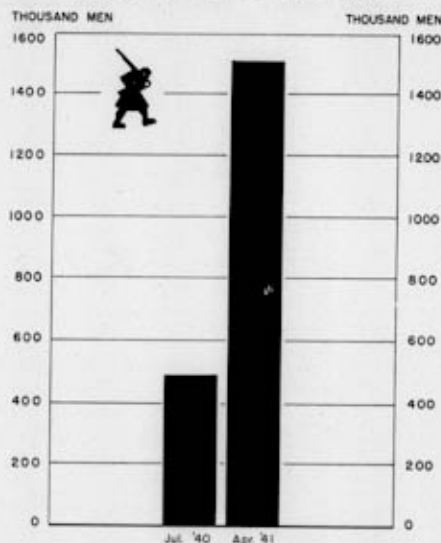
INDEX OF TOTAL PRODUCTION
COMBAT SHIPS



would be four points lower at 9 percent of total requirements. Present schedules indicate that by the end of September 1941 over 21 percent of the work to be performed on major combat ships will be completed.

The Armed Forces. Between July 1940 and the end of April 1941, the number of men in service in all branches of the United States military services increased 220 percent from less than half a million to over a million and a half men. All but 100 thousand of the million men

STATUS OF THE ARMED FORCES



inducted during this period were for the Army. The present planned goal is an Army of 2 million men and a Navy of some 350 thousand men, or 50 percent higher than the present level.

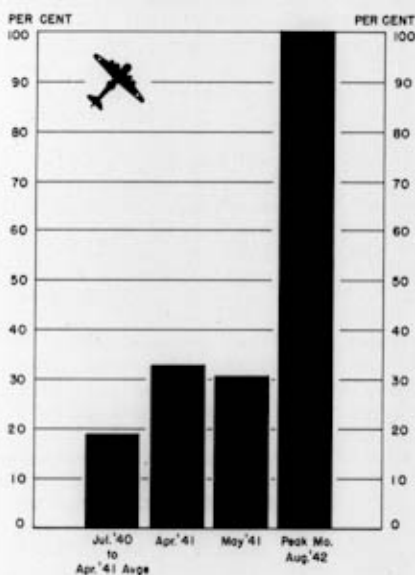
Airplane Production During May

On the basis of preliminary reports, the May production-rate index for military airplanes is 31 percent of the scheduled peak production of August 1942. As can be seen from the chart below, this is slightly below the April index of 33, but is still 60 percent higher than the

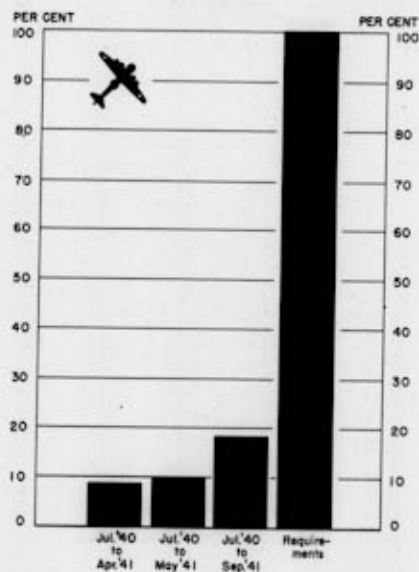
average of the ten months from July 1940 to April 1941. The May production-rate index of 31 represents a marked decrease from manufacturers' estimates. If production had been equal to these estimates, the index would have stood at 36 for the month, five points higher than actual May production, and somewhat higher than the April index.

The index of total production to the end of May of airplanes reached 10 percent of United States and British production requirements, an advance of 1.5 points over the April index. Again, if deliveries had equaled manufacturers' estimates, the index of production of May would have been 0.2 points higher than it now stands.

INDEX OF MONTHLY PRODUCTION RATE
AIRPLANES



INDEX OF TOTAL PRODUCTION
AIRPLANES



EXPORTS TO THE UNITED KINGDOM

QUARTERLY, JANUARY, 1940, TO MARCH, 1941

TOTAL U. S. EXPORTS TO THE UNITED KINGDOM DURING THE FIRST QUARTER OF 1941 AMOUNTED TO \$282 MILLION. AT THIS RATE, ABOUT FOUR YEARS WILL BE REQUIRED TO EXPORT THE MATERIALS PROVIDED UNDER THE TERMS OF THE BRITISH-AID PROGRAM.

The total value of domestic exports to the United Kingdom during the first quarter of 1941 amounted to \$282 million, or about \$100 million more than for the first quarter of 1940, but \$50 million less than for the third, or highest, quarter of 1940. At the rate of exports in the first quarter of 1941, about four years will be required for exports under the terms of the British-Aid program to go to the United Kingdom.

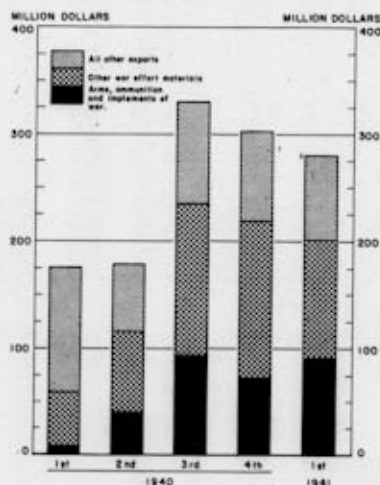
Chart 1 shows the value of domestic exports to the United Kingdom by quarters from January 1940 through March 1941 for (a) arms, ammunition, and implements of war; (b) other war effort materials; and (c) all other exports.

The exports of "arms, ammunition, and implements of war" in the first quarter of 1941 approximately equaled the value of similar exports for the third quarter of 1940, when unusually large quantities of substandard United States ordnance and explosives were shipped to Britain and when some French purchases were transferred to British account.

"Other war effort materials," include iron and steel products and nonferrous metals, which account for the substantial decline in exports under this category from the last two quarters of 1940.

Agricultural products are included in the "all other" category because of their relative unimportance in the exports to the United Kingdom since the middle of 1940.

CHART 1- EXPORTS TO THE UNITED KINGDOM
QUARTERLY JANUARY, 1940 TO MARCH, 1941



There has been a shift away from cotton, tobacco, undressed furs, and apples (fresh, dried, and canned) to concentrated foodstuffs, such as

evaporated milk and cream, canned salmon and sardines, baked beans and pork, glucose, and corn starch, which are likely to become more important in the future.

Chart 2 shows the quantitative exports of key items in "arms, ammunition, and implements of war" and "other war effort materials" for the 15-month period.

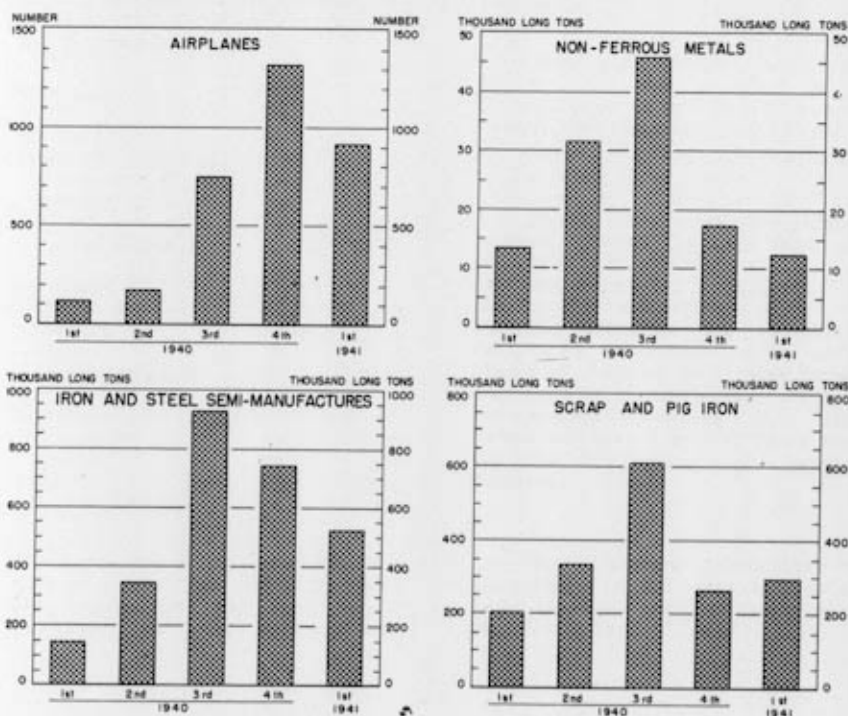
During the fourth quarter of 1940, 1,300 airplanes were exported to the United Kingdom and Canada. The exports of 922 planes in the

first quarter of 1941 include 215 planes to the Gold Coast of Africa, 70 to Egypt, and 53 to the Union of South Africa.^a

The decline in exports of steel ingots and sheets, scrap and pig iron, and nonferrous metals after the third quarter of 1940 is a further indication of a serious shortage in trans-Atlantic shipping facilities.

^a Value of airplanes in "arms, ammunition and implements of war" represents exports to the United Kingdom only.

CHART 2 - EXPORTS TO THE UNITED KINGDOM BY SELECTED GROUPS
QUARTERLY, JANUARY, 1940, TO MARCH, 1941



THE STOCKPILE PROGRAM

INCREASED STOCKPILES FOR CHROME ORE, MERCURY, MICA, AND QUARTZ CRYSTALS AND A STOCKPILE FOR INDUSTRIAL DIAMONDS HAVE BEEN RECOMMENDED BY OPM. DELIVERY FOR THE STOCKPILES HAS BEEN RESTRICTED BECAUSE OF STRINGENT SHIPPING FACILITIES.

The OPM has recently recommended increases in the stockpiles of chrome ore, mercury, mica, and quartz crystals, and the addition of stockpile for industrial diamonds. The percentage increases in the recommendations and the percentages of both the old and new recommendations purchased and delivered as of May 31 are shown below:

Material	Old %	New %
Increases in Recommendation		
Chrome Ore	-	49.4
Mercury	-	250.0
Mica	-	14.9
Quartz Crystals	-	556.7
Purchased		
Chrome Ore	60.7	45.1
Mercury	48.4	14.2
Mica	37.7	32.8
Quartz Crystals	92.9	14.1
Delivered		
Chrome Ore	19.2	14.3
Mercury	20.0	5.9
Mica	11.5	10.0
Quartz Crystals	45.8	7.0

Purchases of only one of the four materials for which increases were recommended had been nearly completed, but were less than half

completed for two of the four. Deliveries of as much as one-half of the old recommendations had not been made on any of the four materials; in fact, deliveries had been made to the extent of 1/5 or less of the recommendation for three of the materials.

Mercury is the only one of the four materials now produced in the United States in substantial quantities. The tight shipping situation may account for the low deliveries of the other three items.

Chrome constitutes the largest tonnage element in these materials and, like many other strategic and critical materials, originates in the Far East and Africa, where the shipping facilities are especially deficient. The extent of the deficiency of shipping facilities for our requirements of strategic, critical, and essential materials was discussed on pages 7 to 9 of Issue Number 42 of the Summary of Defense Progress.

The following table shows the percentages of the strategic materials purchased and delivered as of May 3, and May 31, 1941.

PERCENT OF VALUE OF ACCND-OPM STOCKPILE PROGRAM
PURCHASED AND DELIVERED MAY 3 AND MAY 31, 1941

Material	Percent Purchased		Percent Delivered	
	May 3	May 31	May 3	May 31
Antimony	162.9	162.9	37.4	38.8
Chrome Ore	54.0	45.1 ^b	17.3	14.3 ^b
Industrial Diamonds	^a	96.0	^a	.5
Manganese	154.5	176.6	16.3	17.9
Manila Fiber	17.8	20.2	9.5	12.2
Mercury	48.4	14.2 ^b	15.1	5.9 ^b
Mica	66.5	32.8 ^b	11.3	10.0 ^b
Quartz Crystals	92.9	14.1 ^b	41.5	7.0 ^b
Quinine Sulphate	112.5	112.5	79.7	84.3
Rubber	61.3	61.9	46.1	47.7
Tin	63.3	63.3	23.7	25.1
Tungsten Ore	392.8	642.4	41.2	50.0
Total	83.2 ^c	90.4 ^d	31.1 ^c	31.4 ^d
Total excluding Excess	67.0 ^c	64.9 ^d		

^a Added to stockpile after this date. ^b Percent of new recommendations.
^c Percent of \$484 million, total of old recommendations. ^d Percent of \$507 million, total of new recommendations.

PURCHASES

Strategic. Between May 3 and May 31, 1941, purchases of tungsten increased from 392.8 percent to 642.4 percent of the value of the recommended stockpile, and manganese from 154.5 percent to 176.6 percent; additional contracts were placed for chrome ore, manila fiber, and rubber.

Part of the indicated decrease in mica resulted from the cancellation of RFC orders for this material. While 96.0 percent of the recommended value of industrial diamonds has been put under contract, nearly 80 percent of the diamonds are in bort, or smaller, form.

Critical. Purchases of critical materials by May 31, 1941, amounted to 304,701 tons of copper, 170,000 tons of aluminum (bauxite), 4,028 tons of graphite, and 300,000 tons of nitrate.

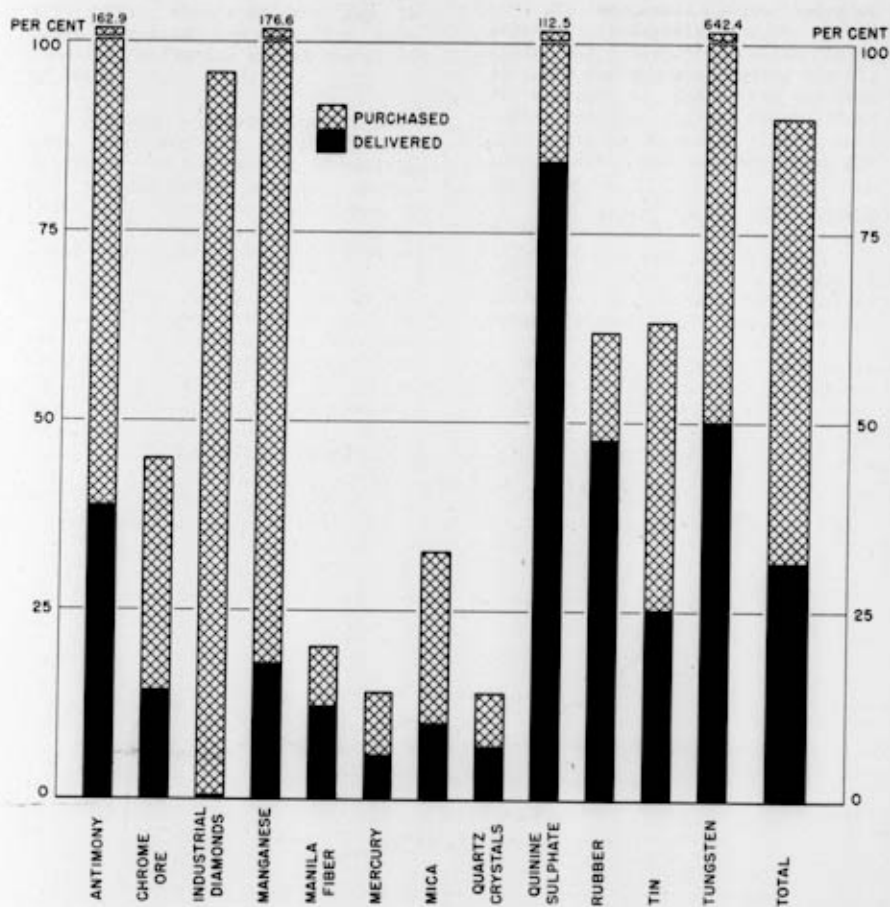
DELIVERIES

Strategic. Total deliveries of strategic materials by May 31, 1941, reached 31.4 percent of the value of the new stockpile recommendations. This figure, lower than that of May 3, reflects the increased recommendations. The actual value increased about \$9 million during the four weeks. Tungsten shows the greatest percentage increase in deliveries, or from 41.2 to 50.0 percent; quinine sulphate increased from 79.7 to 84.3 percent. Small deliveries were also made of tin, rubber, manila fiber, manganese, mica, and antimony.

Critical. By May 31, 1941, critical materials showed deliveries of 133,463 tons of copper; 411 tons of graphite; and 206,454 bales, or some 63,000,000 of a total of 250,000,000 pounds, of Australian wool.

CHART 1 - PER CENT OF ACCND STOCKPILE
PROGRAM PURCHASED AND DELIVERED*

MAY 31, 1941



* Based on the estimated or actual dollar cost of the
ACCND - OPM 1940 - 1941 recommendations.

TRADE NOTES

Aluminum (Bauxite) - Contracts have been signed by the owner of large tracts of bauxite in Dutch Guiana, our closest foreign source for this material and officials of a processing company in this country. The contracts are for 12 years duration and call for substantial deliveries around the first of 1942.

Tungsten - Negotiations have been under way for the purchase of Bolivia's entire output of wolfram ore by the Metals Reserve Company. China has been the main source of this metal recently, supplemented by small quantities of domestic stocks.

A survey is being made by the Port of New York Authority of its available warehouse space. A tight situation has resulted in part from the storage of stockpiles of strategic materials by the Government,

goods awaiting shipping space to the United Kingdom, and by manufacturers buying ahead beyond their own storage space.

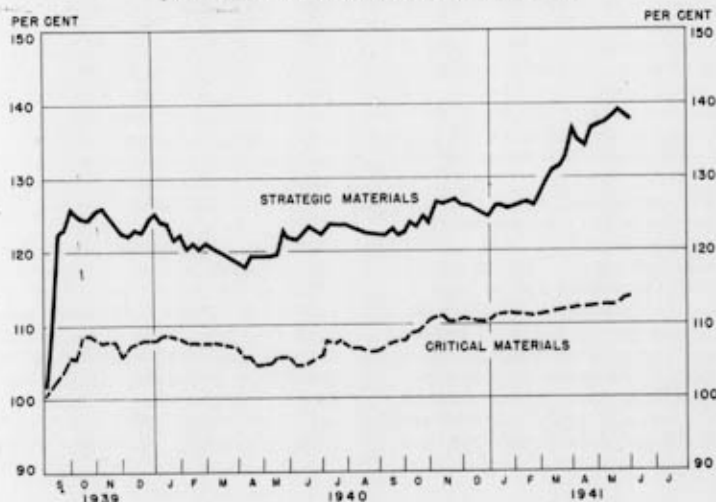
PRICES ^a

The wholesale price index of strategic materials for the week ending May 3 was 136.8; after rising to 139.2 for the week ending May 17, it dropped to 138.0 for the week ending May 31. Slight fluctuations in the prices of manila fiber, mercury, rubber and silk accounted for the changes.

The price index of critical materials showed an increase from 112.5 for the week ending May 3 to 113.7 for the week ending May 31. Increases in cattle-hide prices largely accounted for the increase.

^a Data furnished by the Wholesale Price Division *** Bureau of Labor Statistics.

CHART 2 - INDEXES OF WHOLESALE PRICES OF
STRATEGIC AND CRITICAL MATERIALS



OVERTIME AND MULTIPLE SHIFT OPERATIONS IN ELEVEN DEFENSE INDUSTRIES

DECEMBER 1940 AND MARCH 1941

OVERTIME AND MULTISHIFT OPERATIONS HAVE INFLUENCED SIGNIFICANTLY THE EXPANSION IN DEFENSE PRODUCTION. TOTAL OVERTIME HOURS IN ELEVEN DEFENSE INDUSTRIES INCREASED BY 36 PERCENT BETWEEN DECEMBER 1940 AND MARCH 1941. THE MAJOR PART OF THE INCREASED EMPLOYMENT IN THESE INDUSTRIES HAS GONE TO MAN THE SECOND AND THIRD SHIFTS.

Expansion in defense production has resulted from two current labor trends: increased overtime and increases in multishift operations. A special survey undertaken by the Bureau of Labor Statistics, covering 363 manufacturing plants, shows that in 11 key defense industries total overtime hours increased by 35.6 percent between December 1940 and March 1941. Average overtime per overtime worker rose from 9.1 hours per week to 9.6 hours per week, and the proportion of total wage earners working overtime in these plants increased from 57.1 percent to 64.5 percent. Employment increased by 62,350, or 13.9 percent, with approximately half of this gain traceable to the addition of workers on second and third shifts. The greatest proportion of workers, however, was still engaged on the first shift, although this percentage declined from 74.5 percent in December to 72.6 percent in March.

Defense industries reporting the greatest percentage gains in aggregate overtime, as shown in Table 1, were ammunition (105.3 percent); engines—other than aircraft—(76.2 percent); machine-tool accessories (52.9 percent); electrical machinery (44.7 percent); and machine tools (39.9 percent). The only industries in which reporting establishments show reduced overtime hours are ex-

plosives (27.7 percent) and aluminum (0.7 percent). Several aluminumware manufacturers reported reduced production because of lack of materials.

All of the 11 defense industries, except shipbuilding, explosives, and brass, bronze and copper products, showed increases in the average amount of overtime per overtime worker between December and March. The only industries failing to show an increase in the proportion of their workers engaged in overtime were machine-tool accessories, and smelting and refining of nonferrous metals. Smelting and refining plants reported the smallest amount of overtime, a fact which can be explained by continuous-process operations and the use of staggered shifts in order to achieve three-shift, seven-day schedules.

As indicated above, the greatest proportion of wage earners in March was still occupied on the first shift. There has been an increase in the number of plants on a three-shift schedule. The most marked increase in the percentage of wage earners working on second and third shifts occurred in explosives, machine tools, and machine-tool accessories, where the ratio of workers on other than the main shift was raised by 4 percent or more.

CHART I - PERCENTAGE CHANGE IN OVERTIME WORKED
IN SELECTED DEFENSE INDUSTRIES
DECEMBER, 1940 TO MARCH, 1941

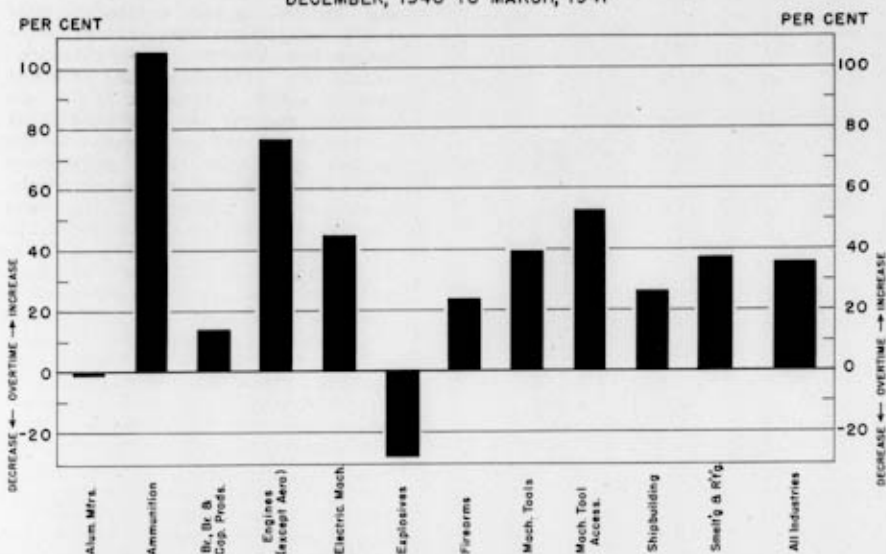


Table 1

COMPARISON OF OVERTIME OPERATIONS OF SELECTED DEFENSE INDUSTRIES IN DECEMBER 1940 AND MARCH 1941 ^A
(In 363 identical plants)

Selected Defense Industries	Percent of Total Wage Earners Working Overtime		Average Weekly Hours of Overtime per Overtime Worker		Total hours of Overtime Reported		Percentage Change in Total Overtime, December-March
	December 1940	March 1941	December 1940	March 1941	December 1940	March 1941	
	(In thousands)						
All Industries.....	87.1	84.5	9.1	9.6	2,298	3,113	+ 36.6
Aluminum manufactures.....	42.0	44.0	8.1	8.3	47	47	- .7
Ammunition.....	47.2	69.6	6.5	6.9	46	98	+105.3
Brass, bronze and copper products.....	60.6	65.5	9.1	8.8	291	350	+ 13.3
Engines (other than aircraft).....	61.9	80.5	10.0	11.0	92	161	+ 76.2
Electrical machinery.....	61.5	59.5	7.6	8.3	689	997	+ 44.7
Explosives.....	34.2	38.7	10.8	7.2	21	15	- 27.7
Firearms.....	66.0	87.5	12.8	13.4	82	102	+ 25.3
Machine tools.....	92.6	94.6	10.6	13.0	390	546	+ 39.9
Machine-tool accessories.....	64.2	82.9	11.7	13.8	53	80	+ 52.9
Shipbuilding.....	61.2	68.5	10.4	9.9	585	713	+ 25.2
Smelting and Refining.....	18.4	18.2	4.7	6.1	19	26	+ 37.4

^A Number of plants and wage earners shown in Table 2.

As shown in Table 2, the defense industries with the smallest proportion of workers engaged on the first shift in March 1941--indicating extensive use of second and third shifts--were ammunition (58.4 percent); brass, bronze, and copper products (62.8 percent); and aluminum (65.8 percent). Those industries reporting the largest percentage of workers on the first shift--indicating relatively small use of second and third shifts--were firearms (84.2 percent), shipbuilding (77.2 percent), and electrical machinery (75.1 percent). Three industries reported higher percentages of workers on the first shift in March than in December: aluminum manufactures, engines, and smelting and refining of nonferrous metals. The aluminumware industry was affected by shortage of materials (as stated elsewhere); the engine and smelting and refining industries reported substantially greater man-hours over December, resulting from increased employment and overtime per worker rather than from expansion of shift schedules.

CHART 2-PERCENTAGE OF EMPLOYEES ON DIFFERENT SHIFTS IN SELECTED DEFENSE INDUSTRIES
DECEMBER, 1940 AND MARCH, 1941

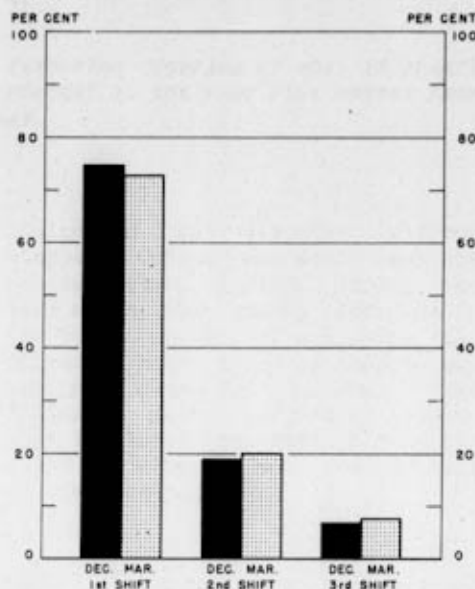


Table 2

COMPARISON OF SHIFT OPERATIONS OF SELECTED DEFENSE INDUSTRIES IN DECEMBER 1940 AND MARCH 1941
(In 363 Identical Plants)

Selected Defense Industries	Number of Plants	Total Employment		Percentage Distribution by Shift					
				First Shift		Second Shift		Third Shift	
		December 1940	March 1941	December 1940	March 1941	December 1940	March 1941	December 1940	March 1941
All Industries.....	363	447,844	510,201	74.5	72.6	18.8	20.0	6.7	7.4
Aluminum manufactures.....	14	13,956	13,110	64.6	65.8	22.0	20.8	13.4	13.4
Ammunition ^a	10	16,078	19,664	64.2	58.4	22.3	27.4	13.5	14.2
Brass, bronze and copper products.....	45	54,988	69,275	64.8	62.8	24.5	25.5	10.7	11.7
Electrical machinery.....	117	177,738	202,393	77.7	75.1	16.7	18.3	5.6	6.6
Engines (other than aircraft).....	14	14,739	18,239	64.4	67.6	25.6	23.4	10.0	9.0
Explosives ^a	23	6,582	6,327	80.2	72.2	11.6	14.7	8.3	13.1
Firearms ^a	6	9,882	11,601	87.0	84.2	13.0	16.8	--	--
Machine tools.....	39	39,943	44,452	74.6	71.4	20.5	23.2	4.7	5.4
Machine-tool accessories.....	18	6,213	7,012	78.2	73.6	17.5	21.0	4.3	5.4
Shipbuilding.....	41	88,482	105,376	78.7	77.2	17.8	18.4	3.5	4.4
Smelting and Refining.....	36	22,243	23,762	66.7	70.3	18.3	16.3	15.0	13.4

^a Data are no longer published by the Bureau of Labor Statistics. Figures of employment are not to be used by any individual other than the responsible heads of a defense agency, except after consulting the Bureau of Labor Statistics.

Material furnished by United States
Bureau of Labor Statistics.

INDUSTRIAL DISPUTES IN DEFENSE INDUSTRIES

MAY 1941

THE NUMBER OF EMPLOYEES IN LABOR DISPUTES INVOLVING STOPPAGE OF WORK IN PLANTS WITH DEFENSE CONTRACTS HAS INCREASED 150 PERCENT IN THE PAST FIVE MONTHS FROM 39 THOUSAND IN JANUARY TO 98 THOUSAND IN MAY.

The number of employees involved in disputes in plants with defense contracts has increased steadily since January 1941. This partly reflects the increase in employment in such plants as the defense program has expanded.

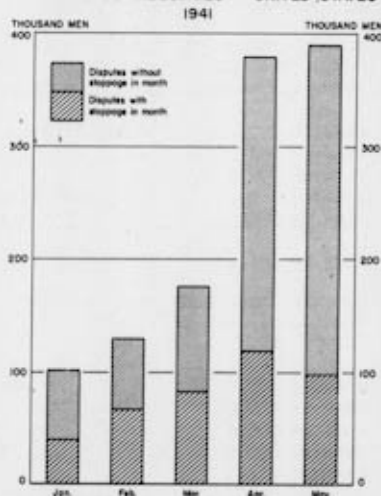
During the month of May 1941, approximately 98,300 employees were involved in 55 strikes in plants with defense contracts. 30 strikes, involving approximately 80,000 employees, were of serious concern to the national defense program. The increase in the number of workers in disputes involving stoppages was from 39,300 to 98,300, or 150 percent. This compares with an increase in cash expenditures for defense from January to May of about 95 percent.

In addition, 63 disputes without stoppage, involving approximately 292,800 employees, were in progress during the month. There was therefore, a total for the month of 118 labor disputes involving approximately 391,100 employees.

The number of employees involved in stoppages increased from January to April, but during May showed a considerable decline. On the other hand, the number of employees involved in disputes in which no stoppages of work occurred has increased steadily from 63 thousand in January to 293 thousand in May. However, since there is no

indication that disputes without stoppage during one month may not become actual strikes during the next month, the steady increase in the total number of employees involved in both types of dispute may well be a cause for concern. The following table and chart summarize the labor disputes of significance to defense from January 1941 to the present.

NUMBER OF MEN INVOLVED IN LABOR DISPUTES
IN DEFENSE INDUSTRIES — UNITED STATES



Labor Disputes in Plants with Defense Contracts a

	Total		Stoppages		No Stoppages	
	No.	Employees	No.	Employees	No.	Employees
January	91	102,200	37	39,300	54	62,900
February	103	130,500	49	67,300	54	63,200
March	111	176,150	57	82,850	54	93,300
April	116	380,350	52	119,850	64	251,485
May	118	391,100	55	98,300	63	292,800

a Includes all disputes which have any relation to the defense program. Many of these disputes were not very important for the defense program for one of the following reasons: (1) alternate sources of supply readily available, (2) sufficient inventories readily available, and (3) no delay in final delivery date. The number of disputes and the employees involved would be substantially lower if only those cases of serious concern to the defense program were considered.

During the month 80 disputes, involving approximately 285,200 employees were settled. Of this, 37 disputes involving approximately 79,000 employees were actual stoppages, while 43, involving 206,200, were disputes without stoppages.

Thirty-nine labor disputes involving approximately 505,900 employees were pending at the end of the month. Of these, 18 involving approximately 19,300 workers were stoppages. 10 strikes involving approximately 15,800 employees seriously affected the defense program. The most important were:

American Potash & Chemical Company, Trono, California <u>b</u>	1,000 workers
Detroit Steel Products, Detroit, Michigan	750 workers
Marlin Rockwell, Plainville, Connecticut	1,000 workers
San Francisco Shipyards, San Francisco, California	2,000 workers
Twin District Council, Seattle, Washington <u>b</u>	<u>10,000 workers</u>
Total	14,750 workers

Twenty-one cases of disputes without stoppage involving approximately 486,600 workers were pending at the end of the month. The most important of these were:

Aluminum Company of America, Cleveland, Ohio	5,000 workers
Appalachian Coal Area <u>b</u>	400,000 workers
E. W. Bliss Company, Brooklyn, New York <u>b</u>	1,200 workers
Columbia Basin Loggers, Portland, Oregon <u>b</u>	10,000 workers
Dow Chemical Company, Midland, Michigan	2,500 workers
North American Aviation, Inc., Inglewood, California <u>b</u>	<u>11,000 workers</u>
Total	429,700 workers

b Case before the National Defense Mediation Board.

DEFENSE PROGRESS SERIES

Preliminary data indicate that disbursements for defense during May were slightly less than in April. Although information which will serve as the basis for a complete analysis is not yet available, it is likely that the main reason for the failure of disbursements to increase is the near completion of the Army cantonment construction program.

The total authorized program has increased by approximately \$190 million during the past two weeks. The major portion of this increase resulted from the increase in the Defense Housing Program of \$165 million ("Additional Urgent Deficiency Appropriation Act," May 24, 1941). Other small increases took place in the recommended program for the stockpile and the DPC program for industrial facilities. The total program as it now stands does not include the Army appropriation bills and the new appropriations for

airplanes now pending before Congress or before the Bureau of the Budget. It is estimated that these bills will amount to between \$10 and \$15 billion, bringing the total program to between \$50 and \$55 billion.

The principal additions to Defense Progress Series this week are:

- (1) Index numbers of monthly production rates of military airplanes, combat vessels, combat vehicles, and Army-type guns.
- (2) Index numbers of total production to date of these four types of equipment.
- (3) Additional series in "Economic Data Related to Defense."

A complete discussion of the production rate and total production index numbers will be found on page 4 of this issue and on pages 2-4 of Issue Number 42.

DEFENSE PROGRESS SERIES

Agency and Object	1940	1941				
	July	January	March	April	Week Ending	
					May 17	May 31
TOTAL UNITED STATES DEFENSE PROGRAM *						
UNITED STATES ARMED FORCES (Thousands, officers and enlisted men)						
Army	289	693	1,004	1,211	1,321	
Navy and Marine Corps	196	271	293	296		
Total active strength	485	964	1,297	1,507		
FINANCIAL PROGRAM (Million dollars to date)						
Total authorized program	14,968	26,663	35,470	39,776	41,606	R 41,793
Total contracts payroll	3,379	15,514	18,127	20,580	24,968	
Total cash disbursements	571	4,084	5,969	R 7,047	R 7,660	R 8,095
AGENCIES						
U. S. MILITARY						
ARMY - Program	2,620	8,377	9,239	13,135	13,135	13,135
Contracts payroll	582	5,951	7,091	7,334	7,801	R 8,238
Cash disbursements	78	1,241	2,209	R 2,768	R 2,975	R 3,250
NAVY - Program	9,425	11,127	11,530	11,825	13,633	13,633
Contracts payroll	1,515	6,009	7,213	7,824	8,035	
Cash disbursements	84	1,021	1,480	R 1,771	R 1,945	R 2,100
TOTAL- Program	12,045	19,504	20,769	24,960	26,768	26,768
Contracts payroll	2,097	11,960	14,304	15,158	15,836	
Cash disbursements	162	2,262	3,689	R 4,539	R 4,920	R 5,350
DEFENSE AID (Lend-Lease)						
Program			7,000	7,000	7,000	7,000
Allocations			n.a.	n.a.	4,132	
Contracts			n.a.	n.a.	3,373	
Cash disbursements			0	0	1	
BRITISH PURCHASES						
Program	1,282	3,426	3,649	3,673	3,695	R 3,695
Contracts	1,282	3,426	3,649	3,673	3,695	R 3,695
Cash disbursements	396	1,538	1,824	1,928	n.a.	R 2,020
MARITIME COMMISSION						
Program	840	840	1,154	1,154	1,154	R 1,154
Contracts	n.a.	n.a.	n.a.	810	810	
Cash disbursements	8	83	107	121		
DEFENSE HOUSING PROGRAM						
Program	0	325	330	330	330	R 495
Contracts	0	128	174	227	239	245
Value in place	0	n.a.	n.a.	n.a.	n.a.	n.a.
Cash disbursements	0	n.a.	n.a.	n.a.	n.a.	n.a.
OTHER AGENCIES						
Program	801	2,568	2,568	2,659	2,659	R 2,681
Contracts	n.a.	n.a.	n.a.	712	1,015	
Cash disbursements	5	201	348	455		

* Data are as of the close of the month or week or nearest available date.

R Preliminary data.

E Revised data

n.a. Data not available

(Continued on next page)

Object	1940	1941				
	July	January	March	April	Week Ending	
					May 17	May 31
<u>AIRPLANES, ENGINES, ETC.</u>						
	(Million dollars to date)					
Program	1,564	4,476	6,711	8,132	8,211	8,211
Contracts	889	3,852	4,069	4,172	5,995	
Cash disbursements	n.a.	778	1,076	1,262		
<u>NAVAL SHIPS & PARTS</u>						
Program	5,765	6,005	6,288	6,348	6,736	6,736
Contracts	1,207	4,500	4,500	4,527	4,543	
Cash disbursements	29	321	440	506		
<u>MERCHANT VESSELS</u>						
Program	848	984	1,929	1,938	1,938	1,938
Contracts	n.a.	n.a.	n.a.	968	1,468	
Cash disbursements	n.a.	151	186	205		
<u>ORDNANCE</u>						
Program	2,805	4,707	6,530	7,754	8,125	8,125
Contracts	367	2,491	3,437	3,725	4,916	
Cash disbursements	n.a.	460	641	767		
<u>OTHER EQUIPMENT</u>						
Program	640	1,974	2,712	3,037	3,101	3,101
Contracts	434	1,808	2,000	2,064	2,235	
Cash disbursements	n.a.	1,014	1,434	1,687		
<u>PAY, SUBSISTENCE, & MISC. SERVICES</u>						
Allocated funds	1,834	3,846	4,768	4,994	5,620	5,620
Cash disbursements	n.a.	492	737	874		
<u>ACOND STOCKPILE PROGRAM</u>						
Stockpile program	390	485	485	485	485	507
Purchases under program	50	237	312	325	328	329
Purchases in excess of program	0	39	76	76	85	129
Deliveries	26	106	133	149	154	159
<u>INDUSTRIAL FACIL.-CONS. EQUIP. & REAL ESTATE</u>						
Program	395	2,437	3,370	3,965	3,970	3,970
Contracts	110	1,397	1,724	1,986	2,552	
Cash disbursements		243	381	490		
<u>INDUSTRIAL FACIL.-CONSTRUCTION</u>						
Program			1,213	1,227		
Contracts			n.a.	n.a.		
Value in place			304	367		
<u>POSTS, DEPOTS, HOUSING</u>						
Program	727	1,749	2,677	3,123	3,420	3,585
Contracts	230	929	1,590	1,711	1,734	
Value in place	n.a.	850	1,308	1,513		
Cash disbursements	10	519	941	1,104		

* Data are as of the close of the month or week or nearest available date.

p Preliminary data.

r Revised data

n.a. Data not available

(Continued on next page)

Object	1940	1941			
	July	January	March	April	Week Ending May 17 May 31
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u>		(Million dollars to date) *			
Total			1,034	1,113	1,232
Approved, private funds			628		747
Approved, public funds			187		200
Pending			217	213	281
<u>DEFENSE HOUSING</u>		(Number of dwelling units)			
Fund allocations		56,528	80,183	86,361	96,286 106,053
Construction contracts		36,191	48,416	60,293	68,866 72,334
Construction completed		1,314	5,424	9,024	10,712 14,414
<u>PRIORITY CERTIFICATES & EXTENSIONS</u>		(Number)			
Total issued			75,709	131,208	186,235 217,282

PRODUCTION RATES & TOTAL PRODUCTION OF DEFENSE EQUIPMENT

<u>PRODUCTION RATE INDEXES</u>		(Indexes, production in scheduled peak month=100)				
Military airplanes	n.s.	n.s.	n.s.	33	n.s.	2 31
Combat vessels	n.s.	n.s.	37	2 36	n.s.	
Combat vehicles	n.s.	n.s.	n.s.	32	n.s.	
Army type guns	n.s.	n.s.	n.s.	30	n.s.	
<u>TOTAL PRODUCTION INDEXES</u>		(Indexes, cumul. since July 1940, program requirements=100)				
Military airplanes	n.s.	n.s.	n.s.	8	n.s.	10
Combat vessels	n.s.	n.s.	12	2 13	n.s.	
Combat vehicles	n.s.	n.s.	n.s.	6	n.s.	
Army type guns	n.s.	n.s.	n.s.	7	n.s.	

Series

ECONOMIC ACTIVITY RELATED TO DEFENSE

<u>FED. RES. BD. PRODUCTION INDEXES</u>		(Indexes 1935-9=100)				
Total industrial prod.	121	139	143	2 139		
Durable manufactures	112	121	127	2 130		
Non-durable manufactures	132	170	170	2 166		
Minerals	120	118	125	2 101		
<u>BUR. FOR. & DOM. COM. MFGS. INVENTORIES</u>		(Indexes, Dec. 31, 1938=100)				
Durable goods	111.9	129.7	2 131.8	2 134.3		
Non-durable goods	106.4	111.2	2 111.8	2 112.1		
Total	109.2	120.8	2 122.1	2 123.6		
<u>BLS PRICE INDEXES</u>		(Indexes)				
Strategic materials (8/39=100)	123.8	126.1	131.9	135.9	139.2	138.0
Critical materials (8/39=100)	107.6	111.5	112.0	112.4	112.8	113.7
Basic commodities (8/39=100)	108.3	120.5	129.7	136.9	143.5	143.2
Machine tools (8/39=100)	108.7	114.6	115.1	116.4	n.s.	n.s.
All commodities (1926=100)	77.7	80.8	81.5	83.2	84.6	85.2
<u>NICH COST OF LIVING INDEX (1923=100)</u>		85.7	86.0	86.3	86.9	
<u>FEDERAL DEBT</u>		(Billion dollars, end of month)				
Net public debt	41.5	43.9	44.4	44.8		

* Data are as of the close of the month or week or nearest available date.

2 Preliminary data.

E Revised data

n.s. Data not available

(Continued on Next Page)

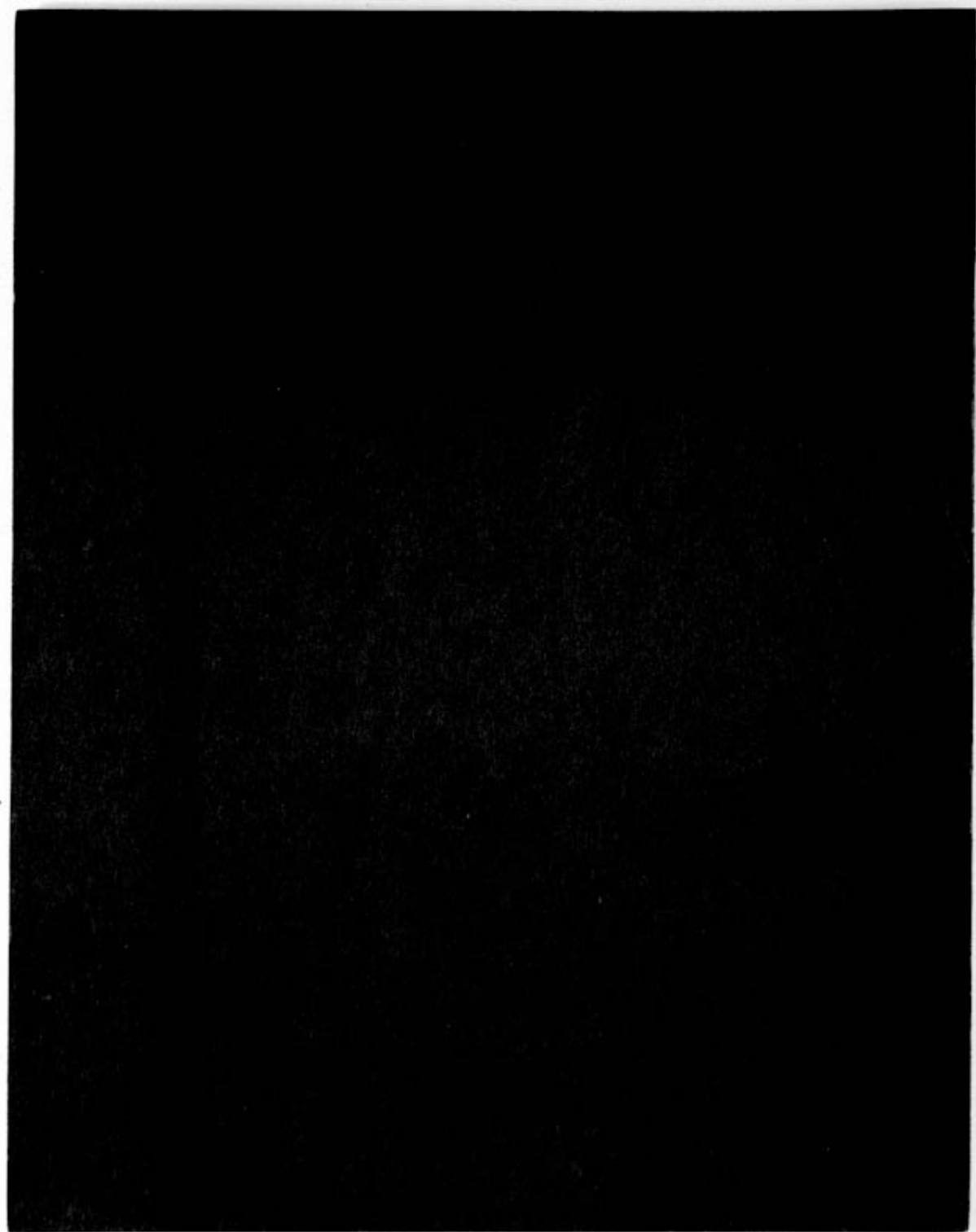
Object	1940	1941				
	July	January	March	April	Week Ending	
					May 17	May 31
<u>NATIONAL INCOME</u>	(Billion dollars, annual rate)					
Total income payments	73.3	79.4	80.4	80.3		
<u>LABOR DISPUTES</u>						
<u>PLANTS WITH DEFENSE CONTRACTS</u>						
Number of strikes in progress	n.a.	37	57	52	15	18
Workers involved (thousands)	n.a.	39,300	82,850	119,850	61,800	19,300
<u>TOTAL</u>						
Number of strikes in progress	290	322	475	590		
Workers involved (thousands)	76	108	165	555		
Man days idle (thousands)	552	662	1,400	7,800		
Strikes beginning in month	182	213	330	400		

* Data are as of the close of the month or week or nearest available date.

P Preliminary data.

R Revised data

n.a. Data not available



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ADVISORY COMMISSION TO THE COUNCIL
OF NATIONAL DEFENSE

P5F

Defense Contracts

WAYNE COY

Special Assistant to the President,
Liaison Officer for Emergency
Management and Secretary of the
Advisory Commission and the Council
of National Defense

<u>Commissioners</u>	<u>Function</u>
Edward R. Stettinius, Jr.	Industrial Materials
William S. Knudsen	Production
Sidney Hillman	Labor
Ralph Budd	Transportation
Leon Henderson	-----
	Administrator, Office of Price Administration and Civilian Supply
Harriet Elliott	Consumer Division, Office of Price Administration and Civilian Supply
Donald M. Nelson	Director of Purchases, Office of Production Management
Paul V. McNutt	Coordination of Health, Welfare and Related Defense Activities
J. B. Hutson	Chief, Office for Agri- cultural Defense Relations (U.S. Department of Agriculture)
Nelson A. Rockefeller	Coordination of Commercial and Cultural Relations Between the American Republics
Charles F. Palmer	Coordination of Defense Housing
Stacy May	Director of Research and Statistics

Service and Coordinating Divisions under Supervision of the Secretary

Sidney Sherwood	Assistant Secretary
Frank Bane	Director of State and Local Cooperation
Robert W. Horton	Director of Information

WEEKLY REPORT OF OPERATIONS
Office of the Secretary

Report #47
June 11, 1941
Copy # H-1

- C O N F I D E N T I A L -

TRANSPORTATION DIVISION
Ralph Budd, Commissioner

CONFIDENTIAL

June 11, 1941

Weekly Operations Progress Report

Grain Movement

Grain harvesting in the southern portion of the winter wheat belt has been delayed by extensive rains the past several days. Up to last night only one carload of grain had been moved. The seven principal winter wheat loading lines have in storage 22,568 cars conditioned and ready for immediate grain loading. By reason of the efforts to hurry western box cars home from the East, there has been a net increase of 29,553 box cars in the possession of eleven principal Western roads since May 1. The movement of Government grain out of western storage to interior and seaboard elevators is continuing, and approximately 20 million bushels have so far been booked for movement.

Great Lakes Transportation

During the week ended Saturday, June 7, the four principal ore originating railroads loaded into boats at upper lake ports a total of 2,443,141 gross tons of iron ore, as compared to 2,062,329 gross tons during the corresponding week in 1940.

For the season to date there have been 19,895,573 gross tons loaded into boats as compared to 9,843,095 during the corresponding period of 1940, an increase of 10,052,478 tons, or more than 100 per cent, due to the efforts made to obtain earlier start of navigation and maximum utilization of the lake fleet.

Between the opening of navigation on the Great Lakes in April and the end of May a total of 99½ million bushels of grain have been moved eastward on the Great Lakes. Of this amount 81 million bushels originated at the Canadian ports of Fort William and Port Arthur. Of the total grain movement wheat represents almost 82 million bushels.

Port Situation

There has been some increase in the movement of freight through New York Harbor. The number of cars unloaded for lighterage last week totaled 7007 as compared with 6344 week ended May 31st and 5680 week ending May 24th. As of 7:00 a.m., June 9th, cars on hand for lighterage totaled 5907 as compared with 6386 June 2nd and 5850 May 26th. Of the cars on hand June 9th, 496 had been on hand 15 days or more as compared with 471 June 2nd and 517 May 26th. There were 6825 cars of freight in storage June 9th as compared with 6969 June 2nd and there is space available for 14,794 additional carloads.

TRANSPORTATION DIVISION (Cont'd)

Other principal ports:

	Export and coastal carloads, on hand				Avge unld per cal. day, export & coastal carlds, weeks ending		
	6/6	5/30	5/23	6/7	5/31	5/24	
	Ovr 15 das	Total					
Portland, Me.	0	17	112	133	20	26	24
Boston	37	219	224	204	49	74	76
Philadelphia	615	1266	1317	1181	170	112	152
Baltimore	462	1798	2047	2436	169	278	286
Hampton Roads	125	700	584	442	64	74	80
Mobile	3	159	201	237	65	86	47
New Orleans	11	805	657	555	197	184	233
Houston	0	186	178	159	80	84	78
Galveston	3	358	483	365	144	118	103
San Francisco	28	519	361	538	97	110	132

Order of the I.C.C. in Special Docket No. 196143, authorizing application of storage charges on export basis to shipments originally intended for export, but which for unforeseen causes have not been exported and have been placed in storage has been given general circulation and it is expected immediate relief to storage facilities at North Atlantic ports should result.

Preference is being given by The British Ministry of Shipping in loading scrap iron, pig iron, alloys and ingots to boats for U.K. destinations. 1 boat to load 4,000 tons scrap and 3700 tons steel expected Boston the 13th; 3 boats now loading New York and one in dry dock expected out shortly; 1 boat now loading Philadelphia and 1 in dry dock expected out the 16th; 2 boats now loading at Baltimore, one of which will go to Portland, Me., and the other to Hampton Roads to fill out with scrap. 3 boats now loading Hampton Roads, 2 of which were partly loaded with steel at Baltimore and are filling out with scrap, the other taking full cargo of scrap.

For sometime the railroads have been compiling information regularly showing the extent to which their storage facilities at principal ports are in use. These statistics separate covered piers, open piers and ground storage. A survey has been made recently showing situation at all ports, Hampton Roads to Pensacola, Florida, which indicates that considerable railroad storage facilities are available at such ports. These ports would promptly be brought into use in the event any difficulties are experienced in handling tonnage through North Atlantic, and if the traffic through the Northern ports should continue to increase unduly, action in the interest of diverting traffic may be necessary.

Railroad Equipment

Preliminary reports indicate that during May the railroads placed orders for a total of 19,121 freight cars, exceeding by more than 3,000 the record placement of orders in April. Orders have been placed during

TRANSPORTATION DIVISION (Cont'd)

the first five months of this year for a total of 62,760 freight cars, and 360 passenger cars. There have also been ordered a total of 520 locomotives, of which 153 were steam, 356 Diesel-electric, and 11 electric. Railroads placed orders for 406 locomotives with industries ordering 40 and the Federal Government, 74. Plans are underway which, it is felt, will insure a railroad car ownership in the fall of 1942 which will meet the program of 1,800,000 cars recently adopted.

Warehouse Section

The same type of labor difficulties as are being met by manufacturers of defense materials has just begun to appear in the warehouse trade. These will entail stoppage of the free flow of material in much the same manner as would happen if strikes occur in the transportation field or rail, boat and truck.

San Francisco — A three day strike of warehouse employees has been amicably settled with a moderate increase in pay granted by the employers. The threatened stoppage of traffic through this important port was thus averted.

New York City and New Jersey — The so called inland warehouses in New York City and competitive New Jersey warehouses are closed by a strike. This does not involve the great waterfront facilities in Brooklyn, Newark, etc. The demands of the labor are far higher than the old contract and management and labor are far apart. There appear to be no immediate prospects of agreement.

Cleveland, Ohio — Negotiations for new contracts are under way. At present negotiators are reported about 10¢ an hour apart on basic wage. Employees still at work pending completion of negotiations. No present indication of strike.

Pittsburgh, Pa. — Strike of local pick up and delivery truck drivers is tying up all warehouses except those operated by railroads whose men are loading and unloading railroad cars. Warehouses are picketed and men are refusing to go through the picket lines thus tying up perhaps 50% of all warehouse operations. Negotiations are in progress before the National Mediation Board in Washington.

Grain Storage

As of June 5th the Association of American Railroads reports a storage at Tidewater as follows:

TRANSPORTATION DIVISION (Cont'd)

	<u>Capacity</u>	<u>In Storage</u>
North Atlantic	37,445,000 Bu.	10,227,000 Bu.
Gulf	15,220,000 "	5,210,000 "
North Pacific	4,403,000 "	2,746,000 "

Elevators at Boston with a capacity of 2,250,000 Bu. are reported entirely filled. Portland, Maine, with a capacity of 1,500,000 Bu. is two-thirds filled and Portland, Oregon with a capacity of 2,253,000 Bu. is 82% filled. All other ports show 58% or less occupancy.

The recent fire at the Erie Railroad Terminals destroyed their elevator having a capacity of 1,200,000 Bu., and containing 310,000 bushels of grain.

Survey - Refrigerated Warehouse Space

All details are now completed in connection with the survey of Refrigerated Warehouse Space. Questionnaires will be sent as soon as they are off the press and reports will be sought from all cold storage warehouses (public, private and semi-private) and meat packing establishments. The questions cover amount of space held at different temperatures and amount used and unused at the time of the report. In addition, quite complete basic information covering type of construction equipment, transportation facilities and other plant and operating facts is being requested.

The survey is being made at the request of the Transportation Division by the Agricultural Statistics Division, Agricultural Marketing Division, Department of Agriculture under the direction of Mr. Wm. F. Callendar, Head Statistician and Mr. Wm. Broxton, Assistant.

OFFICE OF COORDINATOR OF HEALTH, WELFARE AND
RELATED DEFENSE ACTIVITIES
Paul V. McNutt, Coordinator

CONFIDENTIAL

June 11, 1941

Weekly Operations Progress Report

The community facilities bill, H. R. 4545, was reported out by the Senate Public Buildings and Grounds Committee on Friday, June 6, in substantially the same form as the Bill had been enacted by the House.

On June 3, Mr. Geoffrey May spoke at the National Conference of Social Work held in Atlantic City, New Jersey on "Case Work in the Defense Program." On June 4, Mr. Charles Taft spoke at the Conference on the subject of the social welfare problems connected with the Office of the Coordinator.

Mr. Richard N. Lyle, Regional Defense Coordinator in Birmingham, has advised us that the second meeting of the Region VII Advisory Council will be held in Birmingham June 19 and 20.

Mr. Roy E. Dickerson has been appointed as Assistant Director in the Division of Social Protection. He was formerly with the American Social Hygiene Association, New York, and also served as special consultant to the United States Public Health Service.

A meeting was held in Mr. Charles P. Taft's office on May 26 and 27 with Mr. Mark A. McCloskey, Dr. Frank S. Lloyd and Mr. Wendell Anderson, official representative of the Bermuda Government. Mr. Anderson reported on problems of recreation for United States personnel in Bermuda. Consideration is being given to the appointment of Mr. Anderson as liaison between the Federal Security Agency and the Bermuda Government.

Dr. Frank S. Lloyd, Associate Director of Recreation, attended a meeting of the Joint Army and Navy Committee on June 4, concerning problems in the colonial possessions and bases on British territory as they affect recreation.

The following additional assignments of local recreation field representatives have been made:

Mr. Harry J. Enigh has been assigned to Alexandria, Louisiana, transferring from Abilene, Texas, to succeed Mr. Howard Y. Williams.

Mr. B. Meredith Langetaff has been assigned to cover Vermont and New Hampshire, transferring from the Norfolk, Virginia area.

Mr. Dean S. Collins has been assigned to Omaha, Nebraska, and Burlington, Iowa, effective May 28, 1941.

DIVISION OF DEFENSE HOUSING COORDINATION
C. F. Palmer
Coordinator

CONFIDENTIAL

Weekly Operations Progress Report

June 11, 1941

Status of Defense Housing as of June 7, 1941

Status of Projects	No. of Family Dwelling Units	Change this Week	Trailers
Housing under allocation	96,753	-	2,309
Under construction contract	66,840	2,366	2,159
Housing completed	14,293	1,019	550

Status of Surveys

The following reports were received during the week ending June 7.

BES Labor Reports: Mobile, Alabama; Evansville, Indiana-Henderson, Kentucky; Madison, Wisconsin.

MPA Vacancy Reports: Little Rock, Arkansas; Denver, Colorado; Bristol, Connecticut; Elmira, New York; Massena, New York; Ogden, Utah; Petersburg, Virginia; Radford-Pulaski, Virginia; Morgantown, West Virginia.

FHA Housing Report: Santa Barbara, California

FHA surveys were requested for Fort Wayne, Indiana and Charleston, South Carolina.

DIVISION OF STATE AND LOCAL COOPERATION
Frank Bane, Director

CONFIDENTIAL

June 11, 1941

Weekly Operations Progress Report

1. Test campaign for collection of aluminum scrap

The test campaigns for collection of aluminum scrap in Madison, Wisconsin, and Richmond, Virginia, were brought to a close. Approximately 30,000 pounds were collected in Richmond, and 35,000 in Madison.

2. Fire protection

a. A conference was held between representatives of the Division and representatives of the National Board of Fire Underwriters, the Army, the Navy, the Office of Production Management, and the fire equipment industry on the problem of arranging priorities and coordinating fire equipment industries to meet increased Army, Navy and civilian demands. Arrangements were made to survey Army, Navy, and civilian needs and the ability of the industry to meet these needs.

b. The Division is making arrangements to begin operation on June 23 of the regional schools to be set up by the War Department for the training of firemen.

3. Automobile clubs

Conferences were held between members of the staff of the Division and representatives of the various automobile clubs to discuss the part these clubs could play in civilian defense. Activities might include training of drivers for emergency vehicles; providing emergency volunteer highway patrols; advising on military traffic; establishing emergency first aid stations on highways; providing messenger service if communication systems should be damaged; conducting studies relative to condition of access roads and the location of garages for auxiliary fire equipment; providing volunteer drivers and mechanics for such equipment.

4. Plumbing code revision

A member of the staff of the Division conferred with a representative of the Bureau of Standards relative to revision of the Bureau's manual on a standard plumbing code so that such a manual could guide State and local governments in adoption of codes to save steel, iron, zinc and lead. The Division is preparing information to be sent to the State Defense Councils as to suggested amendments in construction and building codes with the view of conserving strategic constructional materials.

DIVISION OF STATE AND LOCAL COOPERATION (Continued)

5. Red Cross

Discussions are in progress with representatives of the Red Cross concerning preparations of a joint policy statement defining the functional areas of local Red Cross chapters and local defense councils.

6. Conferences with State and local defense councils

Aircraft warning service, industrial clinics and other phases of State and local activity were discussed with members of the Georgia Committee for National Defense and with representatives of the Ohio State Defense Council.

7. Handbook on Consumer Protection through defense councils

A handbook prepared by the Consumer Division in consultation with this Division, which makes suggestions for consumer protection through the work of State and local defense councils, is in press; it is to be issued jointly by the Office of Price Administration and Civilian Supply and the Office of Civilian Defense.

8. Council of State Governments assembly

Representatives of the Division, including members of the field staff, attended the Midwest Interstate Assembly of the Council of State Governments in Chicago June 6 and 7, at which there was considerable discussion of State defense activities. A representative of the Division spoke on State defense legislation and the aircraft warning service.

STANDARD OF DEFENSE PROGRESS

NUMBER 44

OFFICE OF PRODUCTION MANAGEMENT
BUREAU OF RESEARCH AND STATISTICS

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SUMMARY
OF
DEFENSE PROGRESS

BUREAU OF
RESEARCH AND STATISTICS
STACY MAY, CHIEF

ECONOMIC ANALYSIS SECTION
MORRIS A. COPELAND, CHIEF

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revelation of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

SUMMARY OF DEFENSE PROGRESS

NUMBER 44

JUNE 13, 1941

BRIEFS OF CONTENTS

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- THE NUMBER OF FREIGHT CARS now available on American railroads, together with new cars to be produced, will probably not be sufficient to meet the expected fall peak requirement of 1,000,000 carloadings a week. Rising defense production, the diversion of traffic to the railroads from other types of carriers, as well as possible restrictions in monthly freight car production are factors making for a freight-car deficiency.

2

- THE CONSTRUCTION OF NEW DEFENSE INDUSTRIAL FACILITIES will have to be speeded up substantially if 1942 defense materiel requirements are to be met on scheduled time. The value of the industrial facilities now under contract which will be in operation by December 1941 represents approximately 50 percent of funds now available.

7

- LABOR DISPUTES IN CANADA during 1940 increased sharply over 1939, but showed a declining trend in the last half of 1940 and the first quarter of 1941. However, disputes in April showed a marked increase. Thus far the trend of labor disputes in the United States has been similar to the experience in Canada, but with a lag of about nine months.

10

- DEFENSE PROGRESS DATA

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SUMMARY OF DEFENSE PROGRESS

NUMBER 44

JUNE 13, 1941

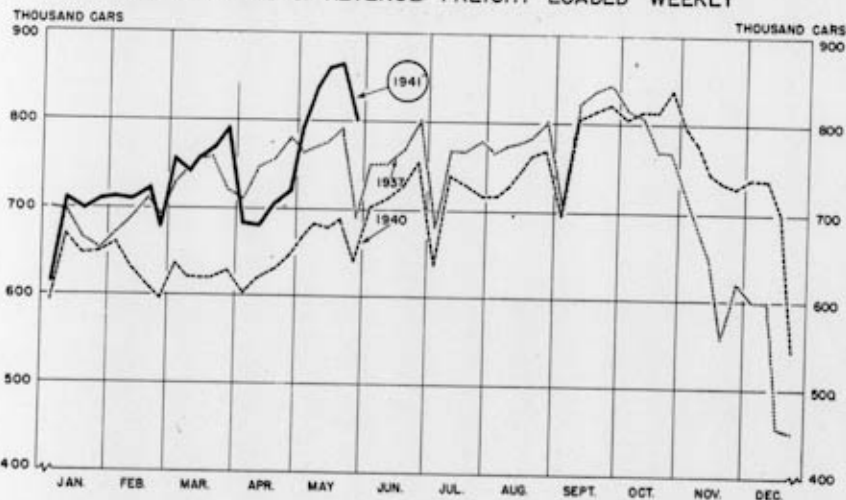
RAILROAD TRAFFIC AND CAR SUPPLY*

The number of freight cars now available on American railroads, together with new cars to be produced, will probably not be sufficient to meet the expected fall peak requirement of 1,000,000 carloadings a week. Rising defense production, the diversion of traffic to the railroads from other types of carriers, as well as possible restrictions in monthly freight-car production are factors making for a freight-car deficiency.

The number of freight cars available on American railroads, together with new cars to be produced, does not appear sufficient to meet the expected peak requirements

in the fall of this year. With railroad carloadings now running at the high level indicated in Chart 1, the possibility appears that peak freight carloadings which usually

CHART 1-CARS OF REVENUE FREIGHT LOADED WEEKLY



JUNE 13, 1941

CONFIDENTIAL ... 2

occur in October will exceed those of October 1930 for the first time since then.

The resumption of mining activity, coupled with the rapid growth of the "manufactures and miscellaneous" group of industries have produced carloadings exceptional for this period of the year. Coal pro-

duction to date has not, however, been sufficient to provide replenishment of stocks in preparation for fall and winter activity; hence further increases in coal carloadings may be anticipated in the near future.

The increased traffic burden imposed by the defense program upon

TABLE 1 - CARS LOADED AND RECEIVED FROM CONNECTIONS ON PRINCIPAL LINES, BY GEOGRAPHIC AREA WEEK ENDED MAY 24

Road	Number of cars			Percent increase 1941 over 1940
	1940	1941	Increase	
New England				
Boston and Maine	17,526	22,366	4,840	27.6
New York, New Haven and Hartford	20,727	28,893	8,166	39.4
Trunk Lines				
New York Central	80,092	102,419	22,327	27.8
Baltimore and Ohio	49,946	63,555	13,609	27.3
Pennsylvania	108,938	145,108	36,170	33.2
Erie	23,737	31,099	7,362	30.9
Southeast				
Southern	34,269	46,269	12,000	35.0
Atlantic Coast Line	13,678	18,591	4,913	35.8
Northwest				
Milwaukee	25,133	31,249	6,116	24.3
Great Northern	21,651	26,747	5,096	23.5
Northern Pacific	13,216	13,445	229	1.8
Central West				
Santa Fe	23,377	29,146	5,769	24.7
Burlington	19,828	26,372	6,544	33.5
Union Pacific	19,506	24,479	4,973	25.5
Southwest				
Missouri Pacific	20,946	26,286	5,340	25.5
Southern Pacific (incl. T & No.)	36,193	46,974	10,781	29.8

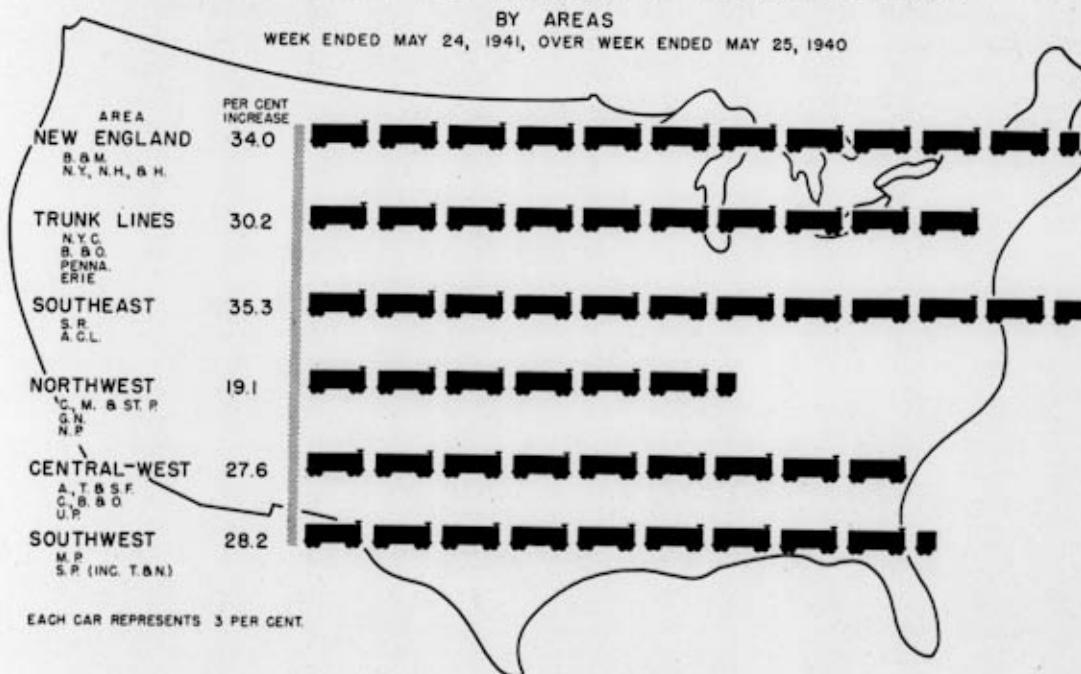
the rail carriers may be accentuated by substantial diversions from other types of carriers. Already some business which customarily moves by water is seeking to use the rails. The recent diversion of large numbers of vessels from the coastwise and intercoastal services, together with the additional diversions recently announced, will reduce the available ship tonnage to less than half that available on the first of the year. Most of the freight which water carriers can no longer move must seek rail transport.

For example, in 1940 there was a water movement of 4,918,629 tons from United States Pacific ports to United States ports east of the Panama Canal, 3,669,482 of which was

lumber; in the same year 2,795,708 tons of freight moved west between the same groups of ports. Loss of vessels on these intercoastal runs may necessitate movement of more than half the eastbound tonnage by rail at a time when transcontinental business is already running heavier than in recent years. When a substantial portion of coastwise business is added, the load on the rail carriers will be considerable over certain routes.

The increase in traffic is reflected in total loadings which in the week ended May 24 were 26 percent above the corresponding week of last year, but the increase was unevenly distributed geographically. Table 1 and Chart 2 show the per-

CHART 2 - PER CENT INCREASE IN FREIGHT CARS LOADED AND RECEIVED FROM CONNECTIONS ON PRINCIPAL LINES



centage increase of cars loaded and received from connections on some of the principal roads in various parts of the country. There is an obvious concentration in New England due to defense activity, especially the manufacture of machine tools, fire-arms, aircraft, and aviation equipment, and in the South due to the construction of cantonments, military aviation establishments, and shipyards. The uneven impact of the increased business places strains upon certain segments of the transport system, while others retain considerable unused capacity. Moreover, car distribution and maintenance of a sufficient number of serviceable cars become more difficult problems when a large portion of the increased load falls upon a limited number of carriers.

Car Surplus reports also reflect the seriousness of the situation. It has generally been thought desirable to maintain a surplus of about 100,000 cars to protect car distribution. Early in the year,

however, the reported surplus dipped below this figure as shown in Table 2. During the coal strike, idle coal cars swelled the surplus, but the resumption of mining reduced it severely. The box-car situation shows some improvement in recent weeks, but the situation with respect to flat, refrigerator, and tank cars has grown tighter. Lack of an adequate surplus of freight cars at this time of year portends a serious situation in the fall.

Motive power on hand and on order appears adequate to handle the traffic which existing and anticipated car supply can accommodate. The situation on some roads is, however, unsatisfactory, and some readjustment in locomotive supply may become essential.

Some estimates place the prospective peak demand at 1,000,000 carloadings a week (higher than in any year since 1929), but it appears doubtful that cars can be found to produce such a loading. To handle

TABLE 2 - SUMMARY OF DAILY AVERAGE RAILROAD OWNED CAR SURPLUS

Period Ended	Total Box	Total Gondola and Hopper	Total all Types
February 14, 1941	39,095	35,272	99,050
February 28, 1941	33,939	30,595	86,998
March 14, 1941	29,948	25,756	78,467
March 31, 1941	27,515	23,472	72,815
April 14, 1941	27,820	112,375	160,519
April 30, 1941	30,861	139,474	190,518
May 14, 1941	35,066	39,998	93,515

their increasing traffic, Class 1 railroads had 1,519,916 railroad-owned serviceable cars on line on May 1, which should suffice for no more than 930,000 carloadings per week, leaving a deficiency of 70,000 carloadings. Bad-order cars have been reduced to 5.9 percent, and little additional relief can be expected from further reductions. A total of 56,502 additional cars were on order, but neither this number nor the monthly production, which has not in recent months equaled the 6,525 cars produced in January, can

meet the freight requirements. Production will have to be doubled if cars on order are to be available for the October peak. Because of steel shortage, the effects of preference ratings, and insufficient freight-car-producing capacity, it is likely that the number of cars produced monthly may continue to decline.

*Prepared from materials provided by the staff of the National Resources Planning Board.

INITIAL OPERATION PERIODS OF NEW INDUSTRIAL FACILITIES

The construction of new defense industrial facilities will have to be speeded up substantially if 1942 defense materiel requirements are to be met on scheduled time. The value of the industrial facilities now under contract which will be in operation by December 1941 represents approximately 30 percent of funds now available.

The construction of new industrial facilities for defense purposes will have to be speeded up substantially if the defense materiel requirements for 1942 are to be met on scheduled time. As of May 31, 1941, \$5.2 billion of funds has been provided to finance the construction of these facilities. This total represents \$4.2 billion in public funds, and \$1 billion in private, all of the latter representing projects under way. (It is estimated that additional funds will be necessary if the proposed program for materiel production is to be met.)

The quantitative importance of the new industrial facilities under way as of May 1, 1941, in relation to the funds available for industrial facilities on that date, is shown in the following table.

	Percent of Funds Available as of May 1, 1941 ^a
	Percent
Total Commitments for Industrial Facilities	63
Period of Initial Operations:	
By June 1941	16
July-Decem- ber 1941	34
After Janu- ary 1, 1942	13

^a Amounting to \$4,710 million, including \$745 million of private funds representing certificates of necessity approved up to May 15, 1941. \$250 million of such certificates were pending as of that date.

The estimated cost of the new industrial facilities now under contract which will be in operation by December 1941 represents 50 percent of the funds available for new industrial facilities.

The total cost of these new defense industrial facilities under way as of May 1, 1941, is estimated at \$2,949 million,^b representing \$2,204 million of publicly-financed facilities and \$745 million of privately-financed facilities. Since \$4 billion of public funds were available for the facilities program on May 1, 1941, this means that \$1.8 billion was unobligated on that date. The latest estimates indicate that, of the \$4.2 billion available on May 31, the unobligated balance amounts to \$1.8 billion. Since May 1, 1941, commitments have been made for over \$200 million of new facilities to be financed by public funds.

The materiel production program for 1942 calls for a large increase in output over 1941. In order to achieve this desired result, the additional industrial facilities must be ready to go into operation early in 1942. The success of the industrial facilities program is vital to the fulfillment of the production requirements for 1942. The longer the delay in arranging for the new facilities, the greater the likelihood that production schedules will not be met in 1942. In view of this situation, a tremendous acceleration of effort will be necessary in order to provide the new facilities by December 1941.

In these estimates the total cost of a plant has been included in the period in which it was planned

to begin production. The estimates, therefore, should not be interpreted as expenditures which will be made on defense industrial facilities during the period, since some plants will begin production some time before expenditures have been completed for the whole plant. On the other hand, substantial expenditures will be made on plants which will begin production after the period covered.

Of the \$2,949 million facilities for which commitments have been made or necessity certificates approved, the initial date of production for \$908 million of facilities is not designated in the reports. The publicly financed not designated amounts to \$780 million, or 36 percent of all the publicly financed facilities, while the privately financed not designated amounts to \$128 million, or 17 percent of the privately financed facilities. This undesignated portion has been assumed to be distributed in the same proportion as the facilities for which data are summarized in Table 1 on the next page.

b The publicly financed facilities included in this estimate represent commitments which have been made by the War and Navy Departments, RFC, DPC, Maritime Commission, and British Government through April 30, 1941. The data concerning date of beginning production have been taken from reports prepared by these agencies. Data on scheduled beginning-dates of production for privately-financed facilities are from applications for certificates of necessity approved through May 15, 1941, by the ACCND.

TABLE 1 - VALUE OF NEW INDUSTRIAL FACILITIES UNDER CONTRACT AS OF MAY 1, 1941 BY PERIODS OF INITIAL OPERATION

	June 1941	July-Dec. 1941	After Dec. 1941	Total
	(Million Dollars)			
Total	753	1,589	607	2,949
Designated	569	1,058	414	2,041
Undesignated*	184	531	193	908
Public	296	1,416	492	2,204
Designated	191	915	318	1,424
Undesignated*	105	501	174	780
Private	457	173	115	745
Designated	378	143	96	617
Undesignated*	79	30	19	128

*By the undesignated are meant the facilities for which the period of initial operation is not given. They were assumed to begin production in the same proportion as the designated.

LABOR CONFLICT IN CANADA

Labor disputes in Canada during 1940 increased sharply over 1939, but showed a declining trend in the last half of 1940 and the first quarter of 1941. However, disputes in April showed a marked increase. Thus far the trend of labor disputes in the United States has been similar to the experience in Canada, but with a lag of about nine months.

The number of labor disputes in Canada during 1940 increased sharply over 1939, but was considerably below the number of 1937 (the previous peak in the number of labor disputes). In the earlier part of 1940 the number of labor conflicts was greater than in the corresponding 1939 period, while in the latter part of 1940 it was somewhat smaller. This reduction in labor conflict in the latter part of 1940 was continued into the first quarter of 1941. The month of April showed, however, a marked reversal of this trend.

The number of disputes, men involved, and man-days lost in 1940, 1939, and 1937 was as follows:

	1940	1939	1937
Number of disputes	168	122	278
Number of men involved (thousand)	61	41	72
Man-days lost (thousand)	266	225	886

While the number of labor disputes in 1940 increased 28 percent over the corresponding number in 1939 and the number of workers involved increased 48 percent, the man-days lost increased only 19 percent. As

compared with 1937, the 1940 data show a 40 percent decrease in the number of disputes, a 15 percent decrease in the number of workers involved, and a 70 percent decrease in man-days lost.

CHART I—NUMBER OF STRIKES IN CANADA
JANUARY 1939 - APRIL 1941

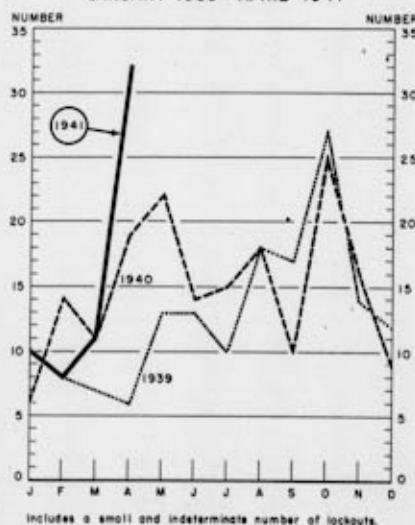
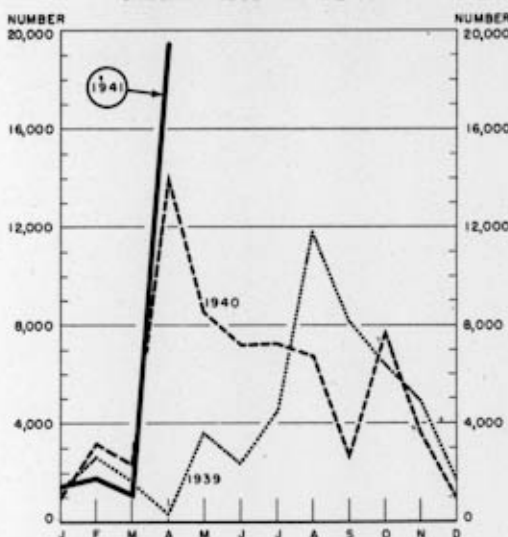


Table 1 shows the number of disputes, the number of workers involved, and the number of man-days lost, for two periods, 1911-1920 and 1931-1940, for all industries and separately for coal mining. As can be seen from the table, the period from 1931-1940 showed considerably less labor conflict than the period

The monthly record of labor conflict in Canada since January 1939 is shown in Charts 1, 2, and 3. The number of strikes, as shown in Chart 1, increased considerably in the first part of 1940 over the corresponding period of 1939, but was running at about the same level in the latter part of 1940 as in the latter part of 1939. The number of strikes rose sharply after February 1941.

CHART 2 - NUMBER OF WORKERS INVOLVED IN STRIKES IN CANADA
JANUARY 1939 - APRIL 1941



from 1911-1920. The increase in labor disputes during the first part of 1940 does not seem to be more than the increase which would normally follow any upswing in business activity. The table brings out the significant extent to which coal mining has contributed to the number of labor disputes in Canada, although coal mining employs only 2 percent of the total labor force of Canada.

It is of interest that more than half of the strikes in coal mining in 1940 were called to protest the employment of workers of enemy-alien origin. These strikes were "quickies" and did not arise over the terms of labor contracts.

During this period, the number of men involved in strikes, as shown in Chart 2, showed approximately the same trends as the number of strikes. During the same period the man-days lost in the first half of 1940, as shown in Chart 3, were considerably above the number lost in the corresponding period of 1939, while in the latter half of 1940 they were significantly below those lost in the latter half of 1939. For 1941, man-days lost were inconsiderable until April, when they rose above the corresponding number for April 1940.

As measured by the number of strikes, the number of workers involved, and the man-days lost, April 1941 was the most turbulent month in labor relations in Canada since January 1939.

The trend of labor disputes in the United States, with an upward movement in the latter half of 1940 and the early part of 1941, has been similar to experience in Canada, but

STRIKES IN CANADA, 1911-1920 AND 1931-1940 ^A

YEAR	ALL INDUSTRIES			COAL MINING			
	NUMBER OF STRIKES	NUMBER OF WORKERS INVOLVED	MAN-DAYS LOST	NUMBER OF STRIKES	NUMBER OF WORKERS INVOLVED	MAN-DAYS LOST	MAN-DAYS LOST IN COAL MINING AS PERCENT OF TOTAL
		(000)	(000)		(000)	(000)	(PERCENT)
PERIOD, 1911-1920							
1911	100	29	1,821	6	10	1,513	83
1912	181	43	1,136	2	2	107	9
1913	152	41	1,036	4	5	562	54
1914	63	10	491	3	3	281	57
1915	63	11	95	9	3	12	13
1916	120	27	237	8	11	72	30
1917	160	50	1,124	21	17	585	52
1918	230	80	648	46	23	131	20
1919	336	149	3,401	20	10	384	11
1920	332	60	800	35	12	100	13
PERIOD, 1931-1940							
1931	88	11	204	9	2	12	6
1932	116	23	255	33	9	133	52
1933	125	27	318	21	3	33	10
1934	191	46	575	26	11	92	16
1935	120	33	284	17	6	61	21
1936	156	35	277	22	9	57	21
1937	278	72	886	44	16	113	13
1938	147	20	149	25	5	21	14
1939	122	41	225	48	31	111	49
1940	168	61	266	65	31	69	26

^A THESE ESTIMATES INCLUDE A SMALL AND INDETERMINATE NUMBER OF LOCKOUTS.

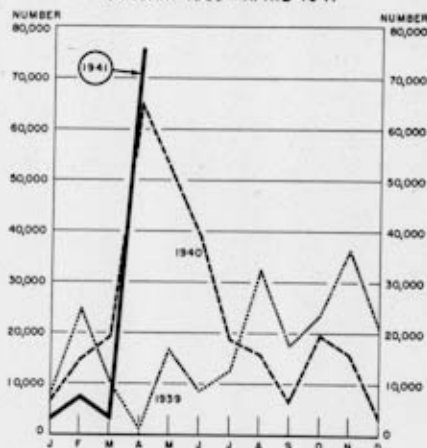
with a nine-months lag. (See Summary of Defense Progress, Number 39, pp. 34-39.) This rise in labor conflict in the United States may be a sign of the "growing pains" of the defense effort.

Data on the extent of labor conflict in Canadian war industries are not sufficient to warrant the drawing of definite conclusions. It is of interest, however, that by an Order in Council issued in November 1939 the Canadian Industrial Disputes Investigation Act was extended to cover disputes in war industries. This Act forbids strikes and lock-outs until the matters in dispute have been dealt with by a board of conciliation and investigation. Owing to the failure of this Act to work satisfactorily in all disputes, a further Order in Council was issued in December 1940 providing that the standard or basic wage level was to be that established during the period 1926-1929 or any subsequently higher wage level and that bonuses may be granted to offset the effects of higher costs of living. This applies only to those disputes covered by the Act, viz., in mining, public utilities, and war industries. It is the hope in Canada that this principle will be extended to disputes not covered by the Act.

In one case affecting war production, the Government took over the operation of a plant (on April 29, 1941). This action was in connection with a labor dispute in the Hamilton plant of the National Steel Car Corporation, engaged in the manufacture of shells. The workers complained of unjustifiable dis-

missals and asked for an adjustment of hours and wages and for union recognition. Pending a vote to determine the bargaining agent for the workers, the Board appointed under the Act recommended the reinstatement of the president of the local union, one of those dismissed. On the refusal of the management to

CHART 3 - MAN-DAYS LOST
DUE TO STRIKES IN CANADA
JANUARY 1939 - APRIL 1941



DEFENSE PROGRESS SERIES

Agency and Object	1940	1941				
	July	January	March	April	May	week Ending June 7
TOTAL UNITED STATES DEFENSE PROGRAM *						
UNITED STATES ARMED FORCES (Thousands, officers and enlisted men)						
Army	289	693	1,004	1,211	1,362	1,386
Navy and Marine Corps	196	271	293	310	311	
Total active strength	485	964	1,297	1,521	1,673	
FINANCIAL PROGRAM (Million dollars to date)						
Total authorized program	14,968	26,663	35,470	39,776	£ 41,741	41,793
Total contracts payroll	3,379	15,514	18,127	20,580	£ 26,737	
Total cash disbursements	571	£ 4,176	£ 6,052	£ 7,074	£ 68,478	
AGENCIES						
U. S. MILITARY						
ARMY - Program	2,620	8,377	9,239	13,135	13,135	13,135
Contracts payroll	582	5,951	7,091	7,334	8,238	£ 8,542
Cash disbursements	78	£ 1,348	£ 2,316	£ 2,822	£ 3,250	
NAVY - Program	9,425	11,127	11,530	11,825	13,633	13,633
Contracts payroll	1,515	6,009	7,213	7,824	8,145	
Cash disbursements	84	1,021	1,480	£ 1,776	£ 2,100	
TOTAL - Program	12,045	19,504	20,769	24,960	26,768	26,768
Contracts payroll	2,097	11,960	14,304	15,158	16,383	
Cash disbursements	162	£ 2,369	£ 3,796	£ 4,598	£ 5,350	
DEFENSE AID (Lend-Lease)						
Program			7,000	7,000	7,000	7,000
Allocations			n.a.	n.a.	4,277	4,548
Contracts			n.a.	n.a.		
Cash disbursements			0	0		
BRITISH PURCHASES						
Program	1,282	3,426	3,649	3,673	£ 3,645	3,688
Contracts	1,282	3,426	3,649	3,673	£ 3,645	3,688
Cash disbursements	396	1,538	1,824	1,928		
MARITIME COMMISSION						
Program	840	840	1,154	1,154	1,154	1,154
Contracts	n.a.	n.a.	n.a.	810	£ 810	£ 810
Cash disbursements	8	83	107	121		
DEFENSE HOUSING PROGRAM						
Program	0	325	330	330	£ 493	493
Contracts	0	128	174	227	245	255
Value in place	0	n.a.	n.a.	£ 63	82	104
Cash disbursements	0	n.a.	n.a.	n.a.		
OTHER AGENCIES						
Program	801	2,568	2,568	2,659	£ 2,681	
Contracts	n.a.	n.a.	n.a.	712		
Cash disbursements	5	£ 186	£ 325	£ 427		

* Data are as of the close of the month or week or nearest available date.

£ Preliminary data.

£ Revised data

n.a. Data not available

(Continued on next page)

Object	1940	1941				
	July	January	March	April	May	Week Ending June 7
<u>AIRPLANES, ENGINES, ETC.</u>						
	(Million dollars to date)					
Program	1,564	4,476	6,711	8,132	8,211	
Contracts	889	3,852	4,069	4,172	6,483	
Cash disbursements	n.a.	£ 885	£ 1,183	£ 1,288		
<u>NAVAL SHIPS & PARTS</u>						
Program	5,765	6,005	6,288	6,348	6,736	
Contracts	1,207	4,500	4,500	4,527	4,548	
Cash disbursements	29	321	440	£ 529		
<u>MERCHANT VESSELS</u>						
Program	848	984	1,929	1,938	1,938	
Contracts	n.a.	n.a.	n.a.	968	1,468	
Cash disbursements	n.a.	151	186	205		
<u>ORDNANCE</u>						
Program	2,805	4,707	6,530	7,754	8,125	
Contracts	367	2,491	3,437	3,725	4,964	
Cash disbursements	n.a.	£ 445	£ 606	£ 743		
<u>OTHER EQUIPMENT</u>						
Program	640	1,974	2,712	3,037	3,101	
Contracts	434	1,808	2,000	2,064	2,336	
Cash disbursements	n.a.	£ 1,011	£ 1,423	£ 1,649		
<u>PAY, SUBSISTENCE, & MISC. SERVICES</u>						
Allocated funds	1,834	3,846	4,768	4,994	5,620	
Cash disbursements	n.a.	£ 586	£ 856	£ 1,009		
<u>ACCOMMODATION PROGRAM</u>						
Stockpile program	390	485	485	485	507	510
Purchases under program	50	237	312	325	329	330
Purchases in excess of program	0	39	76	76	129	129
Deliveries	26	106	133	149	159	166
<u>INDUSTRIAL FACIL.-CONS. EQUIP. & REAL ESTATE</u>						
Program	395	2,437	3,370	£ 3,965	3,970	
Contracts	110	1,397	1,724	£ 2,057	2,503	
Cash disbursements		£ 263	£ 426	£ 541		
<u>INDUSTRIAL FACIL.-CONSTRUCTION</u>						
Program			1,213	1,227		
Contracts			n.a.	n.a.		
Value in place			304	367		
<u>POSTS, DEPOTS, HOUSING</u>						
Program	727	1,749	2,677	3,123	£ 3,583	
Contracts	230	929	1,590	1,711	1,763	
Value in place	n.a.	850	1,308	1,513		
Cash disbursements	10	£ 514	£ 932	£ 1,110		

* Data are as of the close of the month or week or nearest available date.

p Preliminary data.

r Revised data

n.a. Data not available

† In process of revision.

(Continued on next page)

Object	1940	1941				
	July	January	March	April	May	Week Ending June 7
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u>		(Million dollars to date) *				
Total			1,034	1,113	1,232	
Approved, private funds			628		747	
Approved, public funds			187		200	
Pending			217	213	281	
<u>DEFENSE HOUSING</u>		(Number of dwelling units)				
Fund allocations		56,528	80,183	86,361	106,053	106,053
Construction contracts		36,191	48,416	60,293	72,334	75,276
Construction completed		1,314	5,424	9,024	14,414	15,593
<u>PRIORITY CERTIFICATES & EXTENSIONS</u>		(Number)				
Total issued			75,709	131,208	217,282	232,539

PRODUCTION RATES & TOTAL PRODUCTION OF DEFENSE EQUIPMENT

<u>PRODUCTION RATE INDEXES</u>		(Indexes, production in scheduled peak month=100)				
Military airplanes	n.a.	n.a.	n.a.	E 33	E 31	
Combat vessels	n.a.	n.a.	E 37	E 36		
Combat vehicles	n.a.	n.a.	n.a.	E 32		
Army type guns	n.a.	n.a.	n.a.	E 30		
<u>TOTAL PRODUCTION INDEXES</u>		(Indexes, cumal. since July 1940, program requirements=100)				
Military airplanes	n.a.	n.a.	n.a.	E 8	E 10	
Combat vessels	n.a.	n.a.	12	E 13		
Combat vehicles	n.a.	n.a.	n.a.	E 6		
Army type guns	n.a.	n.a.	n.a.	E 7		

Series ECONOMIC ACTIVITY RELATED TO DEFENSE

<u>FED. RES. BD. PRODUCTION INDEXES</u>		(Indexes 1935-9=100)				
Total industrial prod.	121	139	143	E 140	148	
Durable manufactures	(132)	170	170	E 166		
Nondurable manufactures	112	121	127	E 130		
Minerals	120	118	125	E 101		
<u>BUR. FOR. & DOM. COM. MFGS. INVENTORIES</u>		(Indexes, Dec. 31, 1938=100)				
Durable goods	111.9	129.7	E 131.8	E 134.3		
Nondurable goods	106.4	111.2	E 111.8	E 112.1		
Total	109.2	120.8	E 122.1	E 123.6		
<u>BLS PRICE INDEXES</u>		(Indexes)				
Strategic materials (8/39=100)	123.8	126.1	131.9	135.9	138.5	138.4
Critical materials (8/39=100)	107.6	111.5	112.0	112.4	113.0	113.8
Basic commodities (8/39=100)	108.3	120.5	129.7	136.9	143.5	144.0
Machine tools (8/39=100)	108.7	114.6	115.1	116.4	117.3	n.a.
All commodities (1926=100)	77.7	80.8	81.5	83.2	n.a.	85.9
<u>NICH COST OF LIVING INDEX (1923=100)</u>		85.7	86.0	86.3	86.9	87.4
<u>FEDERAL DEBT</u>		(Billion dollars, end of month)				
Net public debt	41.5	43.9	44.4	44.8	45.8	

* Data are as of the close of the month or week or nearest available date.

E Preliminary data.

E Revised data

n.a. Data not available

(Continued on Next Page)

Object	1940	1941				
	July	January	March	April	May	Week ending June 7
<u>NATIONAL INCOME</u>						
	(Billion dollars, annual rate)					
Total income payments	73.3	79.4	80.4	80.3		
<u>LABOR DISPUTES</u>						
<u>PLANTS WITH DEFENSE CONTRACTS</u>						
Number of strikes in progress	n.a.	37	57	52	55	17
Workers involved (thousands)	n.a.	39,300	82,850	119,850	98,300	32,300
<u>TOTAL</u>						
Number of strikes in progress	290	322	475	590		
Workers involved (thousands)	76	108	165	555		
Man days idle (thousands)	552	662	1,400	7,800		
Strikes beginning in month	182	213	330	400		

* Data are as of the close of the month or week or nearest available date.

P Preliminary data.

R Revised data

n.a. Data not available

The President 1

SUMMARY OF
DEFENSE PROGRESS

NUMBER 45

JUNE 20, 1941



OFFICE OF PRODUCTION MANAGEMENT
BUREAU OF RESEARCH AND STATISTICS - STACY MAY, CHIEF

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revelation of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

SUMMARY
OF
DEFENSE PROGRESS

BUREAU OF
RESEARCH AND STATISTICS
STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF

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SUMMARY OF DEFENSE PROGRESS

NUMBER 45

JUNE 20, 1941

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● KEELS FOR 55 PERCENT of the 2½-million-ton "Two Ocean" Navy construction program will not be laid until the period 1942-44, according to present estimated construction schedules.	9
● CURRENT RATES OF DEFENSE PLANT UTILIZATION average less than 40 percent of the theoretical maximum. The extent to which fuller utilization can be secured will depend upon the availability of supplies of trained labor, key equipment, key materials, and other operating requirements in these industries.	11
● DEFENSE PROGRESS SERIES have been rearranged to show greater detail in the program, contracts, and cash disbursements, by objects and agencies. As of May 31 the total program amounted to \$42,775 million. Labor turnover, weekly wages, and hours in major defense industries have been added to the economic series related to defense.	14

SUMMARY OF DEFENSE PROGRESS

NUMBER 45

JUNE 20, 1941

THE STATUS OF SELECTED MINOR
CRITICAL MATERIALS

The supply position of the three minerals, mica, graphite, and mercury, while not currently tight, may become 'short' unless shipping facilities and access to foreign sources are assured.

MICA*

R equirements and Supply. During the first four months of 1941, imports from Canada totaled 106,000 pounds of amber splittings (the type of mica of immediate concern to national defense). If this rate of imports is maintained, an additional 212,000 pounds will be imported in 1941, which, together with stocks at the end of April (which were 584,000 pounds), will bring the supply available to industry to a total of some 800,000 pounds of amber splittings for the last eight months of the year.

There has been an apparent consumption of 398,000 pounds in the first four months of this year and

an increasing consumption since the middle of 1940, as indicated by the following:

Third quarter, 1940 - 136,000 pounds
Fourth quarter, 1940 - 234,000 pounds
First four months, 1941 - 389,000 pounds

If consumption continues at the present rate, the demand during the remainder of 1941 will be 800,000 to 880,000 pounds. Since anticipated receipts amount to about 800,000 pounds, supply difficulties may appear:

- (1) if the Canadian receipts are not augmented by supplies from India and Madagascar (the major sources of supply);

- (2) if current consumption continues to show a rising trend;
- (3) if there is any decrease or interruption in Canadian receipts.

Chart 1 shows the estimated requirements for 1941 and 1942 and the estimated new supply for 1941 of both varieties of mica.

GRAPHITE*

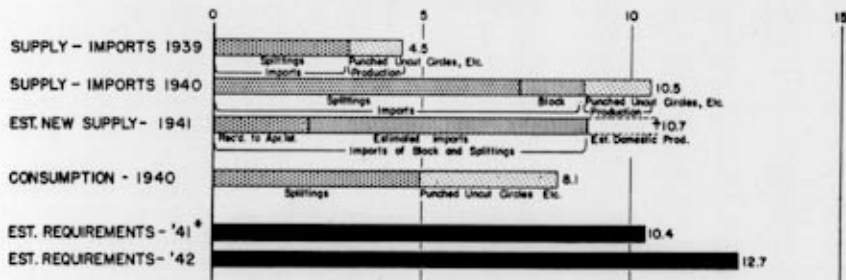
Requirements and Supply. Requirements, based upon unrestricted civilian consumption at an estimated national income of \$87 billion, plus the Army, Navy, and British requirements, indicate a demand in 1941 for 6,200 short tons of crystalline graphite. To satisfy this demand, we have a 1941 visible supply of 9,696 tons. Of this, 3,987 tons are

CHART I - MICA

(BLOCK AND SPLITTINGS)

REQUIREMENTS AND SUPPLY

THOUSANDS OF POUNDS



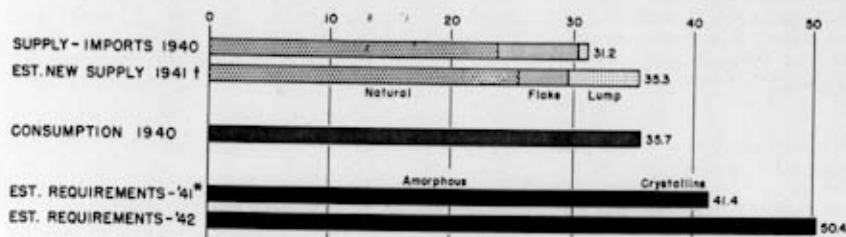
* These estimates include requirements for direct material and indicated civilian demand.
 † Based upon rate of production and imports for first quarter of 1941.

CHART 2 - GRAPHITE

(AMORPHOUS AND CRYSTALLINE)

REQUIREMENTS AND SUPPLY

THOUSANDS OF SHORT TONS



†Based upon rate of imports from receipts of the first four months, plus crystalline afloat, and 3,200 short tons of Ceylon on docks awaiting shipping space.

*These estimates include requirements for direct military material, and indicated civilian demand.

afloat, and 3,200 tons are on the docks in Ceylon awaiting shipment. The remainder, 2,509 tons, represents the imports of the first quarter. Industry stocks at the year end were 4,061 tons, which with imports of 2,509 tons gives a visible supply of 6,571 tons against requirements of 6,200 tons. Steps to conserve present supplies and to prepare for the increased demand of 1942 are clearly necessary.

In 1939, we imported about 19 thousand tons of amorphous graphite, and in 1940 about 24 thousand tons, the bulk of which was from Mexico. No special problems have developed in connection with this Mexican supply, since at a high enough price and with transportation available it has always been possible to secure satisfactory quantities.

High-grade crystalline graphite, which is considered critical for defense, is supplied almost entirely by Ceylon and Madagascar. In 1939, we brought in 2,260 tons, and in 1940 6,551 tons of crystalline flake; in the same years we imported 602 and 752 tons of crystalline lump. Table 2 shows the estimated requirements for 1941 and 1942 and the estimated new supply for 1941 of both varieties of graphite.

With particular reference to increased 1942 demands for crystalline graphite, steps are under way to expand domestic production. Two mines in the South with a proven output and one in New York State with an output not yet proven are the principal domestic contributors. Studies are being pursued cooperatively by private industry, tech-

nological committees, and the Bureau of Mines to find substitutes or alternates for crystalline graphite. The domestic output is believed to represent a supply of crystalline which can be used with perhaps 40 to 60 percent of the efficiency of the imported types.

MERCURY*

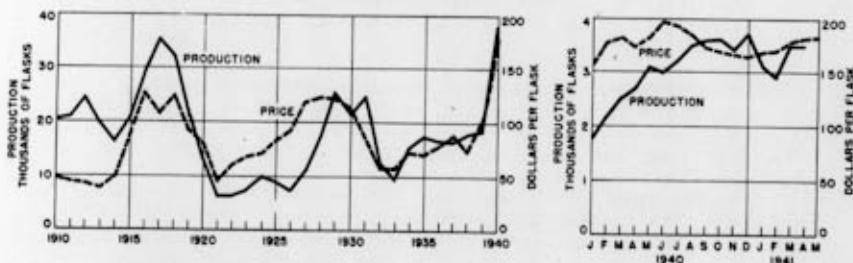
Requirements and Supply. It is estimated that 1941 domestic production of mercury will be between 35,000 and 40,000 flasks. This will compare with estimated requirements, calculated as those for graphite, of about 35,500 flasks for 1941. On this basis, there is no immediate evidence of a shortage. However, more and more marginal mines are coming in under the influence of

higher prices, and the grade of ore and percentage of recovery are tending lower. The production of mercury ores shows a marked sensitivity to price. In Chart 3, mercury production is compared with price for the thirty-year period, 1910 to 1940, and monthly from the beginning of 1940 to May 1941.

As compared with domestic production in previous years at an annual level of from 16,000 to 20,000 flasks, we had in 1940 a total domestic production of almost 38,000 flasks. In the same year, consumption was about 27,000 flasks, and stocks, at the end of January, were 14,500 flasks, or a 5-months' supply at the rate of consumption. By the end of April, stocks had shrunk to 12,100 flasks, and at the consumption rate of 3,200 flasks per month were about a 3.8-months' supply.

CHART 3 - MERCURY

PRODUCTION AND PRICE



In 1939, we imported about 3,500 76-pound flasks of mercury. Of these imports, 74.3 percent came from Spain, 16.2 percent from Mexico, and 9.5 percent from Italy. After 1939 our imports practically ceased. In the full calendar year 1940, we received from abroad only 171 flasks, none of which entered this country after April 1940.

At present, Mexican production is estimated at 2,000 flasks per month, practically all of which is going to Japan at better than \$200 a flask. We may, however, be able to arrange for the purchase of this en-

tire output for the next two years at a price in the neighborhood of \$150 or less. If this is possible, a strong reserve may be built up.

The need for this reserve is apparent. As the principal component of fulminate for detonators, mercury is used in large quantities by nations waging war. In a situation calling for large quantities of high explosives, our mercury reserves at present (4-months' industry stocks plus a small stockpile) are not adequate for a sustained effort at a high level of activity.

*CHEMICAL AND TECHNICAL ASPECTS

Mica: The nonmetallic mineral, mica, is an important raw material for national defense. It is used principally in electrical insulation. With high dielectric strength, heat resistance, and flexibility, mica has a combination of qualities for which no satisfactory single substitute has yet been found. In addition, mica is tough, elastic, and almost completely impregnable to moisture and to electrical puncture.

To be commercially useful mica must be obtainable in sheets. It is only in those parts of the earth's crust which have been geologically stable to a high degree that this form is found. Where there has been buckling and torsion, the commercial value of the mica has been destroyed. As a result, although mica is a common enough mineral which forms a part of nearly all rocks, there are relatively few places where it is found in the condition required for industrial use.

Two mineral varieties--muscovite and phlogopite (or amber)--are in industrial use. British India is our major supplier of the former and Madagascar of the latter, with Canada a minor source of supply. This location of source creates a defense problem with regard to the allocation of cargo space and the noninterruption of trade routes from the Far East. Another problem arises from the fact that the amber mica from Madagascar must be shipped to British India to be split, i.e., reduced from block to splittings due to the cheapness of labor supply. The fact that the production of splittings from block is still a hand operation and that it is extremely difficult to train labor for the purpose has nullified several attempts to place large-scale operations in North American amber mines on a commercial basis. Nowhere but in India is there at present a trained labor force available to handle large quantities.

Within the mica trade a number of different grades are used, although standardization has not yet been carried to the point where there is general agreement as to the exact qualifications to be sought in each classification. One large user of mica may consider a certain grade suitable for sparkplugs; another may regard the same grade as completely unsuitable. A high degree of interchangeability exists: there are many uses for which both amber and muscovite are satisfactory, but there are a few basic uses

for which only amber is adequate. Chart I shows the estimated requirements for 1941 and 1942 and the estimated new supply for 1941 of both varieties of mica.

Graphite: Graphite is an allotrope of carbon. It occurs in nature as crystalline and as "amorphous." The "amorphous" type, however, actually shows crystalline structure under the microscope. Although graphite may be produced synthetically, American industry has customarily relied upon the natural product.

Amorphous and crystalline graphite each has distinct uses. The amorphous type is used as a facing for castings and in ingot molds. The constitution of amorphous is such that when molten metal is poured into the form a gas film is generated. This prevents adhesion of the mix to the sides. As the amorphous type can be readily smoothed, it gives a good surface to the mold.

Crucibles for the steel industry require crystalline graphite. A common crucible type is a vessel of about 10-inches diameter and a height of 18 inches, with a capacity of about 100 pounds. It is usually charged with wrought iron or scrap steel, or a mixture plus some charcoal. After charging, the crucible is lowered into the furnace, where it remains for three or four hours in intense heat. There are other uses in the metal industries, such as in brass manufacture and in gold and silver refining, in which crucibles lined with crystalline graphite perform an indispensable function.

Mercury: The only common metal remaining liquid in a wide range of temperatures, mercury is qualified for a variety of uses for which there are no substitutes. It has been principally consumed in drug and chemical manufactures, fulminates, vermilion red, antifouling paint, thermostats, precious metals recovery, and hatter's felt. This latter use, accounting for about 10 percent, was recently discontinued by the hatter's felt industry, thus easing domestic demands.

In general, mercury ores are of simple mineral composition. Almost all mercury is derived from the distillation of cinnabar (HgS). As a result, mercury mining tends to be a small tonnage operation conducted by means of open cuts or underground mining.

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THE KEEL-LAYING PROGRAM FOR MAJOR COMBAT VESSELS

Keels for 55 percent of the 2½ million ton 'Two-Ocean' Navy Construction program will not be laid until the period, 1942-44, according to present estimated construction schedules.

If it had been possible to start building all the new ships included in the "Two-Ocean" Navy expansion program within the first 12 months after its authorization by Congress, and the larger battleships six months earlier, the program could have been completed by December 31, 1944. As it is, the last battleship is not scheduled to be delivered until November 1, 1946, and the last of the other types of major combat vessels, December 1, 1945. Keels will not be laid for 55 percent of the tonnage until after 1941 and the last keel will not be

laid until after 1944. This program calls for the construction of 385 major combat vessels representing a total of 2½ million tons. As of June 7, 1941, keels had been laid for 128 vessels, accounting for 32 percent of the total tonnage. It is expected that keels will be laid for an additional 13 percent of this tonnage by the end of 1941.

The major combat vessels for which keels remain to be laid are shown by groups in the following table:

Class of Naval Vessel	Number Provided in "Two-Ocean" Expansion Program	Number of Keels		
		Laid as of June 7, 1941	To be Laid betw'n June 7 and Dec. 31, 1941	To be Laid after Dec. 31, 1941
Battleships	17	10	0	7
Large Cruisers	6	0	0	6
Heavy Cruisers	8	1	3	4
Light Cruisers	40	13	7	20
Aircraft Carriers	12	2	3	7
Submarines	86	29	17	40
Destroyers	216	73	43	100
Total	385	128	73	184

There are 184 major combat vessels whose keels will remain to be laid after December 31, 1941. Keels of 3 battleships, 16 cruisers, and 5 aircraft carriers are scheduled to be laid after the end of 1942. In addition there will be a number of destroyers and submarines.

Before an acceleration of the construction schedule for major combat vessels can be undertaken, new

ways will have to be built, existing ways will have to be modernized and re-equipped, the scale of training new workers will have to be greatly enlarged, and the output of such strategic items as armor plate, ordnance, and various types of machinery, will have to be increased considerably. This would put further pressure upon the resources available for merchant shipbuilding, at a time when the need for such ships is increasing.

THE EXTENT OF PLANT UTILIZATION IN DEFENSE INDUSTRIES

Current rates of defense plant utilization average less than 40 percent of the theoretical maximum. The extent to which fuller utilization can be secured will depend upon the availability of supplies of trained labor, key equipment, and key materials, and other operating requirements in these industries.

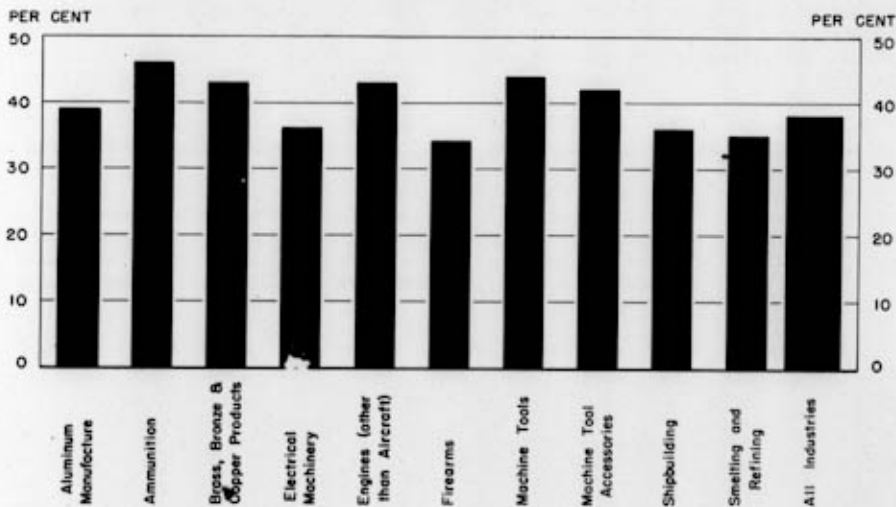
A major obstacle to a far more rapid expansion of defense production is the lack of plant facilities and industrial equipment. Current estimates indicate, however, that for a large sector of defense industries plants average only about

65 hours a week in operation out of a theoretical maximum of 168 hours.^a This means that the current rate of

^a Based on a 24-hour day, a 7-day week.

PLANT UTILIZATION IN 340 PLANTS IN 10 DEFENSE INDUSTRIES

MARCH 1941



utilization is less than 40 percent. As can be seen in the accompanying graph, the degree of plant utilization in 10 defense industries during the month of March varied on the average from 34 percent in plants manufacturing firearms to 46 percent in plants manufacturing ammunition. In machine tools, average plant utilization amounted to 44 percent; in private shipyards, 36 percent. In the case of the aircraft industry, which is not shown in the table, the rate was somewhat higher and reached about 48 percent in May.

Between December 1940 and March 1941 the average rate of utilization for the entire sample of plants covered in the table increased from 36 to 38 percent, an increase of less than 4 hours per week. The greatest increase was in ammunition. In aluminum and its products, however, the rate was lower in March than in December because of the effect of priorities on nondefense production. Preliminary data indicate that the present situation has not changed significantly since March.

These percentages of utilization are based on a maximum of 168 hours per week. This standard is an ideal which can hardly be expected

to be reached. But the differences between the actual utilization and 168 hours per week are sufficiently great to justify the conclusion that a considerable portion of the unused capacity may very well be brought into production.

The reasons for the lack of more intensive utilization will vary from industry to industry and plant to plant. In fact, a number of factors may be involved in each case. Some present problems in engineering, some in economics, others in psychology and tradition. Some of the problems are undoubtedly not subject to solution. Others, however, may be solved provided there is a determination to do so.

The obstacles in each case must be analyzed and dealt with separately. In some instances, the restrictions in the use of the available facilities may be due to lack of key machines, or key materials; in others, to a lack of key supervisory personnel, or trained labor force. In still others, the problems may revolve around the fact that certain important operations require daylight. Intensive study of the problem may indicate partial or complete solutions.

In view of the wide margin of idle plant time, any effort to intensify utilization holds promise of an increase in defense output. In the machine tool industry, for instance, if the present rate of operations is

increased 50 percent the rate of plant utilization would be increased to only 66 percent of the theoretical 168 hours per week still leaving 34 percent of the time for clean-up, repairs, etc.

PLANT AND EQUIPMENT UTILIZATION IN 340 IDENTICAL PLANTS
IN 10 DEFENSE INDUSTRIES
December 1940 and March 1941

Industry	Number of Plants	Percentage Utilized ^a	
		December 1940	March 1941
		Percent	Percent
Aluminum Manufacture	14	40	39
Ammunition	10	40	46
Brass, Bronze, and Copper Products	45	42	43
Electrical Machinery	117	34	36
Engines (other than Aircraft)	14	43	43
Firearms	6	33	34
Machine Tools	39	40	44
Machine-tool Accessories	18	38	42
Shipbuilding	41	35	36
Smelting and Refining	36	36	35
All Industries	340	36	38

$$^a \text{ Percentage utilized} = \left(\frac{\text{actual man-hours for week}}{\text{number of workers on 1st shift} \times 168} \right) \times 100$$

This concept of plant utilization assumes that the number of workers on the first shift represents full use of facilities.

DEFENSE PROGRESS SERIES

At the end of May 1941, the United States defense program was \$39,069 million and British orders placed in this country were \$3,706 million, totaling \$42,775 million. This does not include the 1942 Army budget of approximately \$6,000 million now before the Senate. The \$42,775 million program is made up as follows:

(Million Dollars)

United States Army	\$ 13,135
United States Navy	13,633
Defense Aid	7,000
Maritime Commission	1,154
RFC and Subsidiaries	2,767
Other United States Agencies	<u>1,380</u>
Total	\$ 39,069
British Purchases	<u>3,706</u>
Total	\$ 42,775

Total contracts awarded against this program were \$21,213 million. If British orders are excluded, the United States contract awards are \$17,507 million. In order to obtain an estimate of commitments strictly comparable with the total program, it is necessary to add the amounts expended for pay, travel, subsistence, and other noncontractual items to total contracts, making a total of \$22,447 million.

Total cash expenditures for materials under defense contract in the United States were \$6,837 million on May 31, 1941. If expenditures by the British on their orders are deducted, total United States expenditures were \$4,843 million. Total disbursements on contracts and for pay, subsistence, travel, etc., amount to \$8,071 million.

The growth of the program and the increase in contracts, and cash expenditures since June 1940 are shown in the chart following.

The program, contracts, and cash expenditures for major objects in the defense program are given on the first two pages of Defense Progress Series. These same data, rearranged by agencies, are also presented on the third and fourth pages. It is, therefore, possible to obtain a comprehensive view of the financial program, either in total, by major objects, or by agencies. In the case of the classifications by objects and agencies, the program, contracts, and cash disbursements are placed next to each other in order to provide an easy comparison of the progress being made in carrying out the program.

Approximately 60 percent of the \$26,107 million available for all military equipment had been placed under contract at the end of May, and cash disbursements amounted to

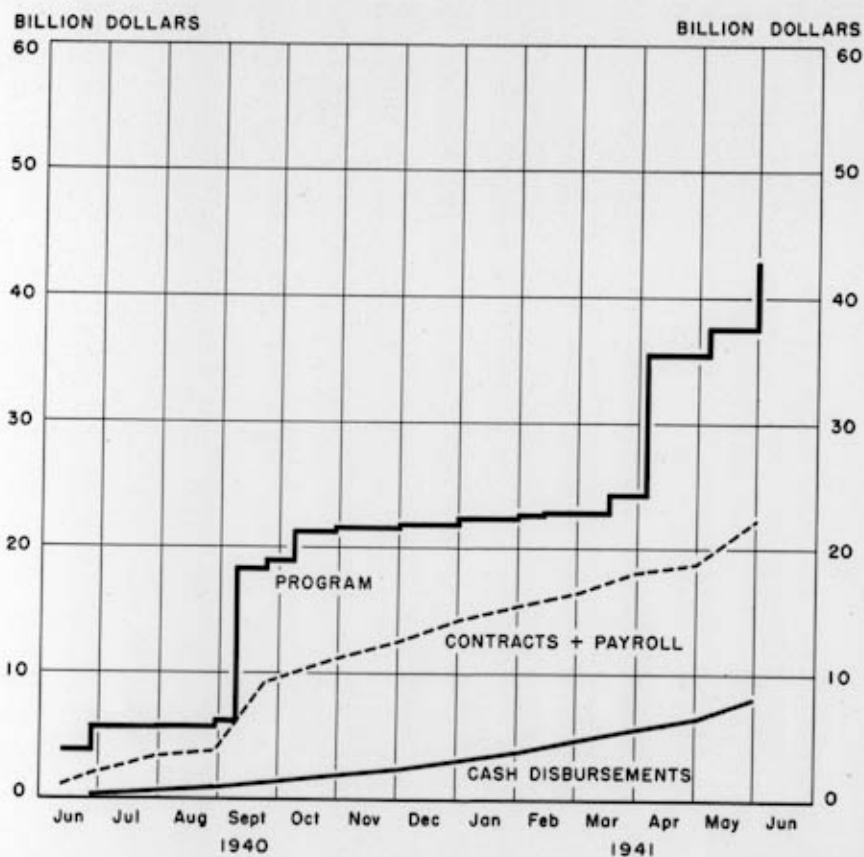
\$4,370 million, about 17 percent of the program. Ordnance (including Navy ordnance) was less than 50 percent under contract, however, and airplanes were only slightly over half contracted for. \$2,435 million, about one-half the Industrial Facilities program of \$5,044 million, has been placed under contract, and \$682 million, or about 14 percent of the total, has been paid for.

Over \$954 million has been made available, mainly by subsidiary corporations of the RFC, for the purchase of strategic and critical materials, but the program recommended for purchase to date amounts to \$510 million. Chart 2 and series on the fourth page of Defense

Progress Series indicate the proportions of the recommended programs for individual materials which have been purchased and delivered as of June 14. It will be noted that in the case of a few materials, such as tungsten and manganese, purchases have been made in excess of the recommendations.

No data are yet available to indicate the amount of contract awards under the Defense Aid Program. However, over \$4 billion of these funds has been allocated to agencies for purchasing materials, and current information indicates that most of this \$4 billion has probably been placed under formal contract, or letters of intent have been issued.

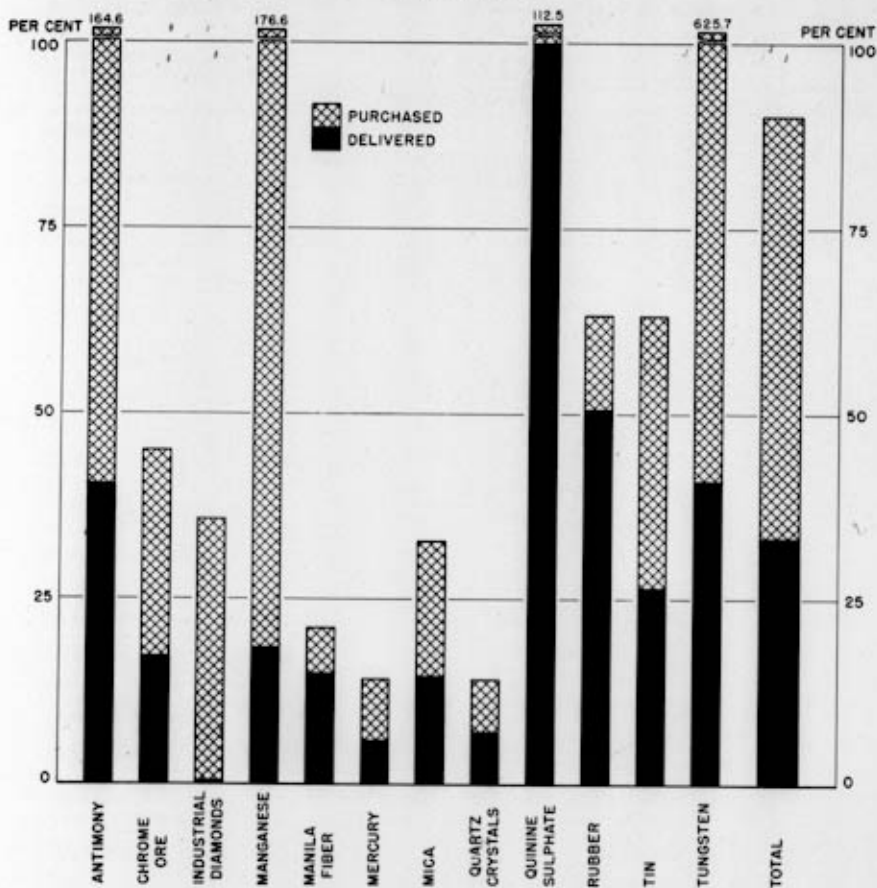
CHART I - ENACTED DEFENSE PROGRAM *
AND CONTRACT AWARDS FOR DEFENSE PURPOSES
JUNE 11, 1940 - MAY 31, 1941



* Army, Navy, Defense Aid and British Programs.

CHART 2 - PER CENT OF ACCND STOCKPILE
PROGRAM PURCHASED AND DELIVERED*

JUNE 14, 1941



* Based on the estimated or actual dollar cost of the
ACCND - OPM 1940 - 1941 recommendations.

DEFENSE PROGRESS SERIES

	1940	1941			
	July	January	April	May	Week Ending June 7 June 14

TOTAL UNITED STATES DEFENSE PROGRAM *

UNITED STATES ARMED FORCES	(Thousands, officers and enlisted men)					
Army	289	693	1,211	1,362	1,386	1,413
Navy and Marine Corps	196	271	310	311		
Total active strength	485	964	1,522	1,673		

FINANCIAL PROGRAM \$

PROGRAM	(Million dollars to date)				
Total	7,353	25,501	39,403	42,775	
Ex British orders	6,072	22,075	35,725	39,069	
<u>CONTRACTS</u>					
Total	3,287	15,720	19,811	21,213	
Ex British orders	2,147	12,294	16,133	17,507	
Plus pay, sub., travel, etc.	3,429	16,364	20,902	22,447	
<u>CASH DISBURSEMENTS</u>					
Ex pay, sub., travel, etc.	n.a.	3,554	6,006	\$ 6,837	
Ex British orders, pay, sub., travel, etc.	n.a.	2,016	4,078	\$ 4,843	
Total	571	4,176	7,074	\$ 8,071	
<u>OBJECTS</u>					
<u>AIRPLANES, ENGINES, ETC.</u>					
Program	1,564	4,582	8,134	8,214	
Contracts	889	3,852	4,173	4,655	
Cash disbursements	n.a.	885	1,288	\$ 1,435	
<u>NAVAL SHIPS & PARTS</u>					
Program	683	6,139	6,385	6,785	
Contracts	1,207	4,500	4,527	4,548	
Cash disbursements	29	321	529	\$ 600	
<u>ORDNANCE (Incl. Naval Ordnance)</u>					
Program	918	4,748	7,753	8,127	
Contracts	367	2,511	3,725	3,992	
Cash disbursements	n.a.	445	743	\$ 829	
<u>OTHER MILITARY EQUIPMENT & SUPPLIES</u>					
Program	770	2,121	2,965	2,981	
Contracts	434	1,852	2,137	2,237	
Cash disbursements	n.a.	843	1,329	\$ 1,506	
<u>TOTAL MATERIEL</u>					
Program	3,935	17,590	25,237	26,107	
Contracts	2,897	12,715	14,562	15,432	
Cash disbursements	n.a.	2,494	3,889	\$ 4,370	

* Data are as of the close of the month or week or nearest available date.

R Preliminary date.

I Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	April	May	Week Ending June 7	June 14
<u>MERCHANT SHIPS</u>						
	(Million dollars to date)*					
Program	833	957	1,905	1,905		
Contracts	n.a.	153	932	932		
Cash disbursements	n.a.	151	205	E 230		
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>						
Program	343	2,161	3,956	5,044		
Contracts	110	1,513	2,018	2,435		
Cash disbursements	n.a.	273	558	E 682		
<u>INDUSTRIAL FACILITIES-CONSTRUCTION ONLY</u>						
Program			1,240	1,338		
Contracts			n.a.	n.a.		
Value in place			E 266	E 376		
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>						
Program	643	1,431	2,785	3,137		
Contracts	230	802	1,484	1,518		
Value in place	n.a.	n.a.	1,225	1,311		
Cash disbursements	10	534	1,341	E 1,309		
<u>HOUSING</u>						
Program	40	290	330	495	495	495
Contracts	n.a.	128	227	245	255	260
Value in place	n.a.	n.a.	63	E 84	E 106	107
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILE PROGRAM</u>						
Program	60	588	794	954		
Contracts	50	276	401	458		
Cash disbursements	n.a.	65	136	E 151		
<u>OTHER</u>						
Program	283	534	843	869		
Contracts	n.a.	133	187	193		
Cash disbursements	n.a.	37	77	E 95		
<u>PAY</u>						
Program	502	794	839	1,120		
Cash disbursements	n.a.	488	830	E 999		
<u>SUBSISTENCE, TRAVEL, ETC.</u>						
Program	714	1,156	2,714	3,144		
Cash disbursements	n.a.	134	238	E 275		
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u>						
Total			1,113	1,232		
Approved, private funds				747		
Approved, public funds				200		
Pending			213	281		

* Data are as of the close of the month or week or nearest available date.

E Preliminary data.

E Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	April	May	Week Ending June 7	Week Ending June 14
<u>DEFENSE HOUSING</u>						
		(Number of dwelling units)*				
Fund allocations		56,528	86,361	106,053	106,053	106,053
Construction contracts		36,191	60,293	72,334	75,276	76,650
Construction completed		1,314	9,024	14,414	15,593	17,176
<u>PRIORITY CERTIFICATES & EXTENSIONS</u>						
		(Number)				
Total issued			131,208	217,282	232,539	252,254
<u>AGENCIES</u>						
<u>U. S. MILITARY</u>						
		(Million dollars to date)*				
ARMY - Program	2,620	8,377	13,135	13,135		
Contracts + payroll	582	6,084	7,496	8,304		
Cash disbursements	78	1,348	2,822	2 3,340		
NAVY - Program	2,085	10,726	11,823	13,633		
Contracts + payroll	1,515	5,951	7,592	8,191		
Cash disbursements	84	1,021	1,776	2 2,044		
TOTAL- Program	4,705	19,103	24,958	26,768		
Contracts + payroll	2,097	11,935	15,088	16,495		
Cash disbursements	162	2,369	4,598	2 5,384		
<u>DEFENSE AID (Lend-Lease)</u>						
Program			7,000	7,000		
Allocations			n.a.	4,277		
Contracts			n.a.	n.a.		
Cash disbursements				2 7		
<u>MARITIME COMMISSION</u>						
Program	804	804	1,154	1,154		
Contracts	n.a.	n.a.	810	810		
Cash disbursements	8	83	121	2 137		
<u>RFC AND SUBSIDIARIES</u>						
Program		1,166	1,526	2,767		
Commitments		715	1,039	1,131		
Cash disbursements		72	204	2 272		
<u>BRITISH ORDERS</u>						
Program	1,282	3,426	3,678	3,706		
Contracts	1,282	3,426	3,678	3,706		
Cash disbursements	396	1,538	1,928	2 1,994		
<u>OTHER AGENCIES</u>						
Program	565	1,002	1,087	1,380		
Contracts	50	188	287	305		
Cash disbursements	5	114	223	2 277		

* Data are as of the close of the month or week or nearest available date.

P Preliminary data.

I Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	April	May	Week Ending	
					June 7	June 14
STOCKPILE*						
<u>PURCHASES</u>	(Percent of value recommended)					
Antimony	0	53.1	162.9	162.9	164.6	164.6
Chrome Ore	13.1	38.4	53.7	▲ 45.1	44.6	44.6
Indus. Diamonds	0	0	0	96.0	36.1	36.1
Manganese	12.7	133.1	149.0	176.6	176.6	176.6
Manila Fiber	5.1	11.8	17.8	20.2	21.2	21.2
Mercury	0	56.1	48.4	▲ 14.2	14.2	14.2
Mica	0	11.4	66.5	▲ 32.8	32.8	32.8
Quartz Crystals	18.4	97.4	97.4	▲ 14.1	14.1	14.1
Quinine Sulphate	11.3	112.9	112.9	112.5	112.5	112.5
Rubber	14.4	47.6	61.4	61.9	62.6	63.5
Tin	6.5	33.2	63.3	63.3	63.3	63.3
Tungsten	5.5	221.7	392.8	621.8	621.8	625.7
Total		56.7	82.6	89.2	89.4	89.8
Total without excess	10.3	48.8	67.0	▲ 64.5	64.7	65.0
<u>DELIVERIES</u>						
Antimony	0	13.1	37.4	38.8	40.5	40.5
Chrome Ore	3.7	14.3	17.3	▲ 14.3	17.3	17.3
Indus. Diamonds	0	0	0	5	3	3
Manganese	3.8	8.3	15.4	17.9	18.0	18.3
Manila Fiber	4.6	7.8	9.5	12.2	12.2	15.0
Mercury	0	10.2	15.1	▲ 5.9	5.9	5.9
Mica	0	2.5	8.1	10.0	10.0	14.5
Quartz Crystals	12.4	26.6	46.0	▲ 7.0	7.0	7.1
Quinine Sulphate	11.3	35.5	80.0	84.3	96.8	100.0
Rubber	11.6	34.3	45.8	47.7	49.4	50.6
Tin	3.7	15.3	23.5	25.1	25.9	26.4
Tungsten	5.7	48.9	41.2	50.0	50.0	41.3
Total	6.6	22.0	30.7	31.4	32.5	33.0

* Data are as of the close of the month or week or nearest available date.

▲ Recommendation for this commodity was increased. ■ Stocks released.

(Continued on next page)

ECONOMIC ACTIVITY RELATED TO DEFENSE

The most recent figures in the series of economic activity appearing regularly in this section accent the increasing influence of the defense program. The production indexes resumed their upward trend in May, after the momentary hesitation in April due principally to labor difficulties. All price indexes have shown steady rises through June 1941. The index of critical materials at 115.0 in the week ended June 14 reached a new high since the outbreak of the war.

The cost of living index and the volume of income payments continued to rise in May.

New series dealing with labor turnover and average hours and earnings in selected defense industries have been added in this issue and will be published from time to time. The labor turnover series, while showing that total accessions for all manufacturing industries were higher in April than in January, showed also that they were lower in aircraft, shipbuilding, and machine tools. The latter series show the considerable upward changes that have taken place between July 1940 and April 1941 in hours and wages.

DEFENSE PROGRESS SERIES (Continued)

Series	1940	1941				
	July	January	April	May	Week Ending June 7	June 14

ECONOMIC ACTIVITY RELATED TO DEFENSE *

<u>FED. RES. BD. PRODUCTION INDEXES</u>		(Indexes 1935-9=100)				
Total industrial prod.	121	140	140	£ 149		
Durable manufactures	132	170	167	£ 177		
Nondurable manufactures	112	122	131	£ 135		
Minerals	120	118	101	£ 126		
<u>BUR. FOR. & DOM. COM. MFGS. INVENTORIES</u>		(Indexes, Dec. 31, 1938=100)				
Durable goods	111.9	129.7	£ 134.3			
Nondurable goods	106.4	111.2	£ 112.1			
Total	109.2	120.8	£ 123.6			
<u>BLS PRICE INDEXES</u>		(Indexes)				
Strategic materials (8/39=100)	123.8	126.1	135.9	138.5	138.4	139.2
Critical materials (8/39=100)	107.6	111.5	112.4	113.0	113.8	115.0
Basic commodities (8/39=100)	108.3	120.5	136.9	143.5	144.0	145.7
Machine tools (8/39=100)	108.7	114.6	116.4	117.3	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	83.2	84.9	85.9	86.7
<u>MICH COST OF LIVING INDEX (1923=100)</u>		85.7	86.0	86.9	87.4	
<u>FEDERAL DEBT</u>		(Billion dollars, end of month)				
Net public debt	41.5	43.9	44.8	45.8		
<u>NATIONAL INCOME</u>		(Billion dollars, annual rate)				
Total income payments	73.3	79.4	80.3			
<u>LABOR DISPUTES</u>		(Number)				
<u>PLANTS WITH DEFENSE CONTRACTS</u>						
Number of strikes in progress	n.a.	37	52	55	17	13
Workers involved (thousands)	n.a.	39,300	119,850	98,300	32,300	9,500
<u>TOTAL</u>						
Number of strikes in progress	290	322	590			
Workers involved (thousands)	76	108	555			
Man days idle (thousands)	552	662	7,800			
Strikes beginning in month	182	213	400			
<u>LABOR TURNOVER #</u>		(Rate per 100 employees)				
<u>ALL MANUFACTURING</u>						
Total accession	4.77	5.54	6.04			
New hire	2.83	4.09	5.00			
Total separation	3.35	3.41	3.89			
Military separation	n.a.	0.19	0.28			

* Data are as of the close of the month or week or nearest available date.

£ Preliminary data.

£ Revised data

n.a. Data not available

Bureau of Labor Statistics

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	April	May	Week Ending June 7	June 14
LABOR TURNOVER (Continued)						
		(Rate per 100 employees)				
8 MAJOR DEF. INDS.						
Total accession	5.10	7.08	7.02			
New hire	3.90	6.03	6.34			
Total separation	1.86	2.71	3.43			
Military separation	n.a.	0.27	0.33			
AIRCRAFT						
Total accession	12.40	12.17	9.81			
New hire	12.25	11.49	9.52			
Total separation	3.57	3.65	3.65			
Military separation	n.a.	0.36	0.31			
SHIPBUILDING						
Total accession	13.00	18.21	14.34			
New hire	11.14	12.50	12.16			
Total separation	5.40	7.91	7.80			
Military separation	n.a.	0.26	0.32			
MACHINE TOOLS						
Total accession	3.05	6.68	5.88			
New hire	2.89	6.31	5.58			
Total separation	2.09	2.44	3.10			
Military separation	n.a.	0.16	0.21			
AVERAGE WEEKLY EARNINGS IN 11 MAJOR DEFENSE INDUSTRIES #					(Dollars)	
Bl. furn., st. wks., & rolling mills	30.75	33.66	37.87			
Fndry and machine shop prod.	29.34	32.51	34.60			
Electrical machinery	30.14	33.00	34.41			
Smelting & refining: copper, lead, zinc	27.29	29.30	30.10			
Brass, bronze, & copper prods.	30.73	35.18	35.70			
Aluminum manufactures	26.05	30.40	31.40			
Machine tools	36.45	40.08	41.10			
Aircraft	30.48	34.13	35.55			
Shipbuilding	34.03	37.90	39.11			
Explosives	34.43	35.97	35.66			
Engines, turbines, etc.	35.05	39.12	37.99			
AVERAGE HOURS WORKED PER WEEK IN 11 MAJOR DEFENSE INDUSTRIES #					(Hours)	
Bl. furn., st. wks., & rolling mills	36.4	39.1	39.8			
Fndry and machine shop prod.	40.1	42.9	44.8			
Electrical machinery	39.8	42.8	44.1			
Smelting & refining: copper, lead, zinc	38.2	38.6	39.1			
Brass, bronze, & copper prods.	40.4	44.0	43.8			
Aluminum manufactures	36.5	40.9	41.7			
Machine tools	47.5	50.4	51.1			
Aircraft	42.0	44.7	45.4			
Shipbuilding	39.3	41.8	42.7			
Explosives	40.9	40.5	41.0			
Engines, turbines, etc.	43.7	45.3	43.1			

* Data are as of the close of the month or week or nearest available date.

† Preliminary data.

‡ Revised data

n.a. Data not available

Bureau of Labor Statistics



*file
personal*

The President 1

SUMMARY OF DEFENSE PROGRESS

NUMBER 46 JUNE 27, 1941



OFFICE OF PRODUCTION MANAGEMENT
BUREAU OF RESEARCH AND STATISTICS - STACY MAY, CHIEF

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revelation of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

SUMMARY
OF
DEFENSE PROGRESS

BUREAU OF
RESEARCH AND STATISTICS
STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF

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SUMMARY OF DEFENSE PROGRESS

NUMBER 46

JUNE 27, 1941

BRIEFS OF CONTENTS

	<u>Page</u>
● REVISED INDEXES OF PRODUCTION OF DEFENSE EQUIPMENT show that the rates of production of planes and combat vehicles are scheduled to step up sharply during the next three months as new facilities are brought into operation. By the end of October accumulated production of airplanes under the defense program will be 18 percent of total production requirements as compared to 9 percent at the end of May, and total production of combat vehicles will be 28 percent of requirements compared to 7 percent at the end of May. The rate of ship production has increased each month since July 1, 1940. About one percent of the total required work is now being completed each month.	2
● Great variation exists in the UTILIZATION OF PLANT AND EQUIPMENT in various sectors of the aircraft industry according to recent data. In May the utilization of plane plants varied from 96 to 40 hours per week, engine plants from 129 to 45 hours, and propeller plants from 119 to 29 hours.	7
● TOTAL EMPLOYMENT has reached the highest point on record due to the Defense Program. Trends of employment since 1939 are shown by new index numbers for 18 private manufacturing industries engaged extensively in defense production.	10
● Latest information on ESTIMATED REQUIREMENTS AND SUPPLY OF 23 KEY DEFENSE COMMODITIES for 1941 indicates shortages and tight situations for 14. General preference orders have been issued against 9 of these commodities.	14

- ADDITIONAL SERIES INDICATING THE ECONOMIC EFFECTS of the war, which have been added to Defense Progress Series with this issue are: manufacturers' new orders and shipments, freight carloadings and airplanes, car unloadings for export, electric power production, British ship losses, and United States exports and imports. Series on employment and unemployment and production indexes of defense equipment make their periodic appearance this week.

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NOTE

"THE EXTENT OF PLANT UTILIZATION IN DEFENSE INDUSTRIES", which appeared on pages 11-13 of Issue Number 45 of the Summary of Defense Progress, was based primarily on data prepared by the Bureau of Labor Statistics. The analysis and conclusions drawn therefrom, however, were entirely the responsibility of the Bureau of Research and Statistics of the Office of Production Management.

SUMMARY OF DEFENSE PROGRESS

NUMBER 46

JUNE 27, 1941

PRODUCTION OF SELECTED DEFENSE
EQUIPMENT DURING MAY²

The rates of production of planes and combat vehicles are scheduled to step up sharply during the next three months as new facilities are brought into operation. By the end of October accumulated production of airplanes under the defense program will be 18 percent of total production requirements as compared to 9 percent at the end of May, and total production of combat vehicles will be 28 percent of requirements compared to 7 percent at the end of May. The rate of ship production has increased each month since July 1, 1940; about 1 percent of the total required work is now being completed each month.

Airplanes. The rate of production of airplanes in May was 31 percent of the peak monthly rate which we expect to reach in August 1942, according to the Production Rate Index as recently revised. As can be seen in Chart 1, this represents a marked increase in the rate of production over the July-December average of 14 percent and over the 24 percent rate attained during the first quarter of calendar year 1941, but is a decrease from the 34 percent rate attained in April. On the basis of existing O.P.M. schedules, the June production rate should reach almost 37 percent of the scheduled peak which means that produc-

CHART 1 - MONTHLY PRODUCTION
RATE - MILITARY AIRPLANES

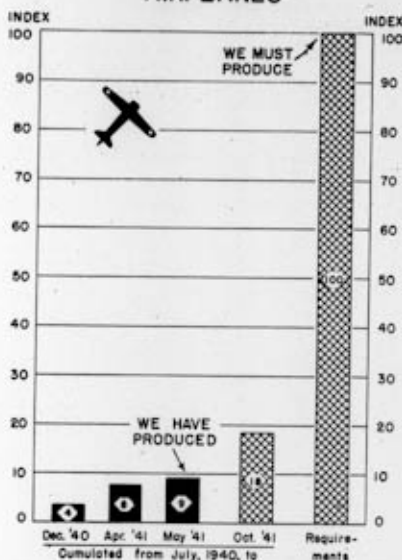
INDEX NUMBERS



tion in June is scheduled to be 20 percent greater than production in May. Present O.P.M. schedules call for monthly production rates next September or October equal to at least one-half of the scheduled monthly peak production.

As can be seen from the indexes in Chart 2, accumulated total production of airplanes has increased rapidly during the past few months,

CHART 2-TOTAL PRODUCTION AIRPLANES



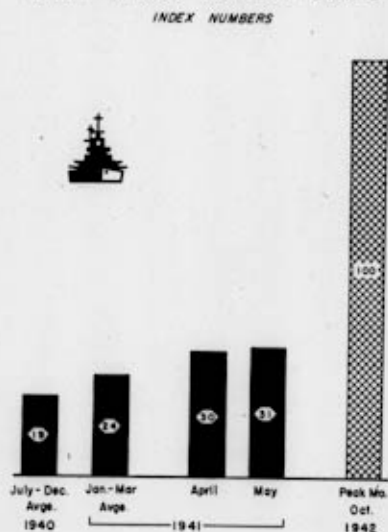
and by the end of May United States manufacturers had produced about 9 percent of the total production program of 75,000 planes. At the end of 1940 the total production index was 4. In other words, total production during the past five months has been slightly larger than it was during the first six months of the program. But we must recognize that facilities for producing aircraft have not been appreciably increased during these 11 months. As new facilities are brought on to active production from now on, the pro-

duction rate will be rapidly stepped up.

If present schedules are maintained, total production will reach 18 percent of the requirements by October 1941 and 50 percent of requirements by the end of July 1942.

Naval Ships. The monthly production rate of major combat vessels

CHART 3-MONTHLY PRODUCTION RATE-MAJOR COMBAT SHIPS

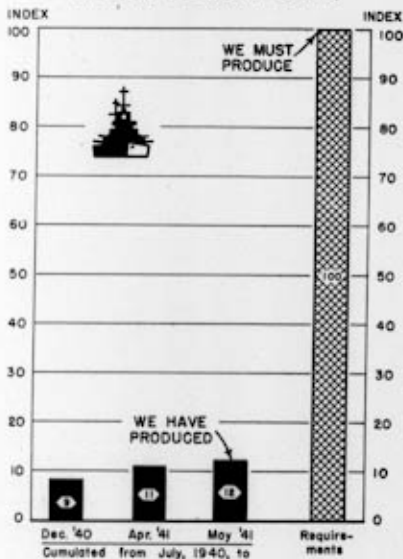


(in terms of tons of ships produced) in May was the same as the rate for airplane production. As can be seen from the indexes in Chart 3, the May

production rate of combat ships also amounted to 31 percent of the rate in the scheduled peak month. The May rate represents an uninterrupted increase since July 1940. On the basis of the present schedules, the peak rate will be reached in October 1942. The average production rate during the last half of calendar year 1940 was 19; during the first quarter of 1941 it was 24; during April and May it has advanced further.

Monthly production of ships is increasing fairly rapidly, and, at the end of May, 12 percent of the work on the major combat ship construction program had been completed,

CHART 4 - TOTAL PRODUCTION
MAJOR COMBAT SHIPS

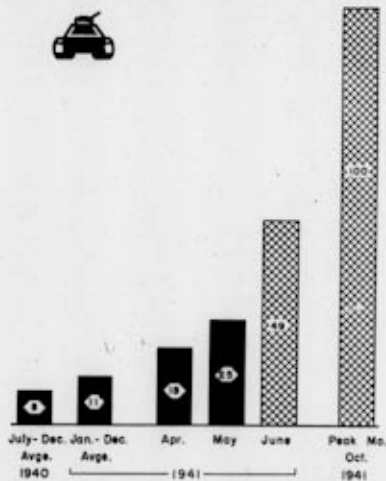


according to the index shown in Chart 4. This represents an advance of approximately 50 percent over the status at the end of December.

Combat Vehicles. In May the production rate of combat vehicles, shown in Chart 5, was 25 percent of

CHART 5 - MONTHLY PRODUCTION
RATE - COMBAT VEHICLES

INDEX NUMBERS

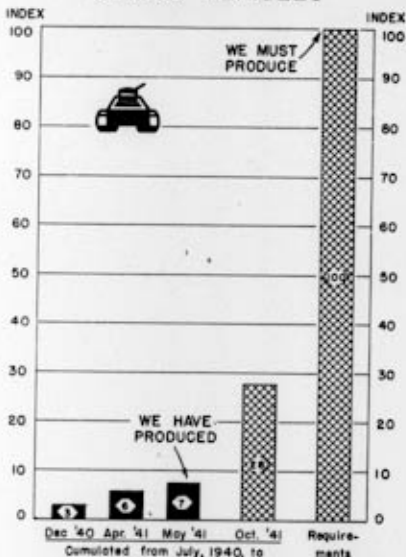


the peak rate which should be attained this coming October. Although this index is somewhat lower than the production rate of 31 percent realized by both airplane and combat ship production, it showed the largest advance over April. Furthermore, existing schedules indicate that the production of combat vehicles in June 1941 should attain approximately 50 percent of the

scheduled monthly peak, or twice as much as it was during May. This rate should continue to advance rapidly, according to present plans, until the peak rate is reached early in the fall of 1941.

The index of total accumulated production of combat vehicles, presented in Chart 6, was but 7 percent

CHART 6- TOTAL PRODUCTION
COMBAT VEHICLES



of requirements at the end of May. However, since production is scheduled to advance very rapidly during the next few months, with the completion of new facilities, by the end of October total production of combat vehicles will reach 28 percent

of requirements. On the basis of present estimates, the "critical 50 percent" production point for this type of equipment should be reached by the end of September 1942.

Production of scout cars has been completed, and all but one type of the other combat vehicles have reached the assembly line stage, so that we may expect output to be satisfactory from now on. Heavy tanks are the only equipment in the program which have not been put on this basis, and they represent a very small share of our total needs for armored vehicles.

Technical Note

The principal revisions in these indexes have been (a) improvement of the weights used for the components of the index; and, (b) extension of the basic data to cover production of munitions in this country not only for the Army and Navy, but also for Great Britain and other governments. Production of combat vehicles is in terms of complete units including armament; at the present time there is some delay in arming these vehicles so that the number of complete units produced is smaller than the number of vehicles produced excluding armament. The index of combat ship production is based upon the total number of tons of combat ships built during each month.

The revised weights used represent a combination of size and cost

of the individual components. The weights are:

Airplanes

4-Engine Bombers	400
2-Engine Bombers	200
1-Engine Bombers	150
2-Engine Pursuit	170
1-Engine Pursuit	85
Observation	85
Transport	130
Advanced Trainer	65
Primary and Basic Trainer	55

Combat Vehicles

Heavy Tank	400
Medium Tank	75
Light Tank	47
Scout Car	13
13-Passenger Carrier	26
8 -Passenger Carrier	22

Ⓐ For previous discussion of these indexes see Issue Number 42, pp. 2-4, and Issue Number 43 pp. 4-8.

PLANT UTILIZATION IN THE AIRPLANE INDUSTRY

GREAT VARIATION EXISTS IN THE UTILIZATION OF PLANT AND EQUIPMENT in various sectors of the aircraft industry according to recent data. In May the utilization of plane plants varied from 96 to 40 hours per week, engine plants from 129 to 45 hours, and propeller plants from 119 to 29 hours.

The Federal Government has under way a \$5 billion new industrial facilities program to secure the much needed increase in defense production. However, a substantial portion of the new capacity will not become available for actual operation for some time. Meanwhile the urgent need for an immediate increase in the output of materiel raises the question as to whether existing facilities are employed to the fullest possible extent.

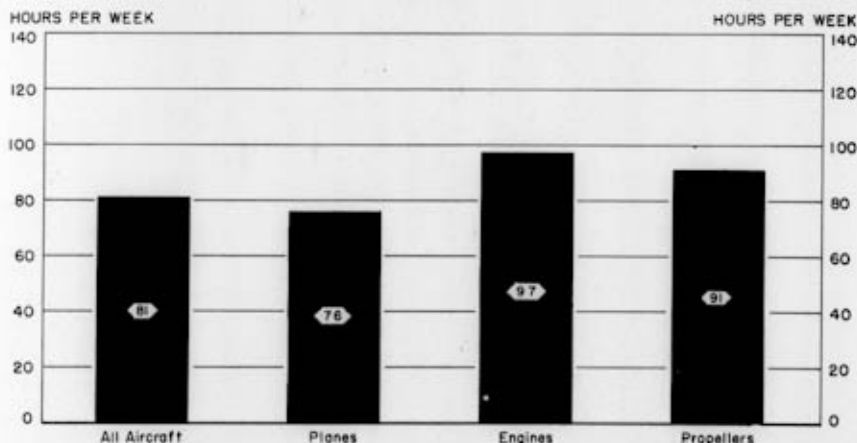
An article in Issue Number 45

of the Summary of Defense Progress analyzed for a number of industries the relation between actual hours of operation and a maximum possible utilization of 24 hours a day and 7 days a week. Actual utilization must fall somewhat short of this maximum limit. The utilization of plant and equipment in the aircraft industry in May 1941 is analyzed in the accompanying table and charts without respect to a maximum possible utilization of 168 hours a week.

It will be seen in Chart 1 that

CHART 1—UTILIZATION OF PLANT AND EQUIPMENT
IN THE AIRCRAFT INDUSTRY

MAY 1941



plants manufacturing planes, engines, and propellers, on the average operated an equivalent of 81 hours, during the week ended May 16, 1941. The utilization of the plants manufacturing planes averaged about 76 hours; for engines, about 97 hours; and for propellers, 91 hours.

Chart 2 compares the extent of utilization in plants of highest and lowest utilization with the average for all plants in each category. Among the 42 plants manufacturing planes the highest utilization was 96 hours. The others ranged down to 40 hours, while the average utilization for all was about 76 hours. In the case of engines the best plant operated at the rate of 129 hours, the lowest at 45 hours, and the aver-

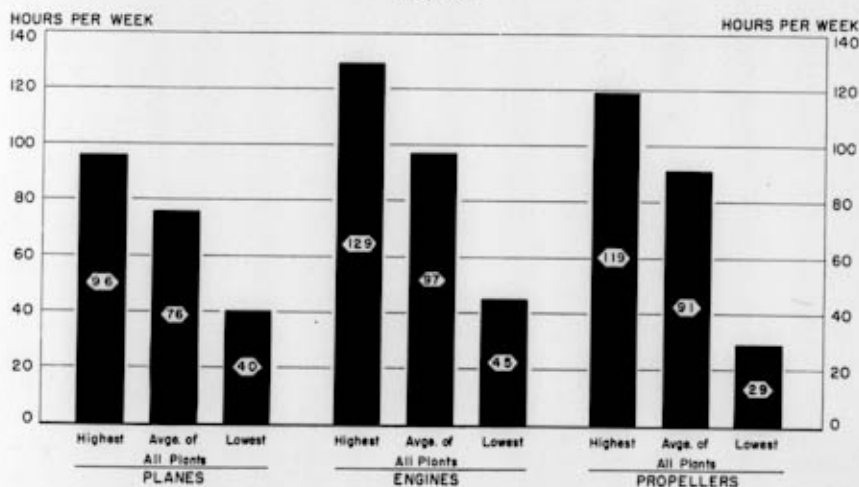
age at 97 hours. The variation in propeller plants was between 119 and 29 hours, with an average of about 91 hours.

Judged by normal standards the rate of utilization in the aircraft industry is highly gratifying. But in view of the great need for an immediate increase in output of aircraft, it is well to focus attention upon the possibility of further extending the use of existing facilities. Operation is presumably possible at a rate which lies somewhere between the present achievement in each industry and 168 hours, constituting full operation 24 hours a day and 7 days a week.

Maximum possible utilization

CHART 2 - UTILIZATION OF PLANT AND EQUIPMENT
IN THE AIRCRAFT INDUSTRY

MAY, 1941



will undoubtedly vary from plant to plant and industry to industry. Without attempting to establish this maximum as a definite figure, it is plain that there would be a considerable expansion in production even if all the plants in the aircraft industry were brought up to the rate achieved by the plant with highest utilization. For planes, the plant

with highest utilization surpassed the average by 29 percent; for engines, the best was above the average by 33 percent; and for propellers, the operation of the highest utilized plant stood above the average by 31 percent. The highest utilization in each of the three categories, however, could almost certainly be pushed still higher.

NUMBER OF PLANTS IN AIRCRAFT INDUSTRY BY INDICATED
HOURS OF UTILIZATION

Hours of Plant Utilization ^a	Number of Airplane Plants	Number of Engine Plants	Number of Propeller Plants
125 - 129	-	1	-
120 - 124	-	-	1
115 - 119	-	-	1
110 - 114	-	1	-
105 - 109	-	-	-
100 - 104	-	2	-
95 - 99	2	1	1
90 - 94	-	1	1
85 - 89	3	-	3
80 - 84	2	-	1
75 - 79	4	2	1
70 - 74	4	2	1
65 - 69	5	2	1
60 - 64	7	-	-
55 - 59	2	1	-
50 - 54	2	2	-
45 - 49	3	3	2
40 - 44	8	-	-
35 - 39	-	-	1
30 - 34	-	-	-
25 - 29	-	-	1
Total	42	18	15

^a The average number of plant hours of operation per week is determined by the following formula:

$$\text{Plant Hours} = \frac{\text{Total Man-Hours}}{\text{Number of Employees in the first shift}}$$

This assumes that the plant is fully utilized during the first shift. These computations are based on data from the Army Air Corps Materiel Division Consolidated Statistical Report, Sec. 1, Part 9, May 1941.

EMPLOYMENT TRENDS IN PRIVATE DEFENSE MANUFACTURING INDUSTRIES: 1939 - 1941 *

TOTAL EMPLOYMENT has reached the highest point on record due to the Defense Program. Trends of employment since 1939 are shown by new index numbers for 18 private manufacturing industries engaged extensively in defense production.

The Defense Program has been the primary factor in carrying employment to the highest levels on record. In May 1941 private manufacturing industries showed an increase of nearly 2,000,000 wage earners over the average number employed during the year 1939.

Total civil nonagricultural employment expanded sharply in May, to reach a new all-time peak of 38,278,000. This total represented a gain of more than 600,000 workers over the April total and a rise of 3,115,000 workers since May 1940. In addition, the armed forces of the nation had expanded by nearly 1,200,000 since last May. A major part of the gain in civil employment over the preceding month resulted from the resumption of operations in the bituminous coal industry, following the shutdowns in April pending wage negotiations. One of the major impacts of the increase in defense employment has been the decrease in unemployment. According to the estimates of NICB unemployment was 8.2 million in June 1940. Estimated decrease will reduce this figure to about 5.0 million in May 1941.

Eighteen private manufacturing industries extensively involved in defense work combined showed an aggregate increase of slightly less than 1,000,000 workers during this same period. The durable goods industries accounted for a gain of approximately 1,600,000 workers, while the aggregate increase in nondurable goods amounted to about 400,000. In May 1941 employment in all private manufacturing industries combined showed an increase of 25 percent over the average for 1939. The increase for the 18 defense industries amounted to 73 percent. Durable goods employment rose 45 percent and that for nondurable goods increased 9 percent.

Employment in the 18 key defense industries moved upward concurrently with the outbreak of war in Europe in September 1939. It is difficult to distinguish the employment due to the normal cyclical upturn during the latter part of 1939 and the expansion resulting from production of war materials. The aircraft industry was one of the leaders in the production of war materials and expanded employment sharply beginning early in 1939.

JUNE 27, 1941

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INDEXES OF EMPLOYMENT IN KEY DEFENSE INDUSTRIES January 1939 to May 1941

(1939 = 100)

Year and Month	Steel works, steel rolling mills	Primary and secondary metals	Chemical and petroleum products	Building materials and other	Food, textile, and other	Aluminum products	Machine tools	Machine- tool accessories	Electric equipment	Transportation equipment	Aircraft	Auto engines	Ship- building	Firearms	Armament	Explosives	Optical instruments	Electronic
1939 Aggregate Employment...	418,600	229,600	213,000	24,100	73,300	23,600	42,700	23,800	7,700	16,900	29,700	8,900	69,800	8,000	4,300	8,800	11,600	17,700
1939																		
Jan.....	92.4	92.0	92.0	92.2	91.7	92.2	94.9	96.9	99.3	94.7	92.5	77.6	92.2	92.4	99.1	91.9	90.8	92.1
Feb.....	92.9	92.7	92.7	92.0	92.2	91.9	97.0	96.9	96.7	92.1	96.7	71.1	96.6	91.6	98.7	90.5	94.7	94.3
Mar.....	93.7	93.6	93.6	92.8	92.8	92.1	97.9	97.9	96.0	97.0	96.9	90.0	96.7	92.2	91.1	90.5	95.8	95.2
Apr.....	93.8	93.0	93.4	92.2	92.8	92.6	98.0	100.9	96.3	96.0	99.0	92.2	99.4	92.9	92.6	91.9	96.8	96.2
May.....	92.7	96.1	95.1	92.8	92.0	92.4	96.0	105.1	94.7	93.2	97.4	93.8	102.4	102.2	99.0	92.3	100.2	97.2
June.....	93.8	96.7	96.1	92.8	92.0	92.4	96.0	105.1	94.7	93.2	97.4	93.8	102.4	102.2	99.0	92.3	100.2	97.2
July.....	93.4	96.7	96.4	92.3	91.9	97.8	97.7	107.8	93.2	96.8	107.3	99.0	99.0	104.0	100.6	100.1	96.6	97.4
Aug.....	96.1	96.8	97.8	94.5	96.1	99.9	98.0	107.4	94.3	96.5	107.3	99.0	99.0	104.0	100.6	100.1	96.6	97.4
Sept.....	99.1	100.8	102.4	98.0	101.8	99.7	103.8	96.8	100.8	102.8	112.3	101.2	108.1	110.7	109.8	107.8	100.0	102.3
Oct.....	112.8	106.8	109.1	108.1	112.8	112.8	112.8	108.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8
Nov.....	119.4	111.7	111.8	109.8	112.4	112.8	112.8	108.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8	112.8
Dec.....	120.9	112.8	114.0	110.1	121.6	114.7	127.4	111.8	128.8	112.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8
Average..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1940																		
Jan.....	118.8	112.8	113.0	110.1	119.9	114.9	120.4	118.9	122.6	116.1	120.6	124.1	112.1	119.8	108.7	111.2	113.6	116.2
Feb.....	115.1	114.3	112.9	110.2	118.3	114.0	120.7	117.1	120.9	115.6	120.6	127.7	116.3	121.7	117.0	118.3	115.2	118.7
Mar.....	109.5	113.8	112.0	109.8	112.7	117.0	120.9	122.0	118.9	115.4	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Apr.....	106.9	112.8	112.8	108.3	112.1	118.9	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
May.....	107.0	113.0	112.8	108.3	112.1	118.9	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
June.....	112.1	113.8	112.8	110.4	112.3	118.4	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
July.....	112.7	114.8	112.8	112.7	114.8	121.2	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Aug.....	116.7	117.7	114.4	112.8	122.1	122.8	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Sept.....	120.8	122.1	122.8	117.0	122.8	122.8	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Oct.....	122.7	124.8	122.0	112.8	122.8	122.8	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Nov.....	124.8	128.8	124.0	120.1	124.8	121.2	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Dec.....	127.0	128.8	128.8	122.8	124.8	121.2	120.7	122.0	118.9	115.6	120.0	124.1	122.8	122.8	122.8	122.8	122.8	122.8
Average..	116.7	118.8	120.0	112.8	122.0	124.8	124.8	124.2	124.2	124.1	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2
1941																		
Jan.....	128.7	127.8	124.8	124.0	121.8	124.8	124.8	124.8	121.1	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8
Feb.....	130.7	128.8	121.8	124.4	124.8	124.8	124.8	124.8	121.1	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8
Mar.....	132.4	124.7	127.8	127.4	124.8	124.8	124.8	124.8	121.1	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8
Apr.....	134.7	122.2	127.7	128.5	124.2	124.2	124.2	124.2	121.1	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2
May.....	137.5*	127.7*	127.0*	129.2*	126.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*	125.0*

* Preliminary.

1 Not comparable with Census.

CONFIDENTIAL ... II

The growth in that industry resulted first from large British and French orders and later from our own armament program. The machine-tool industry showed a sharp rise in employment beginning in September 1939, and it is known that this reflected large foreign orders at that time.

New series of index numbers of employment in the 18 private defense manufacturing industries are shown in the accompanying table and chart. The most spectacular rises in employment from 1939 to date among the private manufacturing defense industries are as follows:

	Percent Increase
Aeroengines	438
Aircraft	339
Ammunition ^a	241
Firearms ^a	190
Private Shipbuilding	147
Machine Tools	115
Machine-tool Accessories	112

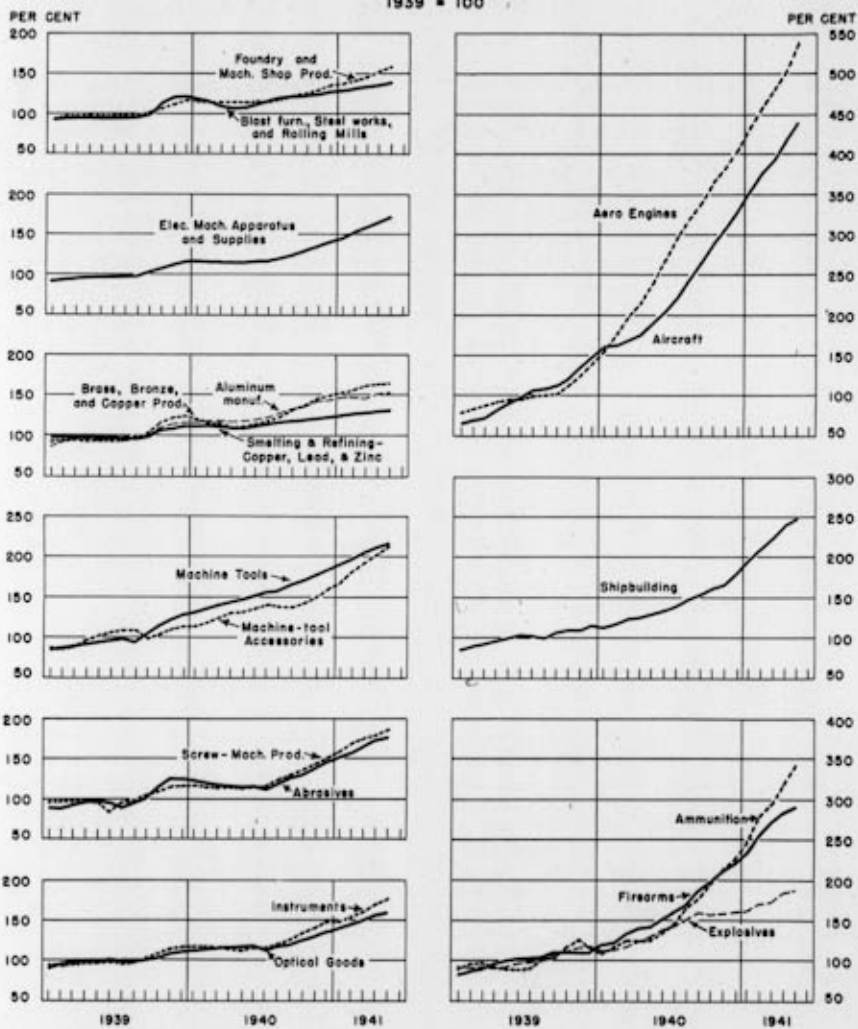
Approximately half of the aggregate gain of one million wage earners in the 18 private defense manufacturing industries since 1939 has taken place in three basic durable goods industries: blast furnaces, steel works, and rolling mills (157,000 wage earners); foundry and machine-shop products (195,000 wage earners); and electrical machinery (150,000 wage earners). Whereas in 1939 aircraft (excluding aeroengines) ranked seventh among the 18 defense industries, it now ranks fourth in the list. Private shipbuilding, now in fifth place, has stepped ahead of the brass, bronze, and copper products industry.

^a Figures for this industry are to be considered as confidential and are not to be published.

* Prepared by the staff of the Bureau of Labor Statistics.

INDEXES OF EMPLOYMENT IN KEY DEFENSE INDUSTRIES

1939 = 100



ESTIMATED REQUIREMENTS AND SUPPLIES OF 23 KEY COMMODITIES

The most recent estimated requirements and supplies of 23 selected commodities for 1941 are shown in Chart 1. For 14 of these commodities, shortages and tight situations are indicated in 1941. In addition, the chart shows the 9 commodities against which general preference orders have been issued and dates on which they became effective. The corresponding estimates for requirements and supplies for 1942 are shown in Chart 2.

The estimate of requirements in each case is taken as 100 percent and is shown by a vertical line. The estimate of supply is shown as a bar measured as a percentage of requirements. Each bar is divided into the following sections representing stocks at the beginning of the year: primary production, secondary production, and imports.

Production in 1941 is estimated on the basis of the rate of production in the first quarter. Imports are estimated on the basis of receipts for the first quarter, allowing for any scheduled allotments of tonnage which may have been made for later months.

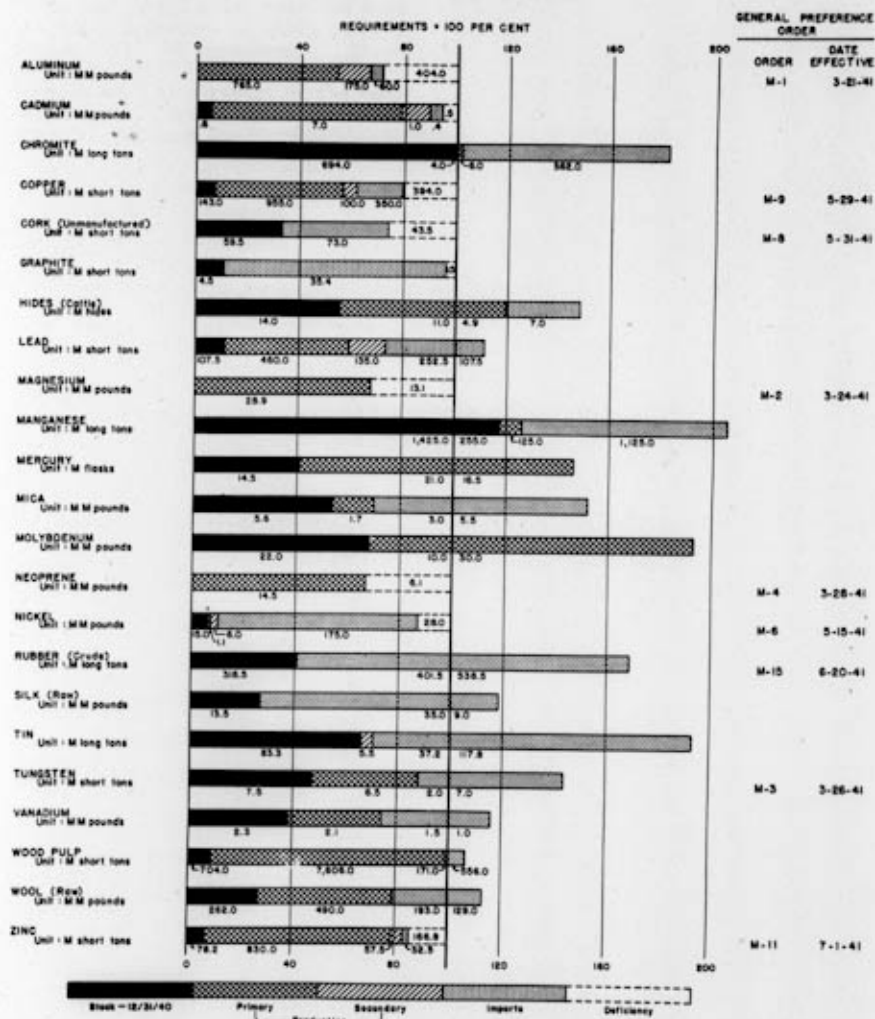
In those cases in which the supply bar fails to reach 100 percent, dotted lines indicate the estimated area of deficiency. The existence of this area indicates that measures of conservation and curtailment under priority action may

have to be taken to prevent drastic shortage before the year end. The absence of any indicated deficiency for 1941 in the supply of any commodity does not imply that priority action is unnecessary. If the commodity is largely imported, the uncertainty of future imports may require the conservation of available supply through priority action.

If an estimate of supply of over 100 percent has been indicated for a commodity, the excess is carried forward as the stock of the commodity on hand at the beginning of 1942. To the 1942 starting stocks in each case is added an estimated supply, consisting of production and imports at the same rate as in 1941. Only in the cases of aluminum, magnesium, and neoprene (for which additional facilities are well along toward completion) is an estimate of additional capacity used in the 1942 figures.

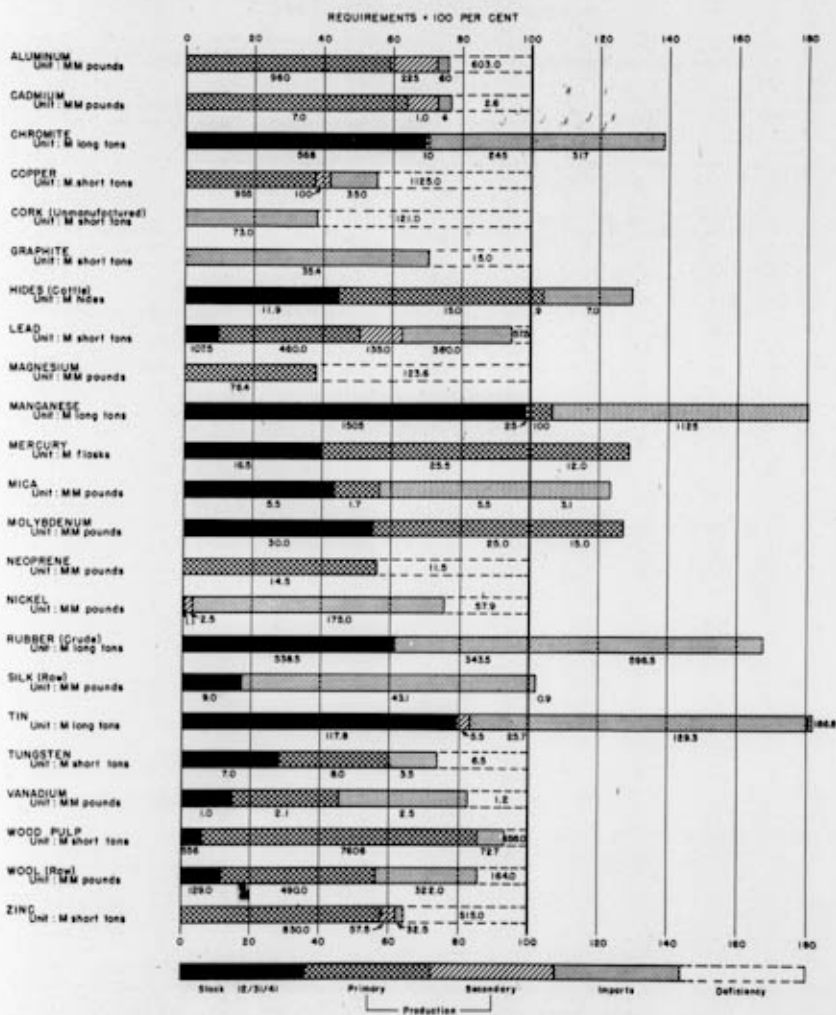
The requirements are the sum of the estimates of civilian and military requirements. The former are estimated on the assumption that national income will reach \$87 billion in 1941 and \$100 billion in 1942. The military requirements are based on the estimated defense production requirements for 1941 and 1942. The supply figures make no allowance for stoppage of production through strikes or accidents, nor for curtailment of imports due to lack of bottoms.

CHART 1-1941 SUPPLY AND REQUIREMENTS
SELECTED COMMODITIES



These data should be regarded merely as an approach to outlining broadly the nature of shortages which may occur this year and next and those instances in which control action will be necessary. These shortages may be greater or less than shown, as a result of the many difficulties which enter into raw material supplies.

CHART 2-1942 SUPPLY AND REQUIREMENTS
SELECTED COMMODITIES



DEFENSE PROGRESS SERIES

	1940	1941			
	July	January	April	May	Week Ending June 14 June 21

TOTAL UNITED STATES DEFENSE PROGRAM *

UNITED STATES ARMED FORCES	(Thousands, officers and enlisted men)				
Army	289	693	1,211	1,362	1,413
Navy and Marine Corps	196	271	310	311	
Total active strength	485	964	1,521	1,673	1,442

FINANCIAL PROGRAM

PROGRAM	(Million dollars to date)				
Total	7,353	25,501	39,403	42,761	42,343
Ex British orders	6,072	22,075	35,725	39,055	38,651
<u>CONTRACTS</u>					
Total	3,287	15,720	19,811	21,213	24,614
Ex British orders	2,147	12,294	16,133	17,507	20,945
Plus pay, sub., travel, etc.	3,429	16,364	20,902	22,438	25,839
<u>CASH DISBURSEMENTS</u>					
Ex pay, sub., travel, etc.	n.a.	3,554	6,006	6,337	7,366
Ex British orders, pay, sub., travel, etc.	n.a.	2,016	4,078	4,843	5,331
Total	571	4,176	7,074	8,062	8,591
<u>OBJECTS</u>					
<u>AIRPLANES, ENGINES, ETC.</u>					
Program	1,564	4,582	8,134	8,214	8,230
Contracts	889	3,852	4,173	4,655	5,311
Cash disbursements	n.a.	385	1,288	1,435	
<u>NAVAL SHIPS & PARTS</u>					
Program	683	6,139	6,385	6,785	6,430
Contracts	1,207	4,500	4,527	4,548	6,023
Cash disbursements	29	321	529	600	
<u>ORDNANCE (Incl. Naval Ordnance)</u>					
Program	918	4,748	7,753	8,127	7,748
Contracts	367	2,511	3,725	3,992	4,372
Cash disbursements	n.a.	445	743	829	
<u>OTHER MILITARY EQUIPMENT & SUPPLIES</u>					
Program	770	2,121	2,965	2,981	3,009
Contracts	434	1,852	2,137	2,237	2,368
Cash disbursements	n.a.	843	1,329	1,506	
<u>TOTAL MATERIAL</u>					
Program	3,935	17,590	25,237	26,107	25,417
Contracts	2,897	12,715	14,562	15,432	18,074
Cash disbursements	n.a.	2,494	3,889	4,370	

* Data are as of the close of the month or week or nearest available date.

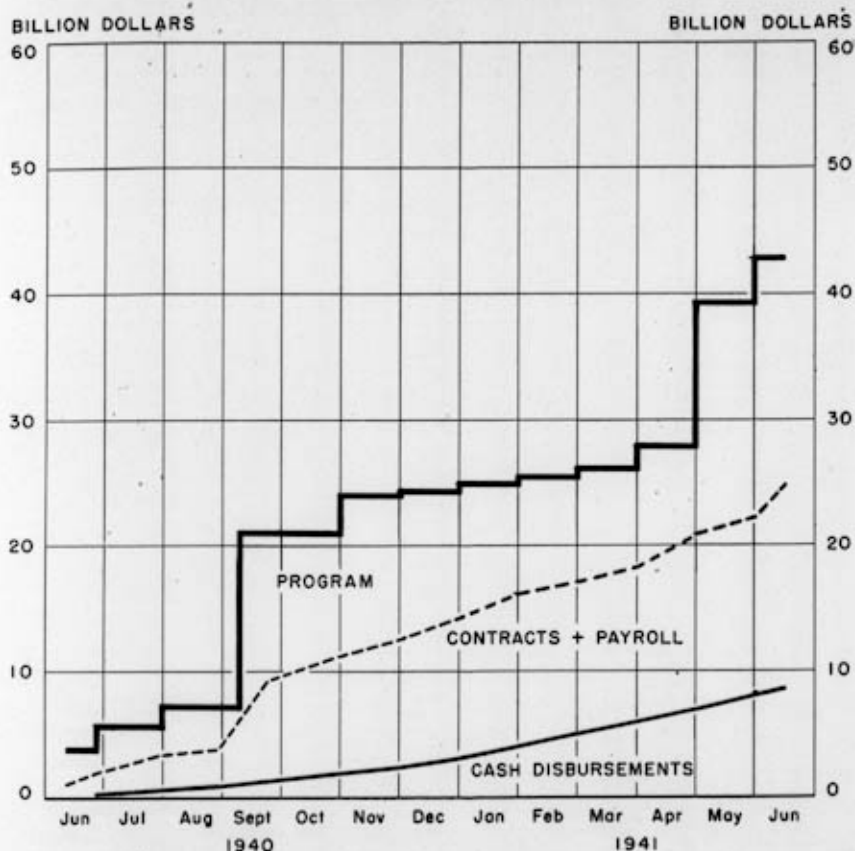
P Preliminary data.

R Revised data.

n.a. Data not available

Data revised because of changes in Navy program not yet allocable to previous periods.

CHART I - ENACTED DEFENSE PROGRAM*
AND CONTRACT AWARDS FOR DEFENSE PURPOSES
JUNE 11, 1940 - JUNE 15, 1941[†]



* United States and British Programs.

[†] Revised.

DEFENSE PROGRAMS SERIES (Continued)

	1940	1941			
	July	January	April	May	Week Ending June 14 June 21
<u>MERCHANT SHIPS</u>					
		(Million dollars to date)*			
Program	833	957	1,905	1,905	1,905
Contracts	n.a.	153	932	932	932
Cash disbursements	n.a.	151	205	£ 230	
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>					
Program	343	2,161	3,956	£ 5,030	5,030
Contracts	110	1,513	2,018	2,435	2,679
Cash disbursements	n.a.	273	558	£ 682	
<u>INDUSTRIAL FACILITIES-CONSTRUCTION ONLY</u>					
Program			1,240	1,338	1,338
Contracts			n.a.	n.a.	
Value in place			£ 266	£ 376	
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>					
Program	643	1,431	2,785	3,137	3,130
Contracts	230	802	1,684	1,518	2,017
Value in place*	n.a.	n.a.	1,225	1,311	
Cash disbursements	10	534	1,141	£ 1,309	
<u>HOUSING</u>					
Program	40	290	330	495	495
Contracts	n.a.	128	227	240	261
Value in place	n.a.	n.a.	63	£ 84	
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILE PROGRAM</u>					
Program	60	588	794	954	954
Contracts	50	276	401	458	461
Cash disbursements	n.a.	65	136	£ 151	
<u>OTHER</u>					
Program	283	534	843	869	869
Contracts	n.a.	133	187	193	193
Cash disbursements	n.a.	37	77	£ 95	
<u>PAY</u>					
Program	502	794	839	1,120	1,120
Army	327	619	619	619	
Navy	175	175	200	450	
Cash disbursements	n.a.	505	861	£ 997	
Army	n.a.	297	528	£ 620	
Navy	n.a.	185	293	£ 330	
<u>SUBSISTENCE, TRAVEL, ETC.</u>					
Program	714	1,156	2,714	3,144	3,422
Cash disbursements	n.a.	£ 117	£ 207	£ 237	
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u>					
Total			1,113	1,232	
Approved, private funds				747	
Approved, public funds				200	
Pending			213	281	

* Data are as of the close of the month or week or nearest available date.

£ Preliminary data.

£ Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRAMS SERIES (Continued)

	1940	1941			
	July	January	April	May	Week Ending June 14 June 21
<u>DEFENSE HOUSING</u>					
	(Number of dwelling units)*				
Fund allocations		56,528	86,361	106,053	106,053 110,298
Construction contracts		36,191	60,293	72,334	76,650 77,025
Construction completed		1,314	9,024	14,414	17,176 19,301
<u>PRIORITY CERTIFICATES & EXTENSIONS</u>					
	(Number)				
Total issued			131,208	217,282	252,254 275,006
<u>AGENCIES</u>					
<u>U. S. MILITARY</u>					
	(Million dollars to date)*				
ARMY - Program	2,620	8,377	13,135	-13,135	\$ 13,135
Contracts + payroll	582	6,084	7,496	8,308	\$ 9,237
Cash disbursements	78	1,348	2,822	\$ 3,344	\$ 3,600
NAVY - Program	2,085	10,726	11,823	13,633	\$ 13,215
Contracts + payroll	1,515	5,951	7,592	8,178	\$ 10,648
Cash disbursements	84	1,021	1,776	\$ 2,031	\$ 2,200
TOTAL- Program	4,705	19,103	24,958	26,768	\$ 26,350
Contracts + payroll	2,097	11,935	15,088	16,486	\$ 18,683
Cash disbursements	162	2,369	4,598	\$ 5,375	\$ 5,800
<u>DEFENSE AID (Lend-Lease)</u>					
Program			7,000	7,000	7,000
Allocations			n.a.	4,277	\$ 4,277
Contracts			n.a.	n.a.	n.a.
Cash disbursements				\$ 7	\$ 11
<u>MARITIME COMMISSION</u>					
Program	804	804	1,154	1,154	\$ 1,154
Contracts	n.a.	n.a.	810	810	\$ 810
Cash disbursements	8	83	121	\$ 137	\$ 145
<u>RFC AND SUBSIDIARIES</u>					
Program		1,166	1,526	2,767	\$ 2,767
Commitments		715	1,039	1,131	\$ 1,131
Cash disbursements		72	204	\$ 272	\$ 290
<u>BRITISH ORDERS</u>					
Program	1,282	3,426	3,678	\$ 3,692	\$ 3,692
Contracts	1,282	3,426	3,678	\$ 3,692	\$ 3,692
Cash disbursements	396	1,538	1,928	\$ 1,994	\$ 2,035
<u>OTHER AGENCIES</u>					
Program	565	1,002	1,087	1,380	\$ 1,381
Contracts	50	188	287	305	\$ 321
Cash disbursements	5	114	223	\$ 277	\$ 310

* Data are as of the close of the month or week or nearest available date.

P Preliminary data.

R Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940			1941	Week Ending	
	July	January	April	May	June 14	June 21

BRITISH SHIP & TONNAGE LOSSES

	(Cumulative since September 1939)					
Number of ships	366	711	900	957	981	988
Tonnage (Thousands)	1,377	3,002	3,886	4,019	4,120	4,150

PRODUCTION RATES & TOTAL PRODUCTION OF DEFENSE EQUIPMENT

PRODUCTION RATE INDEXES		(Indexes, production in scheduled peak month=100)					
Military airplanes	13.0	21.7	33.9	31.4			
Combat vehicles	n.a.	10.1	18.1	25.2			
Combat vessels	16.7	22.8	29.9	31.2			
TOTAL PRODUCTION INDEXES		(Indexes, cumul. since July 1940, program requirements=100)					
Military airplanes	0.5	4.4	7.9	9.2			
Combat vehicles	n.a.	3.4	5.8	7.3			
Combat vessels	5.8	9.3	11.5	12.4			

STOCKPILE*

PURCHASES		(Percent of value recommended)					
Antimony	0	53.1	162.9	162.9	164.6	164.6	
Chrome Ore	13.1	38.4	53.7	▲ 45.1	44.6	44.6	
Indus. Diamonds	0	0	0	96.0	36.1	36.1	
Manganese	12.7	133.1	149.0	176.6	176.6	177.5	
Manila Fiber	5.1	11.8	17.8	20.2	21.2	22.5	
Mercury	0	56.1	48.4	▲ 14.2	14.2	14.2	
Mica	0	11.4	66.5	▲ 32.8	36.5	38.0	
Quartz Crystals	18.4	97.4	97.4	▲ 14.1	14.1	14.1	
Quinine Sulphate	11.3	112.9	112.9	112.5	112.5	112.5	
Rubber	14.4	47.6	61.4	61.9	63.5	63.9	
Tin	6.5	33.2	63.3	63.3	63.3	63.3	
Tungsten	5.5	221.7	392.8	621.8	625.7	634.2	
Total		56.7	82.6	89.2	89.8	90.3	
Total without excess	10.3	48.8	67.0	▲ 64.5	65.0	65.1	
DELIVERIES							
Antimony	0	13.1	37.4	38.8	40.5	40.5	
Chrome Ore	3.7	14.3	17.3	▲ 14.3	17.3	17.7	
Indus. Diamonds	0	0	0	.5	.3	.3	
Manganese	3.8	8.3	15.4	17.9	18.3	18.4	
Manila Fiber	4.6	7.8	9.5	12.2	15.0	15.3	
Mercury	0	10.2	15.1	▲ 5.9	5.9	5.9	
Mica	0	2.5	8.1	10.0	14.5	14.5	
Quartz Crystals	12.4	26.6	46.0	▲ 7.0	7.1	7.5	
Quinine Sulphate	11.3	35.5	80.0	84.3	100.0	100.0	
Rubber	11.6	34.3	45.8	47.7	50.6	52.4	
Tin	3.7	15.3	23.5	25.1	26.4	26.5	
Tungsten	5.7	48.9	41.2	50.0	41.3	41.4	
Total	6.6	22.0	30.7	31.4	33.0	33.7	

* Data are as of the close of the month or week or nearest available date.

▲ Recommendation for this commodity was increased. R Stocks released.

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

Series	1940	1941				
	July	January	April	May	Week Ending	
					June 14	June 21
ECONOMIC ACTIVITY RELATED TO DEFENSE *						
<u>FED. RES. IND. PRODUCTION INDEXES</u> (Indexes 1935-39=100)						
Total industrial production	121	140	140	E 149		
Durable manufactures	132	170	167	E 177		
Non-durable manufactures	112	122	131	E 135		
Minerals	120	118	101	E 126		
<u>BUR. FOR. & DOM. COM. MFGS. ORDERS, SHIPMENTS, INVENTORIES</u> (Indexes)						
New orders, total (1/39=100)	127	176	E 195			
Shipments, total (1/39=100)	117	148	E 172			
Total inventories (12/31/38=100)	109.2	120.8	E 123.6			
Durable inventories (12/31/38=100)	111.9	129.7	E 134.3			
Non-durable inventories (12/31/38=100)	106.4	111.2	E 112.1			
<u>BLS PRICE INDEXES</u> (Indexes)						
Strategic materials (8/39=100)	123.8	126.1	135.9	138.5	139.2	139.1
Critical materials (8/39=100)	107.6	111.5	112.4	113.0	115.0	114.4
Basic commodities (8/39=100)	108.3	120.5	136.9	143.5	145.7	146.6
Machine tools (8/39=100)	108.7	114.6	116.4	117.3	n.a.	n.a.
All commodities (1925=100)	77.7	80.8	83.2	84.9	86.7	87.2
<u>WICH COST OF LIVING INDEX (1923=100)</u>	85.7	86.0	86.9	87.4		
<u>TRANSPORTATION AND POWER</u> (Weekly average)						
Freight carloadings (Thousands)	707	684	699	832	863	
Unloadings for export (Dly. av. cars)	1,502	1,352	1,514	1,479	1,491	1,503
Freight-car surplus, (Thousands)	133	110	190	72	80	
Box cars	57	43	31	34	34	
Coal cars	47	42	139	16	18	
Electric power prod. (Mil. kw. hrs.)	2,964	3,333	2,533	n.a.	3,066	3,056
<u>FEDERAL DEBT</u> (Billion dollars, end of month)						
Net public debt	41.5	43.9	44.8	45.8		
<u>NATIONAL INCOME</u> (Billion dollars, annual rate)						
Total income payments	E 72.2	E 78.5	E 80.9			
<u>LABOR DISPUTES</u> (Number)						
<u>PLANTS WITH DEFENSE CONTRACTS</u>						
Number strikes in progress, weekly	n.a.	37	52	55	13	14
Workers involved	n.a.	39,300	119,850	98,300	9,500	8,800
<u>ALL INDUSTRIES</u>						
Number strikes in progress	E 390	322	590			
Workers involved	E 83	108	555			
Working days lost per worker	7.1	6.1	14.1			

* Data are as of the close of the month or week or nearest available date.

E Preliminary data.

I Revised data

n.a. Data not available

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

Series	1940	1941				
	July	January	April	May	Week Ending	
					June 14	June 21
EMPLOYMENT						
		(Thousand workers)				
Total civil nonagricultural	35,454	36,621	£ 37,676	£ 38,278		
Private, 18 major defense industries	1,660	2,036	2,299	2,332		
Public defense	£ 155	£ 203	£ 218			
Total direct defense	£ 1,815	£ 2,239	£ 2,477			
WPA employment	1,659	1,894	1,607	1,497	1,423	1,410
UNEMPLOYMENT (NICH Estimate)						
		(Monthly total)				
Number of unemployed	8,566	7,367	£ 5,412			
UNITED STATES FOREIGN TRADE						
EXPORTS						
		(Million dollars)				
Total exports	317	325	£ 385			
Exports by destination						
United Kingdom	108	117	£ 128			
Canada	65	62	£ 72			
British India	24	28	£ 31			
China	10	8	£ 12			
Latin America	58	59	£ 75			
Other democratic dominated areas	11	21	£ 28			
Russia	6	3	£ 5			
Portugal & Spain	4	2	£ 3			
Axis & Axis dominated areas	21	18	£ 19			
All other	8	8	£ 13			
Exports licensed	9.7	37.0	(Percent) 47.0			
IMPORTS						
		(Million dollars)				
Imports for consumption	218	224	£ 275			
Imports by origin						
United Kingdom	16	10	£ 15			
Canada	37	35	£ 40			
British India	55	63	£ 63			
China	10	5	£ 8			
Latin America	52	67	£ 100			
Other democratic dominated areas	13	10	£ 9			
Russia	1	2	£ 3			
Portugal & Spain	2	2	£ 3			
Axis & Axis dominated areas	23	20	£ 16			
All other	9	9	£ 17			
Percent strat. & crit. materials	29.8	38.8	(Percent) £ 35.6			

* Data are as of the close of the month or week or nearest available date.

£ Preliminary data.

£ Revised data

n.a. Data not available