

Second Annual Report
of the
United States Shipping Board



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TABLE OF CONTENTS.

I. UNITED STATES SHIPPING BOARD.

	Page.
Organization of the Board.....	7
Functions of the Shipping Board.....	8
Investigations bearing upon the Development and Regulation of the American Merchant Marine.....	11
Legislation affecting the Shipping Board.....	13
Recommendations.....	16
Representatives of the Shipping Board on other governmental agencies:	
1. Allied Maritime Transport Council.....	17
2. War Industries Board.....	18
3. War Trade Board.....	18
4. Labor Policies Board.....	19
5. Exports Control Committee.....	19
Relations with other departments of the Government:	
1. With the Navy Department.....	19
2. With the War Department.....	20
3. With the Department of Justice.....	20
4. With the Department of State.....	20
5. With the Treasury Department.....	21
6. With the Department of Commerce.....	21
7. With the Department of Labor.....	21
8. With the Railroad Administration.....	21
Summary and classification of vessels under the jurisdiction of the Shipping Board.....	21
Table I.—American and foreign steam and sailing vessels classified accord- ing to sources of acquisition.....	23
Table II.—American and foreign steam and sailing vessels—assignment and form of control.....	24
Table III.—American and foreign tankers—assignment and form of control.	26
Table IV.—American and foreign steamers—assignment and form of con- trol.....	28
Table V.—American and foreign sailing vessels and auxiliary schooners— assignment and form of control.....	30
Table VI.—American and foreign steamers distributed between those manned by the Shipping Board and those manned by other agencies..	31
Table VII.—American and foreign sailing vessels distributed between those manned by the Shipping Board and those manned by other agencies.....	32
Table VIII.—American and foreign tankers distributed between those manned by the Shipping Board and those manned by other agencies..	32
Requisition of vessels.....	33
Transfer of American vessels to foreign registry.....	36
Transfers from one American citizen to another.....	38
Admission of foreign vessels to American registry.....	39

	Page.
Admission of vessels of foreign registry and foreign construction to United States coastwise trade.....	40
Construction for private account, domestic and foreign.....	40
Coastwise lines.....	43
Exclusion of vessels from the war zone.....	43
Repairing of enemy vessels taken over by the United States.....	45
Enemy tonnage secured from other countries.....	45
Foreign vessels chartered by the Shipping Board.....	46
Acquisition of foreign tonnage:	
Dutch ships.....	47
Tonnage derived from northern neutrals.....	52
Japanese agreement.....	53
Ships built in Chinese yards.....	53
French sailing vessels.....	54
Division of Operations.....	54
Administrative organization of the Division of Operations.....	56
Branch offices of the Division of Operations.....	57
New York agency.....	58
Boston agency.....	59
San Francisco branch.....	60
Great Lakes vessels.....	61
Maritime intelligence department of the Division of Operations.....	61
Assignment of vessels.....	62
Financial department of the Division of Operations.....	64
Shipping control committee.....	65
Chartering Committee.....	68
Port and Harbor Facilities Commission.....	72
Division of Planning and Statistics.....	74
Law Division.....	77
Regulation of rates.....	78
Recruiting Service.....	79
Labor problems.....	83
Marine and Dock Industrial Relations Division.....	84
Shipbuilding Labor Adjustment Board.....	84
National Adjustment Commission.....	86
New York Harbor Wage Adjustment Board.....	88
War Zone Pass Commission.....	88
Board of Survey and Consulting Engineers.....	88
Ocean Advisory Committee on Just Compensation.....	89
Division of Insurance.....	89
Ship Protection Committee.....	91
Information Bureau.....	93

II. UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION.

Organization and jurisdiction of the corporation.....	94
Development of the organization and management methods of the corporation.....	95
Removal of the offices of the corporation to Philadelphia.....	96
Authorizations, appropriations, and commitments.....	96
Legal problems.....	114
Commandeering of vessels in course of construction.....	116
Contracts for ship construction.....	117

	Page.
Management of the shipbuilding districts.....	119
Extension of shipbuilding yards and facilities.....	120
The "Fabricated" shipyard.....	129
Steel ship construction.....	132
Summary of activities and results in steel ship construction.....	137
Wood and composite ships.....	139
Development of the concrete ship.....	142
Expansion of housing facilities.....	143
Transportation of shipyard workers.....	146
Protection of plants against fire and other hazards.....	147
Determination of requirements for material: Contact with War Industries Board.....	148
Centralized control of supplies.....	149
Survey and development of power facilities.....	150
Industrial relations.....	151
Labor requirements section.....	153
Education and training section.....	153
Health and sanitation section.....	155
Sanitary engineering at Hog Island.....	156
Safety engineering.....	157
Field organization.....	157
Publications and educational appeals.....	158
Financial administration.....	159
Auditing.....	159
Comptroller's office.....	160
Insurance section.....	160
Central staff work: Organization and methods.....	161

APPENDIX.

	Page.
TABLE I. (a) Compensation of employees of United States Shipping Board in service prior to September 30, 1918.....	164
I. (b) Names and compensation of employees of the United States Shipping Board in service for some period within the year ending September 30, 1918, who have resigned prior to that date.....	169
II. Statement of disbursements from the appropriation "Salaries and expenses of United States Shipping Board," for the fiscal year ending June 30, 1918.....	171
III. United States Shipping Board and United States Shipping Board Emergency Fleet Corporation consolidated balance sheet, as at June 30, 1918.....	172
IV. Statement showing number of persons, grade or character of positions, the original rates of compensation, and the increased rates of compensation as required by section 2, sundry civil act, June 12, 1917 (United States Shipping Board).....	174
V. Memorandum for the adjustment of wages, hours, and conditions of labor in shipbuilding plants December 8, 1917.....	176
VI. Table of delivered ships constructed by the United States Shipping Board Emergency Fleet Corporation.....	177
VII. (a) Monthly summary of keels laid, hulls launched, and ships delivered up to November 1, 1918.....	178
VII. (b) Condensed summary of results in ship production as of November 15, 1918.....	179
VIII. Summary chart showing monthly progress in ship production..	180
IX. Condensed comparative balance sheet of the United States Shipping Board Emergency Fleet Corporation as of August 31, 1918, and August 31, 1917.....	181
X. United States Shipping Board Emergency Fleet Corporation, treasurer's report, August 31, 1918.....	181
XI. Personnel table of the United States Shipping Board Emergency Fleet Corporation as of September 30, 1918, showing compensation of employees.....	182
XII. Details of housing contracts of the United States Shipping Board Emergency Fleet Corporation.....	184
XIII. Legal arrangements involved in connection with the Emergency Fleet Corporation's housing projects for shipyard employees.....	190
XIV. List of municipalities which have furnished facilities in connection with housing projects of the Emergency Fleet Corporation with their approximate commitments.....	191
XV. Loans made by the Emergency Fleet Corporation to utility companies in connection with housing projects.....	191
XVI. Dormitories and cafeterias constructed or planned for the Emergency Fleet Corporation.....	191
XVII. List of contracts with the Emergency Fleet Corporation for the construction of transportation facilities.....	192
XVIII. Special steam-train service arranged for shipyard workers.....	193
XIX. Arrangements for ferryboat transportation of shipyard workers.	194
XX. Disbursements and liabilities of the Emergency Fleet Corporation at the Government agency plants at Hog Island, Pa., and Bristol, Pa.....	194

I. UNITED STATES SHIPPING BOARD.

WASHINGTON, D. C., *December 1, 1918.*

To the SENATE AND HOUSE OF REPRESENTATIVES:

The United States Shipping Board has the honor herewith to submit its second annual report, covering the period from November 1, 1917 to and including October 31, 1918, except as otherwise noted.

The activities and accomplishments of the Board during the past year have been necessarily controlled by the war emergency, which has thrust certain imperative problems of tonnage control and ship construction into the foreground for immediate solution. The Board has been unable to find precedents ready to hand, but has had to formulate new policies in order to cope with the extraordinary circumstances with which it has been confronted. For this reason it has seemed desirable in presenting the results achieved by the Board, in the various phases of its activities, to set forth in some detail in the following pages the reasons for the various measures which have been adopted, together with an account of the administrative organization which has been built up.

ORGANIZATION OF THE BOARD.

As noted in the First Annual Report of the Shipping Board (pp. 5 and 6), the original membership of the Board, which was completed in January, 1917, consisted of Mr. William Denman, of California (chairman); Mr. Bernard N. Baker, of Maryland; Mr. John B. White, of Missouri; Mr. Theodore Brent, of Louisiana; and Mr. John A. Donald, of New York. During the year 1917, Messrs. Denman, Baker, White, and Brent resigned and in their places the President nominated and the Senate confirmed the appointment of Mr. Edward N. Hurley, of Illinois; Mr. Raymond B. Stevens, of New Hampshire; Mr. Bainbridge Colby, of New York; and Mr. Charles R. Page, of California. Commissioner Hurley was chosen by the Board as chairman and Mr. Stevens was chosen as vice chairman.

During the past year there has been no change in the membership of the Board, the members of which (with the dates of their confirmation) are as follows: Mr. Edward N. Hurley (July 25, 1917), chairman; Mr. Raymond B. Stevens (Mar. 15, 1917); Mr. John A. Donald (Jan. 23, 1917); Mr. Bainbridge Colby (Aug. 8, 1917); and

Mr. Charles R. Page (Oct. 3, 1917). Mr. Lester Sisler is secretary. In February, 1918, Mr. Stevens was appointed by the President as the American representative on the Allied Maritime Transport Council, which meets in London and Paris, and he has since been engaged in that work.

The expanding work of the Shipping Board has necessitated a large increase in its administrative organization during the year. The following new divisions and agencies were created: Shipping Control Committee, Division of Planning and Statistics, Ocean Advisory Committee on Just Compensation, War Zone Pass Commission, Port and Harbor Facilities Commission, Division of Regulation, Marine and Dock Industrial Relations Division, Division of Insurance, Division of Transfer and Private Construction, and the Information Bureau. In addition the previously established departments have been expanded and certain cooperating agencies have been formed which are not strictly departments of the Board, although they perform functions which are closely related to the Board's activities. Among these are the Shipbuilding Labor Adjustment Board, the New York Harbor Wage Adjustment Board, and the National Adjustment Commission.

FUNCTIONS OF THE SHIPPING BOARD.

As pointed out in the first Annual Report, the Shipping Board was originally created in times of peace for the purpose of regulating shipping and promoting the development of an American merchant marine. The act establishing the Board was, therefore, drawn with particular attention to the regulatory powers of the Board and to the making of provision for additions to the American merchant marine by the construction of new vessels to be built through the Emergency Fleet Corporation. The act did not contemplate that such vessels should be operated ordinarily by the Government. On the contrary, it specifically provided that they should not be operated by any corporation in which the United States was a stockholder unless it should prove impossible to procure private enterprise to purchase or charter them under proper terms and conditions. The act thus stated the peace policy of the Nation at the time of its enactment as to the operation of the merchant marine.

When the United States was brought into the war, the far broader powers required by the exigencies of the situation were established by Congress in the urgent deficiencies act approved June 15, 1917. The emergency shipping fund provision of that act conferred upon the President far-reaching authority to requisition, construct, and operate ships without limitations or conditions (save such limitations as resulted from the limits of appropriations). These powers were extended by Congress directly to the President and not to the

Shipping Board or the Emergency Fleet Corporation. The act provided, however, that the President might exercise the power and authority vested in him through such agency or agencies as he should from time to time determine, and that all ships constructed, purchased, or requisitioned under the authority of the act or theretofore or thereafter acquired by the United States should be managed, operated, and disposed of as the President might direct, without any limitation upon the President's decision. By an Executive order dated July 11, 1917, the President delegated directly to the Emergency Fleet Corporation all power and authority vested in him relating to the construction of vessels. To the Shipping Board he delegated all his power and authority to acquire vessels already constructed and to operate, manage, and dispose of all vessels theretofore or thereafter acquired by the United States. During the period covered by the present report most of the activities of the Emergency Fleet Corporation and the Shipping Board have been exercised under these delegations of authority from the President, and not under the original act creating the Board. The Emergency Fleet Corporation and the Shipping Board have acted as the direct representatives of the President employing the very broad war powers conferred upon him.

The foregoing statement explains how it is that during the period of the war the Shipping Board has operated practically the entire merchant marine as a national enterprise. It has been a war year for the Shipping Board, with the powers exercised by it finding their source chiefly in war legislation.

It should be noted that both the conditions with which the Board has to deal and the aspects in which those conditions appear are subject to constant change, and developments and changes of policy may follow upon changed conditions or further study of the problems involved.

The three main phases of the Board's activities are (1) the acquisition of vessels, (2) the operation of vessels, and (3) the regulation of shipping and shipbuilding.

1. The acquisition of vessels includes the construction of vessels for the Shipping Board, through its Emergency Fleet Corporation; the requisition of American vessels built, the commandeering of vessels, the purchase of vessels at home and abroad, the chartering of vessels at home and abroad, the seizure of German and Austrian interned vessels, and the requisitioning of Dutch vessels. The acquisition of vessels has often involved important questions of policy and complicated legal problems, as for instance, the question of just compensation for vessels taken over by the Shipping Board, charter rates, relations with owners and builders, contracts, claims, etc. The obtaining of vessels by contract or charter from foreign owners,

private or governmental, involved important relations with the State Department and the War Trade Board.

2. The operation of vessels is performed by the Shipping Board through the Division of Operations of the Emergency Fleet Corporation. This function includes also the assignment of Shipping Board vessels to other governmental agencies, to Governments with which the United States is associated in the war, and to private operating companies; the allocation of Shipping Board vessels to cargoes and trade routes through the Shipping Control Committee; the control of charters of nonrequisitioned American vessels and of neutral vessels by the Chartering Committee; also the various legal and financial questions involved in relations with owners and operators, the fixing of rates, etc. Under this head also comes the question of manning and supplying vessels, repairs, reconstruction of vessels for war service, salvage, etc. The operation of vessels brings into prominence the relation of the Shipping Board to the Navy Department and to the Railroad Administration, which controls certain coastwise vessels.

3. The regulation of shipping and shipbuilding includes the regulation of interstate and foreign freight rates and discriminations, and of wages, hours, and conditions of labor for officers and seamen, employees in ports and water fronts, and employees engaged in shipbuilding. It includes the work of the Division of Regulation, of the National Adjustment Commission, of the Shipbuilding Labor Adjustment Board, and similar agencies. Under the head of regulation also falls the Board's policies of excluding certain vessels from the war zone, regulating the sale of vessels, governing the transfer of American vessels to foreign registry, and the construction of vessels for private and foreign account, admitting foreign vessels to the American coastwise trade, and encouraging American citizens to bring foreign vessels under American registry.

There are, besides, numerous incidental activities which are auxiliary to the three general functions of acquisition of vessels, operation of vessels, and regulation of shipping. The Shipping Board, in connection with the War Trade Board, has worked out a program of import restrictions in order to free tonnage for war purposes. This falls under the jurisdiction of the Division of Planning and Statistics. The Board is interested in the improvement of our port and terminal facilities, in building dry-docks and repair yards, in obtaining bunkering facilities, and in coordinating maritime with land transportation. For this purpose the Port and Harbor Facilities Commission was created. The management of an insurance fund against maritime and war risk is intrusted to the Insurance Division. The Board, through the Recruiting Service, is engaged

in training thousands of officers, engineers, and seamen to man the merchant marine.

Other important activities of the Shipping Board during the past year include the organization and supervision of Coal Barge and Towers' Associations to meet coal shortages, especially in New England, the consideration of the policy of meeting the needs of the allies as to food and supplies, the adoption of policies relative to the assignment of tonnage to meet the Army requirements, and the direction of American participation in the Allied Maritime Transport Council.

Investigations Bearing upon the Development and Regulation of the American Merchant Marine.

One of the functions with which the Shipping Board has been charged is the formulation of constructive plans for the development of the American merchant marine. Section 12 of the shipping act of September 7, 1916, provides:

That the board shall investigate the relative cost of building merchant vessels in the United States and in foreign maritime countries, and the relative cost, advantages, and disadvantages of operating in the foreign trade vessels under United States registry and under foreign registry. It shall examine the rules under which vessels are constructed abroad and in the United States, and the methods of classifying and rating same, and it shall examine into the subject of marine insurance, the number of companies in the United States, domestic and foreign, engaging in marine insurance, the extent of the insurance on hulls and cargoes placed or written in the United States, and the extent of reinsurance of American maritime risks in foreign companies, and ascertain what steps may be necessary to develop an ample marine insurance system as an aid in the development of an American merchant marine. It shall examine the navigation laws of the United States and the rules and regulations thereunder, and make such recommendations to the Congress as it deems proper for the amendment, improvement, and revision of such laws, and for the development of the American merchant marine. It shall investigate the legal status of mortgage loans on vessel property, with a view to means of improving the security of such loans and of encouraging investment in American shipping.

The entrance of the United States into the war created an emergency, and to meet as quickly as possible the shipping problems arising from the war needs of the Government, the Shipping Board sought to employ without delay and to the best effect the emergency powers bestowed upon it through executive proclamation, based upon congressional authorization.

Conditions arising from the war emergency have made it very difficult to obtain proper data on which to base conclusions. This has been true not alone because of the pressure for construction and operation for war purposes, which has taxed the powers of the organization, but also because of radical changes in cost and practices, and in fact, in all of the conditions of ship construction and operation.

The various departments of the Board have been for some time engaged in conducting the specified investigations and reports on the more important questions are near completion, but because of the interrelation of the different subjects it is thought that definite recommendations should not be made until they are all completed.

An investigation of ocean rates has been made to ascertain what charges were actually being paid for the transportation of the most important imports and exports of the United States during the year ending June 30, 1918. A compilation has also been made of charter rates prevailing in the principal ocean trades. The information thus obtained will be of assistance to the Board in exercising its war powers as well as the regulatory authority intrusted to it by sections 17 and 18 of the act of September 7, 1916.

The Shipping Act of 1916 provides that "the term 'other person subject to this act'" shall include "the business of forwarding or furnishing wharfage, dock, warehouse, or other terminal facilities in connection with a common carrier by water", and the act of July 18, 1918, confers large powers upon the President to regulate port and terminal services and charges. To secure the information needed for the enforcement of these acts, the Shipping Board has made a thorough investigation of terminal charges in all the ports of the United States. A report upon this subject, which will be completed within a few weeks, will contain a comprehensive and entirely up-to-date statement and analysis of port charges and services.

The cost of building vessels in the United States has been investigated and the rate of return necessary to cover depreciation, interest, and amortization for vessels owned by the Shipping Board has been made the subject of examination and report by special experts. An investigation into the relative advantages and cost of operating vessels under United States registry and under foreign registry is also under way, though because of war conditions it is difficult to arrive at satisfactory conclusions in connection with this matter at the present time.

Conditions arising out of the war have also prevented the completion of any investigation into foreign methods of classification and rating, but the British Bureau of Trade Rules have been adopted by the American Bureau of Shipping and the Shipping Board has had a working agreement with Lloyd's Register of Shipping.

The matter of marine insurance is receiving attention through the Division of Insurance and also through a special committee of American marine underwriters and brokers, appointed by the Shipping Board. A complete report can not be made at this time, but the investigations show that the American marine insurance market has been very much extended and strengthened during the past four years, owing to the incorporation of new American marine insurance companies and the establishment of marine departments in many of the strongest fire insurance companies.

At the present time there are 74 American companies and 7 associations authorized to do marine business in this country. There are also 35 foreign marine insurance companies authorized to do business in the United States, making the total number of marine insurance

companies and associations authorized to do business in the United States 116.

LEGISLATION AFFECTING THE SHIPPING BOARD.

In addition to the various appropriation bills providing the funds with which the Shipping Board and Emergency Fleet Corporation carry on their work, there have been a number of laws passed by Congress since the creation of the Shipping Board that have affected its powers, usually in the direction of extending its jurisdiction or more explicitly defining its authority. Among the more important are the following:

1. The urgent deficiencies act approved June 15, 1917, already referred to, is the foundation upon which the Board's activities during the past year have been chiefly based. That act, as already noted, conferring upon the President the broadest powers to requisition, construct, and operate ships. By the Executive order of July 11, 1917, the President delegated this power, in part, directly to the Emergency Fleet Corporation and in part to the United States Shipping Board.

2. The espionage act, approved June 15, 1917, "to punish acts of interference with the foreign relations, the neutrality and the foreign commerce of the United States, to punish espionage, and better to enforce the criminal laws of the United States, and for other purposes," authorizes the Secretary of the Treasury to control, inspect, or seize possession of any vessels, domestic or foreign, or equipment thereof, in the territorial waters of the United States, in the event of a national emergency, and fixes punishment for injury to vessels in foreign commerce, or interference with foreign commerce by violent means. To enforce neutrality it authorizes the President to withhold clearance papers and require pledges of certain behavior. During the present war it authorizes the President to control exports and deny clearance to such parties as refuse to abide by the rules and regulations governing exports.

Under the authority of this act the Shipping Board formerly exercised certain indirect control over commerce, with the cooperation of other departments, notably the Treasury Department and the War Trade Board. The act approved July 18, 1918, and the presidential proclamation of July 29, 1918 (see below, pp. 15-16), made the authority of the Shipping Board more direct.

3. The enemy trading act, approved October 6, 1917, authorizes the President to provide by proclamation for the restriction of imports and requires sworn manifests by shippers, indicating consignees. It also directs the refusal of clearance papers to unsatisfactory manifests.

These powers conferred by the President on the War Trade Board have enabled the Shipping Board with the cooperation of the War Trade Board to undertake a program of import restriction for the purpose of conserving tonnage and obtaining essential imports.

4. The Senate resolution of December 18, 1917, authorized the Committee on Commerce to investigate the program, progress, and all matters connected with the building of merchant vessels under the direction of the United States Shipping Board Emergency Fleet Corporation, and to report its findings and recommendations to the Senate. (See Hearings before the Committee on Commerce, U. S. Senate, 65th Cong., 2d sess., on S. Res. 170.)

5. An act, approved March 1, 1918, authorizes and empowers the United States Shipping Board Emergency Fleet Corporation to purchase, lease, requisition (including requisition of use) or condemn land and houses for housing purposes for the use of the Emergency Fleet Corporation's employees, to construct, sell, lease, or exchange such houses, and to make loans to persons or corporations to provide housing facilities. Under this act the Passenger Transportation and Housing Division of the Emergency Fleet Corporation has undertaken the work of providing housing accommodations for workers in shipyards. (See *infra*, pp. 143-146.)

6. The urgent deficiencies act, approved March 28, 1918, authorized the President to acquire title to the docks, piers, warehouses, etc., on the Hudson River owned by the North German Lloyd Dock Company and the Hamburg-American Line Terminal and Navigation Company. Under this authorization the President, on June 30, 1918, took over the above-mentioned properties.

7. An amendment to the urgent deficiencies appropriation act approved April 22, 1918, authorizes the President or his designated agents to take possession of certain transportation systems for the transportation of shipyard and plant employees. The act further authorizes the taking possession of, lease, or control of street or inter-urban railroad cars, franchises, etc., necessary for the transportation of employees engaged in constructing ships or equipment therefor for the United States. Just compensation is to be paid for property taken over.

8. An amendment to the war risk insurance act, approved July 11, 1918, extends protection to vessels of foreign registry operated for the Shipping Board, when such protection is otherwise unavailable except at unreasonable terms. By this amendment the Bureau of War Risk Insurance is authorized to insure vessels of foreign friendly flags when such vessels are chartered or operated by the United States Shipping Board or its agent, or chartered by any American citizen.

Such insurance is authorized only when the United States Shipping Board or its agent operates the vessel, or the charterers are, by the terms of the charter party or contract with the vessel owners, required to assume the war risk or provide insurance protecting the vessel owners against war risk during the term of the charter.

9. An act approved July 15, 1918, amends the act of September 7, 1916, creating the United States Shipping Board. This act increases

the control of the Shipping Board over the transfer of American vessels (including those under construction) to foreign registry or to foreign control. It also extends such control to shipyards, dry docks, shipbuilding or ship-repairing plants, and to facilities and interests therein.

10. An act, approved July 18, 1918, confers upon the President, or the agent designated by him, authority to prescribe charter rates and freight rates, and to requisition vessels, and other powers. The act is a war measure, and the powers granted expire when the treaty of peace is proclaimed between the United States and Germany, unless, on account of tonnage shortage, the President by proclamation extends the provisions of the act for a period of not exceeding nine months.

The act gives the President power to require charters of American vessels, their terms, rates or provisions to be approved by him. This control was previously exercised by the Chartering Committee in cooperation with the War Trade Board through the control of licenses for bunkers and stores. The present act gives direct statutory authority for such regulation.

The President is also given power to prescribe reasonable freight rates and conditions of shipment governing transportation of goods on vessels of the United States. Previously, the Shipping Board had such power only over common carriers engaged in coastwise trade.

The act authorizes prescribing the order of priority in which goods shall be carried or other services performed by vessels, and provides for regulations regarding loading, discharging, lighterage, storage, bunkering, etc., designed to promote the efficient use of tonnage during the war.

The President is authorized to extend the provisions of the act to foreign vessels under charter to American citizens.

Direct authority is given to make rules and regulations regarding safety and protective devices in the war zone and to exclude vessels not fit for war-zone service from the dangerous regions.

The act further forbids the chartering of foreign vessels by American citizens or persons subject to the jurisdiction of the United States without the consent of the President. This is a necessary measure of control over foreign tonnage, similar to that exercised by England and France to restrain the unregulated bidding for neutral vessels which threatened to inflate the neutral tonnage market. Through bunker control in cooperation with the War Trade Board the Chartering Committee had previously accomplished this purpose in part.

The act contains several provisions concerning the requisition of vessels designed to promote the effective administration of the requisitioning program of the Board. It authorizes requisitioning the

services as well as the possession of vessels and compels the owner to issue to the master of a vessel requisitioned such instructions as may be necessary to place it at the service of the United States.

The act further provides that the President shall transmit to the persons concerned a charter setting forth the hire which is just compensation for the use of the vessel and the terms which shall govern its use. If the compensation is not accepted, recourse may be had to the Court of Claims.

The act authorizes also the requisition, purchase, or lease of dry docks, wharves, loading and discharging facilities, warehouse equipment, and terminal railways. The priority of services performed by these agencies may be directed and rules regarding the conduct of their business made.

The act authorizes the operation of vessels, dry docks, and terminal facilities and provides that net proceeds not directly required for the purposes of the act may be employed in the construction, requisitioning, or purchase of vessels.

Violation of the act is punishable by a fine of not more than \$5,000 or by imprisonment for not more than two years, or both.

The powers conferred upon the President by this act were delegated in part by him to the Shipping Board by proclamation of July 29, 1918.

Several bills affecting the Shipping Board are pending in Congress. Among these are:

1. An act to provide for the establishment, operation, and maintenance of free zones in the ports of the United States.
2. An act authorizing the President to create military zones around shipyards where vessels are under construction for the United States.
3. An act authorizing the President or his designated agent to take over and operate existing power plants or to construct new ones.

RECOMMENDATIONS.

Because all of the subjects which relate to costs of construction and to costs, policies, and practices in operation are so closely inter-related the Shipping Board feels that it should not at this time make any specific recommendations to the Congress for legislation on the subjects under investigation and related subjects until the studies which the Board is now undertaking have been further developed. The force of present conditions limits tonnage available for commercial use for an indefinite period, because such tonnage will be needed to supply our armies overseas and to bring them home. Moreover, Europe must be fed and supplied with the necessary materials to permit the reconstruction of devastated areas in order that both our friends and our enemies may become self-supporting and the burden of feeding the world taken from our shoulders. Therefore

the Board recommends generally that the program for the construction of vessels as modified to meet peace conditions should be carried through and should be extended.

It feels that until the situation is further developed it should not recommend specifically the degree nor the manner in which the program should be extended. In view of these circumstances, the Board deems it advisable to submit to the Congress at a future date its recommendations in these particulars.

REPRESENTATIVES OF THE SHIPPING BOARD ON OTHER GOVERNMENTAL AGENCIES.

In the coordination of the work of the Shipping Board with that of other departments of Government, and of the policy of the United States with that of the allies, it is necessary that representatives of the Shipping Board should act on other governmental agencies. Among the most important of such contacts are the following:

1. *Allied Maritime Transport Council.*—Vice Chairman Stevens and Mr. George Rublee, of the Shipping Board, are the American representatives on this body, acting in an advisory capacity. The decision to create such a council was reached at the Paris Conference in December, 1917. Numerous factors made such a council necessary after the entry of the United States into the war. The dependence of the European allies upon America for munitions and supplies, the addition of the American military program to the burden of the world's shipping, the unrestricted submarine warfare, the necessity of eliminating competitive bidding among the allies for ships, the most effective allocation of tonnage to the needs of the allies, and many other factors made necessary centralized control over the world's shipping. The first meeting of the council was held in London on February 15, and the permanent organization was effected March 11, 1918.

The purpose of the council is to supervise the general conduct of allied transport in order to obtain the most effective use of tonnage for the prosecution of the war, while leaving each nation responsible for the management of the tonnage under its control. With this object, the council secures the necessary exchange of information and coordinates the policy and action of the Governments of France, Italy, the United States, and Great Britain in adjusting their programs of imports to the carrying capacity of the available allied tonnage (having regard to naval and military requirements) and in making the most advantageous allocation and disposition of such tonnage in accordance with the urgency of war needs.

The council has had at its service a permanent organization, consisting of four sections (French, Italian, American, and British), the head of the British statistical section being secretary to the coun-

cil. The council obtains through its permanent staff the programs of the import requirements for each of the main classes of essential imports, and full statements regarding the tonnage available to the respective Governments. It examines the import programs in relation to the carrying power of the available tonnage to ascertain the extent of any deficit, and considers the means whereby such a deficit may be met, whether by a reduction in the import programs, by the acquisition, if practicable, of further tonnage for importing work, or by the more economical and cooperative use of the tonnage already available.

The members of the council report to their Governments with a view to putting into effect in their respective countries the decisions of the council.

Information is furnished regularly to this council by the Division of Planning and Statistics of the Shipping Board, and the policy of the council is given consideration by the Shipping Control Committee and the Chartering Committee of the Board.

In June, 1918, arrangements were made for even closer cooperation among the allies and the United States by the formation of program committees to coordinate supplies and requirements. The reports of these committees go to the Allied Maritime Transport Council, which thus knows the full measure of its shipping task. Much competition in allied buying and transport is thus prevented.

The American section of the Allied Maritime Transport Council, besides cooperating with the associated sections, has maintained constant communication by cable and mail with the Shipping Board and other governmental offices in Washington.

2. *War Industries Board.*—Since the Shipping Board, through the construction work of the Emergency Fleet Corporation, is one of the largest users of raw materials and of finished products of various sorts, its connection with the War Industries Board, which has charge of the control and allocation of the fundamental materials used in industry, is especially close. Representatives of the Shipping Board serve on the Priorities Division and the Requirements Division of the War Industries Board, and representatives of the Fleet Corporation serve on the commodity sections that deal with ship-building materials.

3. *War Trade Board.*—The War Trade Board, which controls the import and export policy of the United States, includes two members who represent the Shipping Board. Through these representatives the Board negotiates with foreign countries to obtain tonnage for the use of the United States, and recommendations are made on the basis of expert statistical studies concerning the policy to be followed in the program of import restriction necessary to free tonnage for essential war purposes.

4. *Labor Policies Board.*—The Shipping Board is represented on the Labor Policies Board, created May, 1918, by the director of the Marine and Dock Industrial Relations Division and by a representative of the Emergency Fleet Corporation. The Labor Policies Board, which includes also representatives of the War Department, Navy Department, Department of Agriculture, War Industries Board, Fuel Administration, and Food Administration, considers plans for a central labor recruiting agency, the standardization of working conditions, the establishment of an agency through which prompt information regarding the labor supply can be given to industries, and the study of provisions affecting industrial relations in Government contracts.

5. *Exports Control Committee.*—The Shipping Control Committee of the Shipping Board is represented by its chairman on the Exports Control Committee, appointed June 11, 1918. It is the duty of this committee to inform itself as to the probable amount of freight which must be exported for the prosecution of the war; how this war freight can be best routed through the various ports; how much other essential export traffic has to be handled; and the amount of the local traffic necessary for each port. The committee has authority to select the port to which specified freight shall be transported for shipment overseas, and to decide the distribution of the combined amounts of all exports as between the various ports, to facilitate its handling and avoid congestion.

RELATIONS WITH OTHER DEPARTMENTS OF GOVERNMENT.

In addition to those governmental bodies, such as the War Trade Board, the War Industries Board, and the Labor Policies Board, on which the Shipping Board has direct representatives, there are many other points of contact between the Shipping Board and the other administrative agencies of the Government. The creation of a new agency of Government, especially one whose duties have expanded as rapidly as have those of the Shipping Board, raises many problems of adjustment with other bodies concerned with closely related duties. Among the most important questions that have arisen for adjustment during the past year are the following:

1. *With the Navy Department.*—Merchant vessels desired for Navy use are turned over to that department on a bare boat basis by the Shipping Board. Vessels so turned over to the Navy, being under naval control, have been manned by naval complements throughout, while all vessels under control of the Shipping Board, which retain their character of merchantmen by virtue of such control, are manned by civilian crews. These crews have consisted of a given ratio of experienced mariners in the various ratings, supplemented by recruits trained by the Shipping Board Recruiting Service. The Navy Department also cooperates in such measures as the installation of wire-

less, camouflage painting, and the protection of vessels from submarine attack.

2. *With the War Department.*—The military program of the War and Navy Departments has been, during the past year, the decisive factor in determining the shipbuilding policy of the Shipping Board and the allocation of vessels to particular uses. Numerous transports have been turned over to the Army and a large fleet has been operated by the Shipping Control Committee in carrying cargo abroad for the Army. A certain number of the Army transports were manned by naval crews and certain others by merchant marine crews which were provided in many instances by the Shipping Board and were recruited with men trained by the Shipping Board Recruiting Service. The War Department has furnished military protection for certain shipyards and armed guards on certain vessels. The Army requirements insofar as they affect the importation of materials into the United States, or the transportation of materials to Europe, have been revised in consultation with Shipping Board experts, with a view to saving tonnage. Changes in routing, substitution of materials, avoidance of double hauls, and other improvements have added efficiency to the utilization of our merchant marine. A plan of the War Department to build certain transports for its own use was abandoned after a conference with the Shipping Board.

3. *With the Department of Justice.*—Under the provisions of the Overman Act, approved May 20, 1918, the President, by Executive order dated May 31, 1918, directed that all law officers of the Government should exercise their functions under the supervision and control of the head of the Department of Justice. In accordance with this order the law officers of the Board submitted to the Attorney General a full report of the organization, activities, and methods of the Board's law department. All matters resulting in litigation are at once referred to the Department of Justice for handling. Because of the increasing amount of admiralty litigation arising from the operations of the large number of vessels under the Government's control the Attorney General has appointed a Special Assistant in Admiralty, who has direct charge of all admiralty litigation for all branches of the Government. The operating and legal departments of the Board maintain close relations with this officer, who is thus kept informed upon all matters likely to result in litigation and upon the Board's methods of handling such matters. Cooperation is also maintained with the Secret Service Division of the Department of Justice.

4. *With the Department of State.*—Important relations with the State Department arise from the seizure of German and Austrian vessels, the commandeering of Dutch vessels, the chartering or purchase of vessels from foreign countries, the trade agreements

and restrictions on imports and exports, the work of the Allied Maritime Transport Council, the cable messages sent and received, the work of the consuls and diplomatic representatives abroad, and many other questions which directly or indirectly affect the relations of the United States with other countries.

5. *With the Treasury Department.*—The collectors of customs in the various ports cooperate in many ways with the Shipping Board, especially with its local agencies and representatives. The Bureau of War Risk Insurance of the Treasury Department insures the officers and men on the Shipping Board vessels.

6. *With the Department of Commerce.*—Close relations are maintained with the Bureau of Navigation, especially with the Steamboat-Inspection Service. The Department of Commerce also cooperates in furnishing data concerning American foreign trade on which the lists of restricted imports are based.

7. *With the Department of Labor.*—The United States Employment Service of the Department of Labor is engaged in furnishing shipbuilding and longshore labor. Many important questions regarding wages, hours, and conditions of labor, for shipbuilding workers, longshoremen, harbor employees, and officers and crews on board Shipping Board vessels demand the cooperation of the Department of Labor.

8. *With the Railroad Administration.*—The Board has had contact with the Railroad Administration through questions arising as to coastwise lines owned by railroad companies. (See *infra* under "Coastwise Lines.")

SUMMARY AND CLASSIFICATION OF VESSELS UNDER THE JURISDICTION OF THE SHIPPING BOARD.

In the following series of tables a general statistical summary is given of all the vessels under the jurisdiction of the Shipping Board, showing sources of acquisition, forms of control, the trades in which the vessels are operating, and the distribution between those operated by the Shipping Board and those operated by others.

Table I gives the number and gross and dead-weight tonnage of American and foreign steam and sailing vessels of 500 gross tons and over which are owned or are under some form of control by the United States Government, excluding those owned by the Army or Navy. It is the purpose of this table to give a picture as of September 1, 1918, of the source of American owned and controlled tonnage. There are 1,842 steamers, including tankers, with a total dead-weight of 8,693,579, and 772 sailers, with an estimated steamship equivalent of 656,249 dead-weight tons. If the actual dead-weight of the sailers be combined with the dead-weight of the steamers, the total dead-weight of vessels owned or controlled by the United States on September 1, 1918, is 10,334,196.

Of the 1,842 steamers, including tankers, of 500 gross tons or over, 307, or 16.7 per cent, are new vessels constructed for the Emergency Fleet Corporation. Of the 99 ex-German ships taken over by the United States Government, 87 (including 4 from Cuba) were in operation on September 1. The latter constitute 4.7 per cent of the number and 6.9 per cent of the dead-weight of steamers under American control. The most numerous group of vessels shown in the table is that of merchant vessels the use of which is requisitioned by the United States Government. These constitute 22 per cent of the number and 30 per cent of the dead-weight of the entire group of steamers. Approximately 11 per cent of the dead-weight of the vessels under control are foreign vessels chartered to the United States Shipping Board. In addition to these, about 5 per cent of the total dead-weight are foreign vessels chartered to United States citizens.

Table II gives a combined statement of steam and sailing vessels other than tankers, while these three classes of tankers, steamers, and sailers are given separate treatment in the three following tables.

Table III shows the American and foreign tankers of 500 gross tons and over owned or under some form of control by the United States Government and gives the assignment or use on September 1, 1918, as well as the form of control. There are 186 tankers with a total dead-weight of 1,473,756. Of this amount the tankers in the French service constitute 8.6 per cent of the number and 8.8 per cent of the dead-weight. Those employed in the Gulf region constitute 38.8 per cent of the dead-weight and 38.2 per cent of the number of all the tankers.

Of the 186 tankers, 68.9 per cent of the dead-weight are American and under American operation, while 21 per cent of the dead-weight are American tankers chartered to foreign Governments or citizens. The rest are foreign tankers and constitute 10 per cent of the total.

Table IV shows American and foreign steamers other than tankers of 500 gross tons and over which are owned or under some form of control by the United States Government. There are 1,616 steamers, not including those unassigned, with a combined dead-weight of 7,028,327. Of this amount 299, making 18.5 per cent of the number and 2,229,118 or 31.7 per cent of the dead-weight, are assigned to the Army. The other major assignments are to the New England coal trade and to the South American west coast trade, constituting, respectively, 7.3 per cent and 10.5 per cent of the dead-weight.

The American vessels under American operation, not including those unassigned, make up 1,144 instances. This number constitutes 71 per cent of the number and 70 per cent of the combined dead-weight. A negligible proportion of the American vessels of this group is chartered to foreign Governments or citizens, and 26 per cent of the total number is represented by foreign steamers chartered

to citizens, to the Shipping Board, or foreign Governments under the approval of the Chartering Committee.

Table V shows American and foreign sailing vessels and auxiliary schooners of 500 gross tons and over owned or under some form of control by the United States Government. This table gives the assignments or uses as well as the sources of acquisition on September 1, 1918.

There are 772 sailing vessels, totaling 656,249 dead-weight tons when reduced to a steamship-equivalent basis. The major proportion of these sailing vessels is used in the South American east coast trade. In fact, this group constitutes 234 vessels—30 per cent of the number and 30.5 per cent of the estimated dead-weight of all sailing vessels owned by America or under American control.

A conspicuous thing about the sailing-vessel distribution is the proportion which is foreign. Of the total number, 58 per cent are American and 42 per cent are foreign. Of the total dead-weight, 48 per cent is American and 52 per cent is foreign.

In the three remaining tables the vessels under the jurisdiction of the Shipping Board are separated into those manned by the Board and those manned by other agencies. Table VI gives this classification in the case of steamers, while Tables VII and VIII supply the same data for sailing vessels and tankers, respectively.

TABLE I.—American and foreign steam and sailing vessels 500 gross tons and over owned or under some form of control by the United States Government Sept. 1, 1918, classified according to sources of acquisition.

Sources of acquisition.	Steamers (including tankers).			Sailing vessels.		
	Number.	Gross.	Dead-weight.	Number.	Gross.	Dead-weight.
Total.....	1,842	6,405,388	8,693,579	772	1,093,745	656,249
Built for Emergency Fleet Corporation:						
Under contract.....	83	323,870	465,454			
Requisitioned.....	219	918,087	1,344,242			
Built by Japan.....	8	43,533	66,349			
Ex-Austrian ships taken over by the United States Government.....	1	8,312	6,500			
Ex-German ships taken over by the United States Government (including 4 from Cuba).....	87	579,975	898,816	7	15,739	9,444
Dutch vessels requisitioned.....	81	329,122	501,772			
United States vessels purchased by Shipping Board:	20	47,632	61,900			
Purchased Austrian vessels owned by Shipping Board.....	9	40,684	59,506			
United States merchant vessels requisitioned for use	408	1,969,064	2,622,550			
Other requisitioned United States merchant vessels released for operation by owners or others and United States merchant vessels too small to be included in requisition order of Oct. 15, 1917.....	475	882,115	968,551			
United States vessels operated by United States citizens.....				402	465,015	279,009
United States vessels chartered to foreigners.....				38	42,201	25,321
Foreign vessels:						
Chartered to United States Shipping Board.....	220	606,460	944,238	111	234,580	140,748
Chartered to United States citizens.....	113	318,490	462,631	143	213,388	128,033
Chartered to foreigners under approval of United States.....	52	189,913	288,149	71	122,822	73,694
Agreeing to return to United States.....	61	207,231	304,621			

¹ Does not include the vessels owned by United States Shipping Board moving in Great Lakes.

² Does not include 31 vessels requisitioned and included under "Built for Emergency Fleet Corporation."

(Vessels owned by the Army or Navy are not included in the above table.)

Trans-Pacific:	47	133,807	137,109	28	75,854	76,701	1	639	383	17	54,896	68,322	1	2,738	1,643
East Asian—															
Active.....	1	2,168	2,700	1	20,017	24,368				2	7,217	6,131	4	20,203	26,839
Repairing.....	20	47,437	57,338	14											
East Indian: Active.....	1														
Australian—															
Active.....	188	297,708	215,333	78	92,099	65,141	18	20,408	12,245	45	92,653	64,270	45	92,548	73,731
Repairing.....	1	4,254	7,800											4,254	7,800
British Indian.....	14	54,871	78,402	5	16,549	23,326				7	28,701	42,036	2	9,021	13,103
Hawaiian—															
Active.....	49	123,848	165,738	44	99,791	123,341				5	24,037	42,337			
Repairing.....	1	4,623	3,000	1	1,623	3,090									
Hawaiian: Inter-island.....	6	6,311	5,832	6	6,311	5,832									
Philippine: Inter-island.....	2	1,116	1,525	2	1,116	1,525									
South American.....															
West—															
Active.....	160	535,977	751,577	80	299,474	301,026	3	12,881	17,763	61	202,200	271,499	16	51,419	71,230
Repairing.....	4	12,923	14,614	3	10,486	16,117				1	2,437	3,523			
East.....	314	606,434	629,648	117	200,898	226,292	5	7,568	4,541	199	347,072	338,344	23	50,916	58,561
West Indies:															
Active.....	186	342,300	447,235	104	208,093	244,132	2	1,200	756	73	119,099	177,417	7	16,962	24,900
Repairing.....	4	11,988	12,065	4	11,988	12,065									
Caribbean.....															
Active.....	104	221,700	245,950	68	161,524	163,542				32	54,090	73,773	4	6,088	8,633
Repairing.....	1	980	1,400	1	989	1,430									
Gulf:															
Active.....	52	142,333	162,763	45	125,722	137,373				4	10,037	15,290	3	6,526	10,139
Repairing.....	1	2,942	3,185	1	2,942	3,185									
Atlantic Coast:															
Active.....	112	248,321	198,754	98	326,327	172,114	3	2,783	1,670	5	5,882	5,380	6	13,329	19,599
Repairing.....	4	8,436	7,136	4	8,436	7,136									
Pacific Coast:															
Excluding Mexico.....	150	215,315	208,568	146	207,324	196,468									
Repairing.....	2	2,998	2,534	2	2,998	2,534									
Mexico.....	1	1,497	1,250	1	1,497	1,250									
Pacific-Atlantic en route.....	5	10,493	13,261	4	8,314	10,261									
Other coastwise.....	80	72,522	70,654	80	72,522	70,654				1	2,124	3,000			
Unknown.....	73	98,569	62,824	58	64,478	38,087				15	31,088	24,137			

1 Includes foreign vessels operating under charters to foreign Governments or foreign citizens approved by the Chartering Committee or under agreement with War Trade Board to return to United States. (Vessels owned by the Army or Navy are not included in the above table.)

TABLE III.—American and foreign tankers, 500 gross tons and over, owned or under some form of control by the United States Government Sept. 1, 1918—assignment and form of control.

Assignments or use.	Grand total.		United States tankers controlled by United States citizens or United States Shipping Board.		United States tankers chartered to United States Governments or citizens.		United States tankers chartered to foreign Governments or citizens.		Foreign vessels chartered to United States citizens or United States Shipping Board.		Foreign vessels chartered to foreign Governments or citizens.				
	Num-ber.	Gross weight.	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	Num-ber.	Gross weight.	Num-ber.	Dead-weight.			
Grand total.....	186	984,363	127	1,473,756	683,893	1,014,809	40	205,838	300,578	12	67,182	98,460	7	37,540	53,910
Total active.....	175	942,285	119	1,395,733	643,837	954,955	38	194,361	296,828	11	61,517	90,060	7	37,540	53,910
Totals, repairing.....	11	52,078	8	78,023	39,956	59,854	2	6,477	9,750	1	5,665	8,400			
Army:															
Active.....	2	15,237	2	21,850	15,237	21,850									
Repairing.....	1	3,559	1	5,790	3,559	5,790									
Navy Administration.....	12	70,425	12	108,834	70,425	108,834									
Trans-Atlantic:	1	1,704	1	2,300	1,704	2,300									
British—															
Active.....	14	65,894	14	101,119	65,894	101,119									
Repairing.....	1	2,773	1	4,650	2,773	4,650									
French—															
Active.....	14	78,561	14	117,584	78,561	117,584									
Repairing.....	2	8,979	2	12,600	8,979	12,600							1	5,179	7,160
Italian.....	10	62,328	10	76,150	62,328	76,150									
Netherlands.....	1	4,068	1	6,400	4,068	6,400									
France, coasts and channel:															
Trans-Pacific:															
East Asian.....	4	23,774	2	43,420	10,447	24,820							1	6,828	9,600
East Indian.....	3	5,767	7	7,600									1	6,499	9,000
British Indian.....	3	18,682	26	150									2	12,154	17,400
Hawaiian.....	4	21,176	31	410	21,176	31,460							1	6,808	8,750
South American:															
West.....	9	61,780	90	553	8,651	12,638	6	39,121	59,555	2	14,008	21,960			
East.....	2	13,990	20	890									2	13,990	20,890
West Indies.....	13	67,049	98	817	65,562	96,567							1	1,487	2,250
Caribbean.....	4	17,328	26	881			3	17,328	26,881						
Gulf:															
Active.....	64	350,632	59	517,050	327,993	483,370	59	327,993	483,370	3	13,080	18,670	2	9,579	15,000
Repairing.....	7	36,767	6	55,073	31,102	46,673	6	31,102	46,673	1	5,665	8,400			

Pacific coast: Mexico.....	14	54,208	78,459	14	54,208	78,459
Pacific-Atlantic en route.....	1	7,170	10,122	1	7,170	10,122
Other coastwise.....	1	875	1,300	1	875	1,300
Unassigned.....	1	5,731	8,974	1	5,731	8,974

* Includes tankers under agreement with War Trade Board to return to United States.
 (Vessels owned by the Army or Navy are not included in the above table.)

Hawaii: Interland.....	6	6,311	5,832	6,311	5,832	12,174	17,337	155,926	213,734	13	46,136	68,100
Philippine: Interland.....	2	1,116	1,525	1,116	1,525							
South American:												
West:	133	481,178	718,698	266,642	389,507	2	17,337	42	213,734	13	46,136	68,100
Repairing.....	4	12,533	19,640	10,456	16,117				2,484			
East:	80	272,702	423,216	87,679	130,471				238,901	6	23,855	43,524
Repairing.....	161	317,188	423,216	182,604	230,431				117,867	7	16,862	24,900
West Indies:	4	11,088	14,661	1,448	1,865							
Repairing.....	93	213,692	241,063	153,446	184,666							
Caribbean:	1	100	100	100	100							
Gulf:	47	137,365	189,781	120,732	164,301							
Repairing.....	1	2,642	3,185	2,642	3,185							
Atlantic coast:	82	209,645	273,728	196,176	264,623							
Repairing.....	4	8,436	7,156	8,436	7,156							
Pacific coast:	105	144,011	165,604	136,070	153,704							
Excluding Mexico:	2	2,968	2,534	2,968	2,534							
Repairing.....	1	1,497	1,250	1,497	1,250							
Mexico:	5	10,438	13,261	8,314	10,261							
Pacific-Atlantic en route:	80	72,522	70,654	72,522	70,654							
Other coastwise:	2	4,056	6,100									
Unknown:												

Includes foreign steamers operating under charters to foreign governments or foreign citizens approved by the Chartering Committee or under agreement with War Trade Board to return to United States (Vessels owned by the Army or Navy are not included in the above table.)

TABLE V.—American and foreign sailing vessels and auxiliary schooners, 500 gross tons and over, owned or under some form of control by the United States Government Sept. 1, 1918—assignment and form of control.

Assignments or use.	Grand total.		United States sailing vessels controlled by United States citizens or United States Shipping Board.		United States sailing vessels chartered to foreign Governments or citizens.		Foreign sailing vessels chartered to United States citizens or United States Shipping Board.		Foreign sailing vessels chartered to foreign Governments or citizens. ¹		
	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	Num-ber.	Dead-weight.	
Grand total.....	772	1,093,745	409	480,754	38	42,201	284	447,968	71	122,832	74,413
Food Administration.....	2	2,288	2	2,288							
Traffic Afloat:											
British.....	1	1,735	1	1,735							
French.....	1	6,130	1	6,130							
Spanish.....	1	830									
Algerian.....	95	135,440	45	55,720	8	8,533	34	58,044	8	12,843	7,706
Mediterranean.....	2	4,233	1	654				3,279	1,957		
Other.....	2	1,050						1,050	630		
Trans-Pacific:											
East Asian.....	21	39,947	12	21,601	1	639	7	14,909	8	882	1,643
East Indian.....	6	10,568	4	3,632			1	5,967	3	3,052	1,109
Australian.....	170	245,424	71	69,716	18	20,408	42	82,777	49	696	43,514
British Indian.....	3	4,609	1	406			2	5,893	2	336	
Hawaiian.....	10	11,632	10	11,632							
South American:											
West.....	27	54,700	4	2,532	1	710	19	46,274	3	5,283	3,169
East.....	234	333,752	85	103,219	6	7,568	127	197,804	17	25,051	15,037
West Indies.....	35	25,295	31	22,868	2	1,360	2	1,452			
Caribbean.....	11	8,078	11	8,078							
Gulf.....	5	4,970	5	4,970							
Atlantic coast.....	30	38,370	22	30,151	3	2,783	3	2,917	2	2,525	2,235
Pacific coast, excluding Mexico.....	45	71,274	45	71,274							
Unknown.....	71	94,540	58	64,478			13	30,062			18,037

¹Includes sailing vessels under agreement with War Trade Board to return to United States.

²Deadweight shown for sailing vessels is estimated steamship equivalent.

³(Vessels owned by the Army or Navy are not included in the above table.)

TABLE VI.—American and foreign steamers other than tankers 500 gross tons and over owned or under some form of control by the United States Government, Sept. 1, 1918, classified according to assignment or use and distributed between those manned by the Shipping Board and those manned by other agencies.

Assignment or use.	Grand total.		Manned by United States Shipping Board.		Manned by others.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
Grand total.....	1,656	7,219,823	102	607,109	1,554	6,612,714
Total:	1,616	7,028,327	102	607,109	1,514	6,421,218
Assigned.....	40	191,496			40	191,496
Unassigned.....						
Army.....	299	2,229,118	32	283,285	267	1,945,833
Navy.....	56	206,243	1	525	55	205,718
Food Administration.....	3	14,900			3	14,900
New England coal.....	132	512,803	19	87,031	113	425,772
Trans-Atlantic:						
British.....	26	191,943	1	6,850	25	185,093
French.....	44	261,361	3	20,167	41	241,254
Italian.....	48	251,216			42	212,645
Spanish.....	2	6,900			2	6,900
Swiss.....	14	96,032	4	24,780	10	71,252
Belgian relief.....	25	139,071			25	139,071
Russia.....	1	6,700	1	6,700		
Mediterranean.....	2	7,946			2	7,946
Northern neutrals.....	4	22,675			4	22,675
Other.....	11	41,481			11	41,481
French coastwise.....	37	82,200	1	4,300	36	77,840
Trans-Pacific:						
East Asian.....	27	125,840			27	125,840
East Indian.....	14	50,998			14	50,998
Australian.....	17	75,938			17	75,938
British Indian.....	11	75,660			11	75,660
Hawaiian.....	40	161,759			40	161,759
Hawaiian (Inter-island).....	6	5,832			6	5,832
Philippine (Inter-island).....	2	1,525			2	1,525
South American, west.....	137	738,338	5	26,845	132	711,493
South American, east.....	80	429,396	5	28,822	75	400,574
West Indies.....	155	444,716	16	59,003	139	385,713
Caribbean.....	94	242,503			94	242,503
Gulf.....	48	162,966	2	8,830	46	154,136
Atlantic coast.....	86	182,864	5	7,900	81	174,964
Pacific coast, excluding Mexico.....	107	168,138	1	3,500	106	164,638
Pacific coast, Mexico.....	1	1,250			1	1,250
Pacific-Atlantic, en route.....	5	13,261			5	13,261
Other coastwise.....	80	70,654			80	70,654
Unknown.....	2	6,100			2	6,100
Unassigned.....	40	191,496			40	191,496

Vessels owned by the Army or Navy are not included in the above table.

TABLE VII.—American and foreign sailing vessels and auxiliary schooners 500 gross tons and over owned or under some form of control by the United States Government, September 1, 1918, classified according to assignment or use and distributed between those manned by the Shipping Board and those manned by other agencies.

Assignment or use.	Total.		Manned by United States Shipping Board.		Manned by others.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
Total.....	772	656,249	4	6,020	768	650,229
Food Administration.....	2	1,373			2	1,373
Trans-Atlantic:						
British.....	1	1,041			1	1,041
French.....	1	3,073			1	3,073
Spanish.....	1	330			1	330
African.....	95	81,265			95	81,265
Mediterranean.....	2	2,539			2	2,539
Other.....	2	630			2	630
Trans-Pacific:						
East Asian.....	21	23,969	4	6,020	17	17,949
East Indian.....	6	6,340			6	6,340
Australian.....	170	147,255			170	147,255
British Indian.....	3	2,802			3	2,802
Hawaiian.....	10	6,979			10	6,979
South America, west.....	27	32,879			27	32,879
South America, east.....	234	200,252			234	200,252
West Indies.....	35	15,174			35	15,174
Caribbean.....	11	4,847			11	4,847
Gulf.....	5	2,982			5	2,982
Atlantic coast.....	30	23,026			30	23,026
Pacific coast, except Mexico.....	45	42,764			45	42,764
Unknown.....	71	56,724			71	56,724

TABLE VIII.—American and foreign tankers 500 gross tons and over owned or under some form of control by the United States Government Sept. 1, 1918, classified according to assignment or use and distributed between those manned by the Shipping Board and those manned by other agencies.

Assignment or use.	Grand total.		Manned by United States Shipping Board.		Manned by others.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
Grand total.....	186	1,473,756	3	14,695	183	1,459,061
Total:						
Assigned.....	185	1,464,782	3	14,695	182	1,450,087
Unassigned.....	1	8,974			1	8,974
Army.....	3	27,550			3	27,550
Navy.....	12	108,834	1	5,000	11	103,834
Food Administration.....	1	2,300			1	2,300
Trans-Atlantic:						
British.....	15	105,769			15	105,769
French.....	16	130,184	2	9,695	14	120,489
Italian.....	10	76,150			10	76,150
Northern neutrals.....	1	6,400			1	6,400
Trans-Pacific:						
East Asian.....	4	43,420			4	43,420
East Indian.....	1	7,600			1	7,600
British Indian.....	3	26,150			3	26,150
Hawaiian.....	4	31,400			4	31,400
South American, west.....	9	90,553			9	90,553
South American, east.....	2	20,800			2	20,800
West Indies.....	14	98,817			14	98,817
Caribbean.....	3	26,881			3	26,881
Gulf.....	71	572,093			71	572,093
Pacific coast, Mexico.....	14	78,459			14	78,459
Pacific-Atlantic en route.....	1	10,122			1	10,122
Other coastwise.....	1	1,300			1	1,300
Unassigned.....	1	8,974			1	8,974

Vessels owned by the Army or Navy are not included in the above table.

REQUISITION OF VESSELS.

In the emergency shipping fund section of the urgent deficiencies act of June 15, 1917, the President was given power to requisition ships on payment of just compensation. This power was delegated to the Shipping Board by Executive order of July 11, 1917.

As has been set forth in its first annual report (pp. 13-15), the Board, after a careful survey of all the factors in the situation (such as the soaring freight rates, the hazards of the service, and the costs and values involved) decided upon a comprehensive scheme of general requisition. The underlying purposes were to provide (1) for the war-time operation of our ships so as to secure maximum efficiency in this most vital national resource, and (2) for the conservation of the established commercial organization and the lessening of hardships necessarily incidental to such a time, whenever consistent with prosecuting the war to a successful conclusion.

It became apparent to the Board from a study of the experience of the Allies, especially of England, that the efficiency sought could best be obtained by the Government controlling ships, through the power of requisition, and providing for their operation, in the majority of cases, by those persons and organizations who know the shipping business. It was further believed that this would not only conserve tonnage but likewise result in reducing the cost of the service and in securing the patriotic cooperation of the American steamship owners.

The first general step was taken on August 3, 1917, when all hulls and materials in American shipyards intended for use in constructing steel vessels of 2,500 dead-weight tons or over for private and foreign owners, were requisitioned. This affected 431 vessels of a total of 3,056,000 dead-weight tons. (For a fuller treatment of this subject see pp. 116-117.)

The second general step involved the requisition of American vessels in actual service. The problem was to meet the war requirements of the military arm of the Government and the war purposes of the Shipping Board, as well as to do equity to those whose property was to be taken for public use. In June, 1917, charter parties and other ship documents were secured from many of the leading American and foreign steamship companies. Forms of war-time agreements in use by the Allies were also obtained and examined. Conferences were held with the Advisory Committee on Shipping of the Council of National Defense, with the Quartermaster General's Corps of the War Department, with the Commissioner of Navigation and other governmental agencies.

The following general principles were finally agreed upon: That the United States, though not strictly speaking a "charterer," should assume in practice that relation toward the vessel requisitioned; that the owner should, in general, be allowed to operate the vessel for the United States; that the expenses of operation should be apportioned between the Shipping Board and the owner in a manner similar to that prevailing in normal times between owner and charterer; that the Shipping Board should assume the risk of war losses, while the owner in general assumed the risk of marine peril losses (except under bare boat charters); that at the option of the Shipping Board the vessel might be entirely taken over and operated by the United States without the aid of the owner, and the Shipping Board might again return the vessel to the owner for operation; that the period of service should be for such time as the Shipping Board might determine, but should not extend beyond the first arrival of the vessel in an American port six months after peace, unless required for Government purposes; and that the Shipping Board should reserve the right to terminate the agreement on five days' notice.

On the basis of these principles a general requisition order was issued on October 12, 1917, to be effective October 15, 1917, by which all American steel, power-driven cargo vessels of 2,500 dead-weight tons or over and all American passenger vessels of 2,500 gross register, suitable for foreign service, were requisitioned.

In most cases the Shipping Board did not wish to requisition the title, but merely the use of the vessel. A requisition agreement was therefore sent to the owners, under which the latter assumed the obligation to operate the vessel for the United States, and also a requisition charter, setting forth in detail the duties and responsibilities assumed by the United States and the shipowners respecting their joint physical operation of the vessels, and fixing the requisition rate to be paid to the owners by the United States.

There are two general forms of requisition charter. Under one, the "Time-form charter," the owner is responsible for manning and supplying the vessel. Under the other, the "Bare-boat charter," the owner is relieved of all operating duties. The rates are fixed at a certain amount per dead-weight ton per month for cargo vessels and per gross register for passenger vessels. The rate paid to cargo vessels and tankers varies according to dead-weight ton capacity and speed; passenger vessels are paid according to the number of passengers they accommodate, gross register tonnage, and speed. Rates vary also according to whether the vessel operates under time-form charter or bare-boat charter. The Board aims to charge rates based on the requisition rate whenever it is assured that the benefit of such low rates will accrue to the American or allied Governments, or to

the consuming public, and to charge higher rates when necessary to prevent excessive profits by private interests.

Special difficulties have been met in adapting the requisition program to vessels employed entirely in transporting products belonging to the vessel owners and used as a means of permitting the owners to directly market their own goods. The most frequent examples of such cases are tankers employed in the carriage of oil and cargo vessels employed in the banana trade. In such cases the ordinary relationship between shipowner and cargo owner does not exist, and the considerations which usually operate to fix freight rates on cargoes are not brought in play. The owners of these vessels have, with apparent correctness, insisted that such portion of their earnings as would be fairly attributable to freight does not in fact exceed the requisition charter hire, and that there is no occasion, therefore, for the Board to impose and collect a freight rate upon the proprietary cargoes. Pending further examination and consideration of the question (which will require a careful study of the conditions of the oil, banana, and other businesses involved) it has been the policy of the Board to concede the correctness of this position and not to require an accounting from the owners of the vessels in this situation as to proprietary cargoes. Under this arrangement (which is subject to cancellation by the Board at any time upon five days' notice) the owners receive no charter hire. The vessels are all, however, covered by requisition charters to the Board and are at all times under the Board's direction and control. Whenever they are put into trans-Atlantic service or taken out of the owners' usual previous service, charter hire is paid and an accounting required on the usual basis for freights fixed by the Board.

Small steamships, motor schooners, sailing vessels, tugs, and barges have also been requisitioned from time to time as the exigencies of the war demanded, and the rates to be paid for their use have been specially determined in each case.

Perhaps no phase of the Shipping Board's work has been more difficult to adjust fairly and satisfactorily than that involved in the requisitioning of ships for use. Nevertheless, most owners have cooperated with excellent spirit.

The effect of the requisition program, with its assurance of certain earnings to owners, on the efficiency of the operation of vessels, in the absence of competition, threatened certain dangers. The creation of the Shipping Control Committee, with its authority to allocate tonnage and its close supervision over delays, is, in part, an effort to meet that danger.

The number of United States merchant vessels under requisition charter on November 12, 1918, was 444 (of 2,938,758 dead-weight

tons), exclusive of vessels formerly requisitioned but released to owners upon compliance with certain conditions.

TRANSFER OF AMERICAN VESSELS TO FOREIGN REGISTRY.

Section 9 of the act creating the Shipping Board provides that when the United States is at war or during any national emergency, the existence of which is declared by proclamation of the President, no vessel registered or enrolled and licensed under the laws of the United States shall, without the approval of the Shipping Board, be sold, leased, or chartered to any person not a citizen of the United States or transferred to a foreign registry or flag. The penalty for violation of this section is forfeiture of the vessel to the United States and a fine of not more than \$5,000, or imprisonment for not more than five years, or both.

By proclamation of the President on February 5, 1917, a national emergency as contemplated in the act was declared to exist, and the above provision was brought into effect. This policy was necessary because many shipowners of the United States, attracted by the high rates then offered for ships, were permitting their vessels to pass to alien registers and to foreign trades in which the United States did not participate. As a result, an insufficiency of maritime tonnage to carry the normal commerce of the United States existed.

Following this proclamation applications for transfer of registry were numerous, and a large part of the time of the Shipping Board during its first meetings in February and March, 1917, was occupied in considering applications for transfer of American vessels to foreign registry and for chartering of American vessels by aliens. With the entry of the United States into the war this power of the Shipping Board became of especial importance as a means of centralized control over tonnage and its allocation for the needs of the Nation under war conditions. The present and future requirements of our naval and military forces, the needs of such of our trades as deal with the production of munitions and military supplies, the demands of our allies for similar purposes and for the transportation of foodstuffs, and the ordinary trade requirements of our citizens in so far as they may be conserved without detriment to other interests, have demanded consideration.

During the first few months of Shipping Board control a number of transfers to alien registry was authorized. The number of such authorizations has steadily decreased, however, and on June 4, 1918, it was decided to permit no American vessel of more than 100 gross register tons to pass to any foreign flag. During the fiscal year ending June 30, 1918, there were transferred to foreign registry 117 American vessels of 94,740 deadweight tons. In these instances

special circumstances indicated that the change would not injure the national interest.

In this connection certain defects and omissions in the Shipping Act became evident, which were met by an amending statute (approved July 15, 1918) which was passed by Congress at the request of the Shipping Board. This amendment was necessary because of systematic efforts made by *foreign financial interests* to evade the original act and secure vessels of the American merchant marine, and because of defects and difficulties of administration revealed by practical experience in administering the original act. By the amendment the prohibition of the transfer to foreign registry without the consent of the Shipping Board is extended to vessels under construction. The original act affected only vessels completed or launched and offered a loophole for foreign interests to secure foreign registry for vessels building in the United States.

The amendment also brings under the act vessels licensed but not enrolled—i. e., small vessels under 20 tons engaged in the coastwise trade. The definition of what makes a corporation a citizen of the United States within the meaning of the act is also elaborated to prevent foreign interests from obtaining control in law or in fact over corporations formed under American law. Mortgages to foreigners as well as sales and charters without the approval of the board are forbidden by this amendment, as this had become a common device by which foreign interests aimed to secure control of American vessels.

Besides vessels, the act is made applicable to shipyards, dry docks, shipbuilding or ship-repairing plants or facilities, or any interest therein. Under present war conditions shipbuilding has become of such vital importance that foreign control of shipbuilding facilities is as much to be avoided as is foreign control of American shipping. Agreements or understandings transferring to foreigners stock control of corporations owning American ships, dry docks, and shipyards are made unlawful to prevent evasion of the act by formation of dummy corporations.

Appropriate penal provisions are provided, and any sale, mortgage, lease, transfer, documentation, or agreement in violation of the section is declared to be void. Consideration paid under such a transaction is recoverable, unless received in good faith. This will prevent shipowners from retaining the proceeds of the sale and throwing the burden of the forfeiture proceedings on the purchaser.

The practical enforcement of the new provisions is facilitated by requiring a declaration to be filed with every bill of sale, mortgage, or conveyance recorded with a collector of customs, setting forth the

facts relating to the citizenship of the vendee, mortgagee, or transferee, and a heavy penalty is provided for any person who knowingly makes a material false statement in such declaration. Penalty is also provided for making false statements to the Shipping Board in the effort to secure its approval for a proposed transfer of registry, lease, mortgage, or charter.

The Shipping Board is also authorized to grant approval to sales, transfers, or other transactions subject to conditions. It sometimes happens that the sale of a vessel especially appropriate to a particular foreign service essential to the war is deemed advisable, provided the purchaser makes certain agreements regarding the use of the vessel and the control of its movements. Several approvals have been given by the Shipping Board on such terms. Under the original law it was doubtful whether the violation of the agreement by the new owner was punishable and the purchaser might repudiate the conditions imposed after securing the Shipping Board's approval to the transaction. Under the amendment any violation of the agreement nullifies the approval and renders the transaction punishable as if no approval had been given.

The amendment further provides that vessels documented under the laws of the United States shall remain so until the surrender of their documentation is approved by the Shipping Board. This prevents the owner of a vessel from evading the law by procuring a cancellation of its register or enrollment. A proclamation of the President is necessary to indicate that the period of war or emergency has ended during which the provisions of the act are effective. It is expected that this amendment will facilitate the Board's control over essential shipping.

Several violations of the prohibition against illegal transfer of registry have been reported by the Shipping Board to the Department of Justice and are now in its hands.

TRANSFERS FROM ONE AMERICAN CITIZEN TO ANOTHER.

The transfer of American ships from Americans to Americans has also in certain respects been subject to the approval of the Shipping Board. The War Trade Board, by virtue of its control over bunkers and stores (licenses for which are necessary to clearance), decreed that it would not grant licenses for bunkers and stores to a vessel if the vessel had been sold by an American to an American without the transaction being approved by the War Trade Board and the Shipping Board. This latter requirement was subsequently restricted by the War Trade Board to the approval of the Shipping Board only. This control has been exercised primarily with a view to preventing

American ships from getting indirectly into the hands of persons of enemy affiliations or tendencies. To a much less degree this control was also aimed at keeping American ships out of the hands of clearly demonstrated inefficient operators. It was also deemed advisable to exercise certain control over the sale price of such ships. Applications for the transfer of American ships from Americans to Americans have been submitted to the Board in considerable number, and with relatively few exceptions have been approved. The applications have referred mostly to small steamers and sailing vessels. The Board has exercised no control over the transfer from Americans to Americans of American ships under 100 tons capacity.

ADMISSION OF FOREIGN VESSELS TO AMERICAN REGISTRY.

The Shipping Board has followed the general policy of encouraging American citizens in their efforts to acquire merchant tonnage and bring it under the American flag. Even before the creation of the Shipping Board, acts of Congress and Executive orders of the President had made it easier to secure American registry for foreign-owned or foreign-built vessels. By act of August 18, 1914, the free-ship clause of the Panama Canal act of August 24, 1912, was amended, making it no longer essential that foreign-built vessels applying for American registry be less than five years old. By the same act the President was authorized to suspend certain provisions of law requiring survey, inspection, and measurement by officers of the United States of vessels admitted to American registry. By Executive order of September 7, 1917, these requirements were suspended for two years, from September 1, 1917, provided the Secretary of Commerce is satisfied that the ship is safe and seaworthy. By Executive order of July 3, 1917, the President suspended for the duration of the war certain provisions of law requiring that watch officers of vessels of the United States engaged in foreign trade must be American citizens.

By these and similar provisions efforts have been made by the Government to stimulate the admission of foreign vessels to American registry, and a large increase to the merchant marine under the American flag has been secured by this method since the outbreak of the war.

Foreign-built vessels placed under American registry during the 12 months ending June 30, 1918, numbered 75, of 545,995 dead-weight tons. This does not include vessels of Netherlands registry, the possession of which was taken over on behalf of the United States in pursuance of the proclamation of the President dated March 20, 1918.

ADMISSION OF VESSELS OF FOREIGN REGISTRY AND FOREIGN CONSTRUCTION TO UNITED STATES COASTWISE TRADE.

As early as the summer of 1917 the Shipping Board became convinced that the volume of tonnage engaged in the coastwise trade of the United States was being constantly diminished, and that, because of the law prohibiting foreign vessels from engaging in United States coastwise traffic, many such vessels were touching at American ports either empty or partially laden. An act was passed by Congress and approved by the President on October 6, 1917, authorizing the Shipping Board to suspend existing provisions of law and grant permits to vessels of foreign registry and to foreign-built vessels admitted to American registry to engage in the coastwise trade of the United States during the present war and for a period of 120 days thereafter. The provisions of this act do not apply to coastwise trade with Alaska or between Alaskan ports.

The permits issued by the Shipping Board define the scope of the trade and the time of such employment. Applications for such permits may be made by the master, owner, or agent of the vessel to collectors of customs, who forward them to the Director of Operations in Washington, or the applications may be made directly to the Director of Operations. The applications must state in detail the nature of the cargo, ports of clearance and entry, and the dates of the voyage, unless permission is sought for a general permit to engage exclusively in coastwise trade. The Shipping Board reserves the right to modify or revoke the permit at any time.

In the majority of cases permits have been issued for single voyages, except on the Great Lakes, where permits are issued to Canadian vessels for the season of navigation. By a resolution of the Shipping Board on February 11, 1918, two Japanese companies were allowed to engage in the coastwise trade between San Francisco and Honolulu, carrying mails from San Francisco to Honolulu and mails and freight from Honolulu to San Francisco. Japanese lines are permitted to carry first-class passengers between Honolulu and San Francisco, as are also Pacific mail steamers which are foreign built but under the American flag. Scarcity of shipping on the Pacific necessitated this action.

During the period from October 1, 1917, to September 30, 1918, permits have been granted to 342 different vessels, 58 of which were operating upon the Great Lakes, while 284 were in coastwise trading on Atlantic and Pacific coasts.

CONSTRUCTION FOR PRIVATE ACCOUNT, DOMESTIC AND FOREIGN.

The Shipping Board has exercised a certain control over the construction of ships for American private account and for foreign account in American shipyards. By the emergency shipping fund pro-

vision of the urgent deficiencies appropriation act, approved June 15, 1917, Congress authorized the President to "require the owner or occupier of any plant in which ships or material are built or produced to place at the disposal of the United States the whole or any part of the output of such plant." This authority was delegated to the Shipping Board by Executive order of the President on July 11, 1917.

Although the Shipping Board has no direct legislative authorization to control construction for private American account, yet contracts for private account involve certain priority concessions and assurances for the securing of which application to the Shipping Board is necessary. Such construction depends upon priority orders for material and shipments which are granted by the War Industries Board only upon the approval of the Shipping Board. Consequently, an almost universal practice of applying to the Shipping Board for permission to construct for private American account has grown up.

Following the general order of August 3, 1917, by which the Shipping Board requisitioned hulls and materials in American yards, the first statement of policy regarding the construction of vessels for private or foreign account was issued on September 22, 1917. Applications must be made by the shipbuilder, giving detailed information concerning the vessel, cost, date of completion, character of registry, name and address of owner, location of shipyard, name of firm building, etc. The United States has the option of taking over the vessel at any time prior to completion on the basis of the contract cost plus 10 per cent interest. Permits to construct such vessels must receive the approval of the Emergency Fleet Corporation and must not interfere with its building program or the work of the Navy or other governmental departments.

Priorities as to both labor and materials rest with the Emergency Fleet Corporation, and the price to be paid for such vessels must not permit unfair discrimination against yards doing work for the Fleet Corporation or the Government. All such vessels are subject to existing law regarding requisition and control, no definite guaranty being given for the future.

The material demands of the Navy, War Department, and the Shipping Board programs have in general not allowed the approval of applications involving the use of steel or steam-propelling machinery. This necessity has restricted private construction for American account, with few exceptions, to wooden sailing vessels, with or without auxiliary power, barges, both wooden and concrete, and smaller steam-propelled vessels using reconstructed machinery.

By virtue of the above control and the additional control of transfers of ships to foreign registry the Shipping Board has from the

beginning also exercised jurisdiction over the construction of ships for foreign account, either private or governmental.

Preference in permits for building wooden ships is given to American owners, then to citizens or corporations of nations with which the United States is associated in the war, then to neutrals if facilities for shipbuilding remain. Ownership of vessels constructed for aliens is generally required to be lodged in an American corporation. They then sail under the American flag and can be kept in such trades under such terms as the Shipping Board may direct. Vessels constructed for the Governments of England, France, Italy, and Japan in United States yards may be allowed to fly the flag of the nation for which they are built.

On June 21, 1918, the Shipping Board adopted a resolution stating that it would permit the building of wooden sailing vessels or motor-driven vessels up to 1,000 tons deadweight for private or foreign account, provided such building received the approval of the Fleet Corporation.

On September 19, 1918, a resolution of the Board was passed which extended the limit to 1,300 tons dead-weight. Such vessels are to be free from commandeering during construction and upon completion may be permitted to take the flag of their owners. In case of military necessity, however, the Board reserves its right to commandeer.

Direct legislative authorization for control over construction for foreign account was conferred by the act of July 15, 1918, amending the shipping act, which provided that when the United States is at war, or when a national emergency has been proclaimed by the President, it shall be unlawful, without first obtaining the approval of the Shipping Board, to enter into any contract, agreement, or understanding to construct a vessel within the United States for or to be delivered to any person not a citizen of the United States without expressly stipulating that such construction shall not begin until after the war or the emergency proclaimed by the President has ended. As already noted, the President has issued a proclamation under this act delegating the powers thereby conferred on him to the Shipping Board.

In order to centralize the machinery for handling matters of transfer of registry and applications for permission to construct ships for private account, American or foreign, the Shipping Board created on October 9, 1918, a "Division of Transfer and Private Construction." This division investigates and prepares recommendations in regard to the proposed sale or transfer of registry of ships and deals with applications for permits to place foreign mortgages on ships,

as well as applications to construct ships for private account, American or foreign.

Particulars of permits granted by the Shipping Board for constructing for private account, as of Oct. 15, 1918.

	Number of permits.	American interests.		Foreign interests.		Total.	
		Number of ves-sels.	Tonnage.	Number of ves-sels.	Tonnage.	Number of ves-sels.	Tonnage.
Wood (all types).....	72	146	223,040	105	262,480	251	485,520
Steel (all types).....	13	63	85,400	82	126,680	145	212,080
Concrete (all types).....	12	86	128,650	.....	.....	86	128,650
	97	295	437,090	187	389,160	482	826,250

"Foreign interests" includes both Government and private account.

COASTWISE LINES.

Various modifications of the Shipping Board's control over coastwise ships have taken place. With some of the companies engaged in the New England coal trade special arrangements were made whereby the companies were to carry coal for their own account at rates fixed by the Board. In this way the financial returns of the shipowner were controlled and the stimulus of a financial reward for efficient operation was preserved.

Under the President's proclamation of December 26, 1917, giving control of certain railroad-owned coastwise companies to the Railroad Administration, that Administration took control of the ships of the Old Dominion Steamship Co., Ocean Steamship Co., and Southern Pacific Steamship Co. that were on that date not engaged in overseas service by the Army, Navy, or Emergency Fleet Corporation. The ships in overseas service are controlled by the Shipping Board.

Under the President's proclamation of April 11, 1918, the Railroad Administration took control of the Mallory Steamship Co., Clyde Steamship Co., Southern Steamship Co., and Merchants & Miners' Transportation Co., effective April 13, 1918. The vessels of these companies engaged in overseas service are, however, controlled by the Shipping Board.

EXCLUSION OF VESSELS FROM THE WAR ZONE.

When the policy of unrestricted submarine warfare was adopted it became desirable for the Shipping Board to control the type of vessel that entered the war zone. High freight rates were tempting many vessels to risk the voyage, even though the danger of destruc-

tion was great. As early as May, 1917, the Shipping Board announced the policy of refusing charters to American sailing vessels to foreigners to go into the war zone because of the danger of destruction and because the owner would want to sell the vessel if it reached a foreign port safely rather than risk a return voyage, for which the freight rates were not so attractive. The Board ruled that the President's proclamation of February 5, 1917, requiring the approval of the Shipping Board for all charters of American vessels applied also to sailing vessel charters issued before that date, unless the vessel so chartered had already loaded and sailed.

On October 10, 1917, the Shipping Board, advised by the Navy Department and the Shipping Advisory Committee of the Council of National Defense that sailing vessels bound on voyages from ports of the United States or its possessions to European or Mediterranean ports were subject to excessive war risk, adopted the policy of allowing no sailing vessel to clear for any voyage from any port of the United States or its possessions for any European or Mediterranean port. The Exports Administrative Board was requested to refuse licenses for ship's stores to such sailing vessels bound on such voyages and to notify, through proper channels, the collectors of customs of the various ports of the United States and its possessions, respectively, of this policy.

Sailing vessels are obviously unsuited for war-zone trade, particularly as they furnish a ready source from which submarines may obtain fresh supplies. They are, however, valuable for replacing vessels taken from the coastwise and South American trade.

On February 20, 1918, the Shipping Board excluded steamers of less than 2,500 tons dead-weight from trans-Atlantic or other long voyage trade and requested the War Trade Board to refuse bunker licenses to vessels which might attempt to disobey this ruling. It was the judgment of the Shipping Board that vessels of small tonnage are uneconomical and unsafe in trades that lead through the war zone and that such vessels could be used to a better advantage in coastwise traffic, West Indian trade, and similar services. The inhibition against small vessels simplified the convoy problem by eliminating many vessels of low speed. It also aided in the reduction of the exorbitant freight rates demanded, because these small vessels were not within the requisition order of the Board and subject to the specified charter rates fixed by the Board and had been in many cases making excessive charges. With the elimination of these vessels from the trans-Atlantic trade, the Shipping Board controls the rate situation through its owned, requisitioned, and chartered vessels.

REPAIRING OF ENEMY VESSELS TAKEN OVER BY THE UNITED STATES.

In the First Annual Report of the Shipping Board (pp. 19-20) the action of the United States Government in taking over enemy vessels interned in American ports at the time the United States entered the war was set forth. The vessels were taken by formal seizure, in accordance with the Executive order of June 30, 1917, and the necessary repairs were pushed with vigor. (See below, under the heading "Board of Survey and Consulting Engineers.") Up to November 11, 1918, the United States Shipping Board had disbursed for repairs to ex-German and ex-Austrian vessels the sum of \$9,194,862.70. There are, in addition, certain outstanding bills aggregating approximately \$2,000,000.

ENEMY TONNAGE SECURED FROM OTHER COUNTRIES.

On November 15, 1917, the Shipping Board authorized negotiations for the purchase or charter of enemy vessels interned or seized by other countries. Accordingly efforts were made to acquire such tonnage from various countries. During December, 1917, and January, 1918, arrangements were completed for the chartering, until six months after the war, of two ex-Austrian vessels seized by China, and the chartering for the duration of the war of two ex-German vessels seized by Siam. A number of Austrian vessels were purchased, some of which were resold to the French Government. At the present time the Shipping Board owns nine ex-Austrian vessels, acquired by purchase, totaling 58,000 dead-weight tons.

Negotiations are under way with the Brazilian Government by which it is anticipated that a large amount of ex-German tonnage will be made available for the common use of the Allies and the United States in the prosecution of their war purposes. A small amount of Austrian ships interned in Brazil has also been purchased.

During the past year the United States Shipping Board Emergency Fleet Corporation on behalf of the United States secured by charter upon agreement with Uruguay the use of eight ex-German steamers interned in Montevideo, of 60,701 tons dead-weight, upon terms making them available for the common purposes of Uruguay, the United States, and the Allies. Uruguay agreed to repair these vessels and put them in a seaworthy condition, thus relieving our repair facilities of that burden, but the United States shipped the necessary supplies to effect these repairs.

From Peru the use of five steamers and four sailing vessels has been secured under a time charter of similar terms with that executed with Uruguay and these vessels are made available for virtually unrestricted trade.

FOREIGN VESSELS CHARTERED BY THE SHIPPING BOARD.

In its effort to relieve the scarcity of tonnage the Shipping Board has chartered a considerable number of vessels from the Allies and neutral countries. On September 1, 1918, there were 331 foreign vessels of a total of 1,084,986 dead-weight tons under charter to the Board. Of these 220 vessels of 944,238 dead-weight tons were steamers and 111 vessels of 140,748 dead-weight tons were sailing vessels. The steamers include especially Danish, Norwegian, Swedish, and Japanese vessels. The sailing vessels are chiefly French and Norwegian. These vessels are chartered at interallied rates. In some cases they are chartered during the war; in other cases for a specified period; in still other cases for a single voyage. A portion of these vessels is engaged in trade with South America, the West Indies, Australia, Hawaii, and the coastwise trade of the United States, although the charters of most of them allow for trans-Atlantic use. In order to influence the chartering and control of all neutral vessels to the Shipping Board a resolution was passed by the Board on April 18 by which it was provided that no charter of neutral vessels leaving American ports should be approved by the Chartering Committee of the Board unless such vessels be chartered to the United States Shipping Board. These vessels which were chartered to the Shipping Board were later assigned by the Division of Operations to various lines for operation in the trades to which they were allocated.

ACQUISITION OF FOREIGN TONNAGE.

During the year negotiations have been carried on through diplomatic channels with the cooperation of representatives of the Shipping Board on the War Trade Board, as a result of which various agreements have been concluded providing for the acquisition of ships from neutral and allied countries. Under these agreements the United States governmental authorities agreed to license for export necessary food supplies and other commodities for the use of these neutral nations in exchange for their agreeing to charter for the Shipping Board all the tonnage which they could spare from their own immediate needs. Various chartering agreements have been made with Sweden, Norway, and Denmark; Japanese tonnage has been made available by charter, purchase, and construction contracts; the building of ships in Chinese yards has been arranged, and enemy tonnage, seized or interned in South American countries, has been made available. By a careful study of trade routes it has been possible to release a large amount of tonnage from South American and West Indian trades and to replace the larger types of vessels with similar ships flying neutral flags, so as to relinquish for trans-Atlantic trade many hundred thousand tons of steamers.

Dutch Ships.

In January, 1918, a temporary arrangement was made with the Dutch Government by which certain supplies were placed at their disposal, and certain of their vessels were to be chartered to the United States Shipping Board for periods not exceeding 90 days. Among other things, it was provided that 150,000 tons of Dutch shipping should, at the discretion of the United States, be employed partly in the services of Belgian relief and partly for Switzerland on safe conduct to Cete, France, and that for each ship sent to Holland in the services of Belgian relief a corresponding vessel should leave Holland for the United States. Two Dutch ships in United States ports with cargoes of foodstuffs were to proceed to Holland, similar tonnage being sent in exchange from Holland to the United States for charter as in the case of other Dutch ships lying in the United States ports. By this temporary arrangement 460,000 tons of Dutch ships were to be chartered to the Shipping Board. About 300,000 tons dead-weight of their ships had been chartered when Holland proved unable to live up to the conditions of the agreement.

The failure to secure shipping in accordance with this arrangement precipitated a crisis in the imperative military needs of the United States which could only be met by the exercise of the extraordinary power conferred on a belligerent, known as the "right of angary," to requisition for military purposes vessels of foreign register within the territorial jurisdiction. On March 20, 1918, the President, acting under authority of the act of June 15, 1917, and in accordance with international law and practice, issued a proclamation authorizing the Secretary of the Navy to take over the possession of all such vessels of Netherlands registry as were necessary for essential purposes connected with the prosecution of the war. The vessels were to be manned, equipped, and operated by the Navy Department and the Shipping Board, and the latter was directed to make to the owners full compensation in accordance with the principles of international law.

Under the authority of this proclamation there were taken over by the Navy Department 87 Dutch vessels, of 533,746 dead-weight tons, lying in widely scattered ports of the United States, including Porto Rico and the Philippines.

To fit this great merchant fleet for service proved to be a task of the first magnitude. Many of the ships were out of repair; most of them required gun mounts and extra gun-crew quarters; many were loaded with rich colonial and South American cargoes for which storage space must be found. All the Netherlands crews had to be removed and the vessels completely remanned, from deck hand to master, with American civilian or naval crews. The rapidity with which the vessels were put into service, despite these obstacles, has

been an achievement which only the large resources of the Navy Department and of the Shipping Board have made possible.

In general, the Dutch vessels assigned for trans-Atlantic service were manned by the Navy Department, and those used in coastwise and South American services essential to the prosecution of the war were manned by the Shipping Board. In manning the latter vessels, the Board did not follow its usual practice of assigning the vessels to private corporations or to the Emergency Fleet Corporation to man and operate for Government account, but itself directly employed the crews.

In addition to the operation of a substantial number of the Dutch ships, the Shipping Board has been charged by the President with the following matters, directly arising out of the requisitioning of the ships:

- (1) Negotiations and settlement of terms of compensation for the use of the ships;
- (2) Maintenance and repatriation of the Dutch crews, and settlement of indemnity for losses incurred by them;
- (3) Care and disposition of the cargoes on the vessels, and settlement of terms of compensation to Dutch cargo owners.

In recommending the terms of compensation to shipowners which the United States Government should offer to the Netherlands Government, the Shipping Board was guided by two considerations: First, that the terms of compensation for foreign ships taken by force should be at least as favorable to the shipowners as the most liberal terms which had theretofore been offered or agreed upon for ships voluntarily chartered, and, second, that the terms should be, so far as possible, the same as the terms proposed by Great Britain for the Dutch ships requisitioned by her.

On March 21 (the day after the issuance of the President's proclamation), the Shipping Board cabled its London representative to discuss with the British authorities the compensation to be made to the shipowners. These discussions resulted in the determination of an equitable basis of compensation, the United States assuming all risks and expenses except those involved in rendering the vessel seaworthy. In the event of loss it has been agreed to replace the vessel in kind after the war, or if the owner desired, to pay just compensation. It is believed that the prompt announcement and publication in Holland of these liberal terms did much to quiet the fears of the Dutch shipowners and laid the foundation for the friendly spirit in which all subsequent negotiations have been conducted.

There were on the Dutch vessels at the time they were requisitioned no less than 2,934 seamen of Dutch, Dutch colonial, or Chinese nationality. Whatever the technical obligations of the United States

might be toward these men, it was clearly of the utmost importance that they be given the most hospitable treatment and that any losses which they might sustain be repaid them liberally. Many of the men were without funds and did not know the language, and to have thrown them on their own resources would have caused them severe hardship.

Instructions were therefore issued by the Navy Department to inform all the Dutch crews that they should consider themselves guests of the American Nation; that their former wages would be paid them until they were repatriated; and that their maintenance and traveling expenses would be defrayed. The Bureau of Immigration of the Labor Department then took charge of the men and arranged for hotel accommodations and transportation to the port from which they were to sail. The Shipping Board saw to it that the men were kept in funds by advancing them, through its local offices, a half month's wages.

The Dutch liner *New Amsterdam* was due to sail on March 28, and all the men for whom accommodations could be found were rushed to New York to catch this ship. In all, 1,651 sailed on the *New Amsterdam*. In the haste of their departure many officers and men were obliged to leave trunks and other personal belongings on the Dutch vessels. In all such cases the Board either defrayed the expense of replacing the lost belongings or made adequate pecuniary compensation.

The scarcity of sailings to Holland and to the Dutch colonial possessions necessitated long delays before the remainder of the men could be repatriated; but by July 3 all but three of the men desiring repatriation had sailed. The three were detained by illness and have since returned. During the period of waiting, of course, the United States was under obligation to pay them wages and maintenance.

At first the policy was adopted of assigning the men to hotels and instructing the hotels to bill the Government for their maintenance. This course met with some objection, since it left the men without pocket money and led to complaints that certain hotels were taking advantage of them by furnishing inferior accommodations. A scale of maintenance allowances was therefore drawn up in conference with the Netherlands consul general and was paid to the men weekly by the paymaster of the Shipping Board. The scale was liberal and the weekly disbursements, because of the large number involved, were necessarily heavy, but it was felt that this was obviously not a field in which undue regard for economy would be justified.

As to wages, the Shipping Board recommended to the State Department that the United States Government pledge itself to pay full wages up to the date of repatriation or, in the case of men who remain

in the United States, up to the date of discharge, and, in addition, one month's wages, to compensate for loss of employment, and on instructions from the State Department this proposal (which was identical with that submitted by the British) was made to the Netherlands Government by the American minister at The Hague. Arrangements have been made by which the total amount so promised is being paid the men on their arrival by the Holland shipping companies, the companies being reimbursed by the American consul general at Rotterdam, who in turn draws on the Emergency Fleet Corporation for repayment.

In addition, the Shipping Board has defrayed medical and hospital expenses of several members of Dutch crews who were injured or ill, and the State Department, on the recommendation of the Shipping Board, has pledged the United States to assume insurance liabilities for Dutch crews in accordance with Dutch law. It is not believed that there will be any expenses on this account, since the return of the men to Holland and the colonies occurred in every case without mishap.

Twenty-one of the Dutch vessels requisitioned on March 20 contained cargoes owned by or consigned to Dutch subjects. Complicated questions have arisen; first, as to the disposition of the cargoes; and, second, as to the settlement of pecuniary claims of the owners of the cargoes.

In disposing of the cargoes, the first consideration has necessarily been the freeing of the ships and of essential dock and storage space for war purposes. The cargo was, therefore, stored wherever storage space was procurable, it being often necessary, owing to the congestion in the principal ports, to send cargoes hundreds of miles away to ports less congested. In view of the uncertainty as to what would be our liability, the cargo was stored "for account of whom it might concern"; but the expense of transshipping and storing the cargo was borne by the Shipping Board, and the cargoes were covered by insurance at the Shipping Board's expense.

The second consideration, of almost equal importance, was the protection of the interests of the owners of the cargoes. To appreciate the importance of this consideration, it must be realized that the cargoes were of great value—individual cargoes were worth up to \$2,000,000—that they were made up of a large number of individual shipments, represented by bills of lading widely scattered throughout the banks and commercial houses of Holland and her colonies, and that the holders of the bills of lading were threatened with serious financial embarrassment if their interests were not protected. If the most serious resentment in Holland was to be avoided, it was necessary to deal promptly and fairly with the owners of the cargoes.

Every effort was made, therefore, to forward to the original destination on substitute vessels such cargo as it was possible to forward. Cargoes in transit for South America were transshipped to sailing vessels and small steamers unsuitable for trans-Atlantic trade. A Dutch vessel was chartered to forward cargo consigned to the Dutch East Indies. Cargoes taken over on the Pacific coast or at the Philippines and consigned to Atlantic ports were forwarded on the original Dutch vessels. At the present time virtually all the cargo capable of being forwarded has been delivered. With respect to these cargoes the Shipping Board recommended to the State Department that the United States Government agree to bear any expense due to the necessity of transshipping and forwarding the cargo, beyond the normal cost of delivering the cargo in the original vessel. This proposal was made by the State Department to the Dutch Government, and accepted by the Dutch Government as fully protecting the interests of cargo owners.

More difficult to deal with were the claims of owners of cargo consigned to Holland which could not be forwarded.

A considerable portion of this cargo was damaged and in danger of rapid deterioration. To avoid serious loss, quick action was necessary; it was not possible to consult the many hundreds of holders of bills of lading. The Shipping Board, therefore, considered itself entitled to exercise the discretion conferred by maritime law on the master of the vessel, by selling the cargo for the interest of all concerned. The undamaged cargo has been held in storage pending receipt of formal authority to sell from the owners.

A memorandum proposing a basis of settlement with the cargo owners was transmitted by the Chairman to the President, and by him approved on April 16. It recommended that the United States Government offer to reimburse the owners of the cargoes on a basis of the prices the goods would have brought in Holland, less the expenses of shipment from the United States to Holland. This proposal was made to the Dutch Government by the State Department on June 7. The Dutch Government replied, accepting the proposal as to two of the vessels, and proposing as an alternative for three others (comprising Dutch colonial cargoes) a settlement on a basis of values at place and time of shipment, on shipped weights and qualities, plus certain additions covering freight, insurance, and interest from point of shipment to the United States. This counter-suggestion was urged on the ground of its greater simplicity and the greater promptness with which settlements could be made. It involved a basis of value which was much lower than the one proposed by the United States; on the other hand, it placed on the United States the loss due to damage and shrinkage of cargo.

After a careful weighing of the alternative plans the Shipping Board recommended to the State Department that the counter-proposal be accepted in principle. The State Department so advised the Dutch Government, and a reply has been received confirming the agreement as to these vessels.

This settlement involves, it should be noted, the purchase by the United States of the cargoes involved. The Shipping Board will undertake, thereupon, to sell the cargoes, and arrangements in this direction are already being made, under competent expert guidance. Much of the cargo is of value to the War and Navy Departments, and has been sold to them.

The principles to be followed being thus virtually agreed upon, there remains a large amount of detailed work in the application of these principles to the thousand or more individual claims involved. A committee has been designated to represent the Shipping Board in adjusting these claims, and the work of gathering the necessary data is under way.

The net cost of these settlements will probably not be very large since receipts from the sale of the cargo can be set off against the expenditures.

Tonnage Derived from Northern Neutrals.

After a series of negotiations in which the War Trade Board and the Shipping Board participated chartering agreements were concluded by which a considerable amount of tonnage was secured from the shipowners of the northern neutral countries, a fair proportion of which was made available for war-zone trading. Under the Norwegian agreement the United States secured about 614,000 dead-weight tons of steamers and approximately 275,000 tons of sailing vessels.

The agreement with Sweden covered certain vessels lying idle in Swedish, North and South American, and allied European ports, vessels trading to and from allied European countries, or between those countries and Sweden, and vessels chartered by the Belgian Relief Commission. Such ships as are actually required for the service of Sweden are, according to the terms of the agreement, to be operated in seven specified lines. The vessels covered in the agreement are secured by uniform charter for the duration of the war and one month thereafter. The United States thus obtained Swedish steamers for unrestricted trade to the amount of 100,000 dead-weight tons, and an equal amount of steamers for use outside the war zone.

The arrangements with Denmark provided for the retention by that country of a stated amount of tonnage to take care of transporting necessary food supplies and other commodities. Out of the surplus Danish tonnage above this amount the United States has secured 265,000 dead-weight tons of steamers, 88,000 tons of which are

available for unrestricted trading, 90,000 tons to be used outside the war zone, and upward of 81,000 tons for Belgian relief and/or the Swiss Government.

Japanese Agreement.

On March 15, 1918, arrangements were made through the Japanese Government for the chartering of certain vessels to the Shipping Board, and charters were finally signed on April 26, 1918, for 23 vessels, aggregating 151,278 dead-weight tons, for a period of six months at interallied charter rates. On March 19, 1918, negotiations were begun by the War Trade Board and the Shipping Board for the purchase of Japanese vessels and for the construction in Japanese yards of additional vessels. An agreement was concluded under which contracts were made in April and May, 1918, providing for the purchase of 15 Japanese vessels, either completed or nearing completion, totaling approximately 128,000 dead-weight tons, to be delivered between June and December, 1918. The price agreed upon for these vessels ranged from \$212.50 to \$265 per ton, and the War Trade Board agreed to license the exportation of 1 ton of old steel (i. e., steel contracted for at former prices) to Japan for each dead-weight ton of vessels delivered.

On April 4, 1918, the Japanese outlined terms according to which Japanese shipbuilders would agree to build for the United States approximately one-half of the estimated total output of Japanese yards during the first six months of 1919. Contracts signed between May 16 and 21, 1918, provided for the construction in Japanese yards of 30 vessels of 245,850 dead-weight tons, to be delivered between March and August, 1919. The price to be paid for the vessels was fixed at \$175 per dead-weight ton, and the War Trade Board agreed to license the exportation of approximately 1 ton of new steel for every 2 tons of vessels delivered. The contracts were awarded to 13 Japanese yards, building from 1 to 5 ships each.

The total contracts to Japanese shipbuilders provide, therefore, for 45 steel cargo carriers of almost 375,000 dead-weight tons. These vessels will cost about \$73,000,000 and permits to export steel total about 250,000 tons. The first vessel built in Japan for the Shipping Board was delivered on June 13, 1918, and to date (Oct. 1) nine vessels of 72,990 dead-weight tons built in Japanese yards have been delivered and paid for.

Ships Built in Chinese Yards.

On July 10 the Shipping Board signed a contract with the Kiangnan Dock & Engineering Works at Shanghai, China, to build four steel vessels of 10,000 dead-weight tons each, with the option of building 80,000 dead-weight tons additional. This company is owned and operated by the Chinese Government, with the aid of a technical

staff, most of whom come from Scotland. Steel will be exported to China from the United States for the building of these vessels on terms similar to the arrangements for the vessels being built in Japanese yards for the Shipping Board. Delivery of the vessels will begin six months after the delivery to the builder at Shanghai, China, of such materials therefor as are to be furnished by the owner for the first vessel.

French Sailing Vessels.

In the rearrangement of shipping facilities for more efficient utilization of the allied tonnage, the Shipping Board concluded an agreement with the French Government for the charter to the United States of certain French sailing vessels in return for a proportionate number of American steamers assigned to the French. Because of the difficulty of operating the sailing vessels in the war zone and the value of the vessels in trade outside the war zone, thereby releasing American steamers for war-zone traffic, this arrangement is of distinct value to the Allied cause.

The Shipping Board takes these sailing vessels on a Government form time charter—i. e., the Board assumes war risks and all charges connected with the loading and discharging of the cargo, while owners keep the vessels in first-class condition, pay for repairs, crew's wages, food, stores and supplies, and all other expenses pertaining to ship and crew.

A large part of this tonnage has been placed with our Government for operation and the rest is being made available as the vessels discharge the cargoes they previously had on board before the agreement went into effect. The United States Government is assigning steamer tonnage to the French in order to replace the sailing tonnage obtained under the terms of the agreement.

DIVISION OF OPERATIONS.

In the foregoing sections an account has been given of the Board's action along the line of acquisition of tonnage by requisition, chartering, commandeering, purchase, and otherwise. A problem of greater magnitude which now occupies a central place in the Board's program is that of the operation of vessels. Though receiving little attention at first, this phase of the Board's duties has been constantly growing, and this growth has necessitated a far-reaching administrative expansion and reorganization during the past year.

The present Division of Operations has evolved from the Transportation Committee of the Emergency Fleet Corporation, which was later designated as the Committee of Operations and was authorized to organize a transportation department and employ agents. On September 29, 1917, the Trustees of the Emergency Fleet Corpora-

tion appointed a Director of Operations, and the Shipping Board has at various times issued instructions to the Director of Operations to operate vessels on its behalf. On October 18, 1917, the Board conferred upon the Director of Operations the administration of the act to admit foreign vessels to the American coastwise trade and to issue permits thereunder in the name of the Board. On November 26, 1917, the Board resolved that all vessels owned by the Shipping Board be chartered to the Emergency Fleet Corporation Division of Operations, which was to have charge of the vessels, subject at all times to the direction and supervision of the Board.

The general administration of the requisitioning program and the operation and direction of requisitioned ships was also assigned to the Division of Operations, and the division was given discretion either to equip and man and operate directly the ships turned over to it or to assign any such ships for management and operation to existing shipping agencies created for that purpose. Other duties have been added from time to time. On December 13, 1917, the Shipping Board delegated to the Division of Operations the carrying out of the recommendations of the Ship Protection Committee. On February 11, 1918, the Shipping Control Committee was established and located in New York to take over the duty of allocating Shipping Board vessels to cargoes and trade routes, a function formerly performed by the Division of Operations, leaving to the latter the requisitioning of ships, control of freight rates, repairs and physical upkeep, and all financial and business arrangements with owners and operating agencies.

Certain vessels used by the Fleet Corporation for its own purposes, such as those engaged in transporting lumber to build ships and shipyards, are operated by the Division of Operations, as are vessels assigned by the Shipping Board to certain other departments of the Government, such as the Food Administration or Belgian relief. The Division of Operations has had charge of bringing certain vessels from the Great Lakes to the seaboard and refitting them for ocean service.

The Shipping Board now owns (Nov. 21) 455 new ships, totaling 2,468,892 tons (dead-weight), 59 former German vessels of 343,206 tons, 6 former Austrian vessels of 35,262 tons, and 36 other ships of 137,248 tons. Of the 81 Dutch vessels taken over, 52, of 236,340 tons, are managed by the Shipping Board and the rest by the Navy. There are 328 foreign ships of 1,366,361 tons under charter to the Board and 450 American ships of 2,910,766 tons under requisition. This makes a total fleet of 1,386 vessels of 7,498,075 dead-weight tons owned, managed, or chartered by the United States Shipping Board.

The Division of Operations is thus the largest ship-operating concern that this country has ever known and serves as the point of

contact between the Shipping Board and the private shipping interests.

Administrative Organization of the Division of Operations.

In order to carry forward the far-reaching activities of the division, an extensive administrative organization has been built up in the home office and in the field. The main lines of this organization are as follows:

The Director of Operations has jurisdiction over all functions of the Division of Operations and maintains personal contact with members of the United States Shipping Board.

The Assistant to the Director of Operations assists in problems of general supervision and is particularly charged with contact with the Shipping Control Committee, the Chartering Committee, the Board of Survey and Consulting Engineers, the War, Navy, and State Departments, and other branches of the Government. He also maintains contact with foreign embassies and missions, and has direction of the various agencies throughout the country.

The Assignments Department recommends and records assignments to managers and operators and makes notifications of the same after approval of the United States Shipping Board. In conjunction with the Shipping Control Committee the department has supervision of all freight and passenger steamers, divided by trades.

The Comptroller has general direction of all financial matters.

The Contracts and Charters Department records and checks all freight agreements, charters, and other obligations, and maintains contact with the Comptroller concerning these matters.

The Forest Products Department has direction and supervision over vessels handling mahogany for the Army, timber and lumber for the Fleet Corporation, and forest products for the general timber and lumber trade.

The Great Lakes Department has supervision over all matters pertaining to the management and operation of vessels constructed on the Great Lakes. The jurisdiction of this department continues until the arrival of the vessels at Halifax.

The Marine Superintendent supervises all managers with reference to manning, victualing, and supplying. This office has direction of repairs and is in contact with the Board of Survey and Consulting Engineers.

The Department of Maritime Intelligence has to do with the filing of all records concerning vessel movements, new construction, requirements, charters, and similar items of maritime information.

The Sailing Vessel Department, in conjunction with the Shipping Control Committee, directs all sailing vessels, including French sailing vessels time chartered to the United States Shipping Board, Nor-

wegian and other neutral sailing vessels controlled by the United States Shipping Board, American sailing vessels owned or requisitioned by the United States Shipping Board, ex-German vessels seized by the United States Government, and supervises generally all sailing vessel traffic through approval of charters by the Chartering Committee.

The Tanker Department exercises general direction, in conjunction with the Shipping Control Committee, over all bulk oil carriers.

The Traffic Department has to do with the fixing and issuance of rates and the handling of claims for loss, damage, and overcharge.

The Tug and Lighter Department, in conjunction with the Shipping Control Committee, directs all matters pertaining to tugs, lighters, barges, and other harbor equipment.

In addition to these various administrative units of the Division of Operations, it should be noted that there is a close connection between the Division and certain related parts of the Shipping Board organization whose work bears directly upon the operation of vessels, such as the Marine and Dock Industrial Relations Division, the Shipping Control Committee, the Board of Survey and Consulting Engineers, the Chartering Committee, the Recruiting Service, and the Insurance Division.

Branch Offices of the Division of Operations.

The cumulative extension of the task of operating or directing the vessels owned or controlled by the Shipping Board and Emergency Fleet Corporation has necessitated the gradual establishment of a chain of branch offices at various ports. The branches of the Division of Operations fall into certain groups or gradations as follows: Assistant Directorships, Managing Agencies, General Agencies, Agencies, and Sub-Agencies.

An Assistant Director, as at San Francisco, is in charge of the operations of a certain district and maintains a supervising organization similar to that of the Director of Operations at Washington.

A Managing Agent covers representation at ports where the actual management of vessels is handled, the port at which his office is located being regarded as the home port of the vessels.

A General Agent represents the Division of Operations at ports where an organization is maintained for the husbanding of the ships, but where they are not actually managed by the agent.

An Agent represents the Division at ports where an organization is maintained for the purpose of dealing with general matters and where a husbanding organization is not maintained.

In ports where a Managing Agent, General Agent, or Agent has not been designated, and where it is necessary to establish permanent representation, a Sub-Agent is appointed by the Managing Agent or General Agent in charge of the district covering that port.

There is an Assistant Director at San Francisco, another at Seattle who reports to the San Francisco office, and another at New Orleans whose district comprises the Gulf ports from Galveston to Pensacola. There is also an Assistant Director at Washington. Managing agencies are maintained at Boston and New York, general agencies at Baltimore and Norfolk, and agencies at numerous ports. There is a representative at Cleveland in charge of the Great Lakes operations, and representation at Philadelphia is covered by a sub-agency reporting to New York.

In general the duties of all agents are as follows:

1. To represent and be responsible to the Division in all matters which may be referred or assigned to them by the Division of Operations or the Shipping Control Committee, reporting to the Director of Operations all matters concerning finance, management of ships (which includes manning, supplying, physical upkeep, and repairing), and the transfer of ships to or from operating companies.

2. To represent and report to the Shipping Control Committee matters pertaining to the allocation of tonnage to cargoes and trades and other matters specifically assigned.

3. To cooperate closely with other agents in matters pertaining to their respective localities. Agents thus represent each other in the same manner as if acting in the capacity of a sub-agent.

One variation from the direct line of responsibility has been deemed essential in the assignment of accountants to the various agencies. The Comptroller of the Division of Operations assigns to each agency such auditors and disbursing officers as may be necessary properly to account for expenditures in accordance with the instructions of the Director of Operations. These accounting officers are directly responsible to the Comptroller, but subject to the control of the Agent in the district involved in all matters not contrary to orders or regulations of the Comptroller.

It is through this network of agencies that the Division of Operations is managing and controlling practically all shipping touching American ports, with a constant eye for efficiency of operation and a consequent saving of tonnage and time.

New York Agency.—A great part of the actual work of operating vessels under Shipping Board control must obviously be done from New York, the port of departure and entry of most of the vessels. An organization is therefore maintained there to handle some 150 vessels, which it is not expedient to put in the hands of private operating companies. This management comprises the upkeep, physical control, and repairing of the vessels, the engaging and supervising of crews, the supplying of provisions, and the furnishing of stores. The New York Agency acts in close cooperation with the Board of Consulting Engineers and the Chartering Committee which occupy adjoining offices. The administrative office of the

agency includes an Admiralty Attorney, who advises on legal matters that arise from the operation of vessels, an Accounting Officer who acts as the New York representative of the Comptroller of the Division of Operations, a Shipping Agent who engages officers and crews for operating the vessels, and a Deputy Shipping Commissioner who represents the Bureau of Navigation and has charge of relations between masters and seamen. In addition, there are certain sections of the work in charge of a general superintendent, a superintending engineer, purchasing and commissary departments, fleet surgeons, and the superintendent of guards. The New York Agency prepares the following valuable charts: (1) A daily dispatch chart giving name, tonnage, speed, protective devices, port and date of arrival, and prospective trade of every agency ship in port, with port and date of departure, estimated date of arrival, and other details as to ships at sea; (2) a monthly summary showing the accomplishments of each vessel; (3) voyage records for each ship with logs and particulars as to cargoes; (4) victualing charts showing in detail the cost of feeding officers and crews. Valuable data is drawn from these charts which is of use in increasing the efficiency and diminishing costs of operation.

Boston Agency.—Shortly after the organization of the New England Coal Barge and Towers Association, it developed that the barges engaged in the New England coal trade could not adequately provide the tonnage necessary to meet the demand for fuel greatly needed by the textile mills, munition plants and other industries engaged in Government work throughout New England. Several of the colliers regularly engaged in the coal trade had been withdrawn from that service and allocated to other services and these colliers were replaced by other tonnage to assist in maintaining the normal fuel supply. But the demand for fuel increased with the intensified war industries throughout New England, and in order that these plants together with other public utilities should not be overcome by the critical situation they were facing in the matter of fuel shortage, additional steam tonnage was assigned to the New England coal trade, to increase the movement of fuel from tidewater points to ports for distribution through the New England States.

Tentative arrangements were made by the Division of Operations with the supervisor of the New England Coal Barge and Towers Association for the direction and operation of this additional steam tonnage in the coal trade until the number of steamers employed in this service reached such proportions as to require the Division of Operations to be officially represented in Boston to keep jurisdiction over the operation of these steamers in the New England district.

The establishment of the Boston Agency absorbed the organization of the New England Coal Barge and Towers Association, and

the supervision of the operation of this part of the coal-carrying fleet was maintained as a separate division.

The New England Fuel Administration applied for additional tonnage to transport the full quota of fuel necessary to avert a repetition of the serious fuel shortage of the winter of 1917-18. In response to this application the Shipping Control Committee and the Director of Operations allocated additional steamers to operating agents for employment in the New England coal trade, and there are over 100 steamers engaged in this trade.

The fleet is composed of requisitioned American, requisitioned Dutch, ex-German, Danish, Swedish, Norwegian, and new and old lake steamers, together with various Panama Railroad colliers. These steamers are assigned for charter at regular meetings of the advisory committee of the Federal Fuel Administration of New England.

The Boston Agency is kept fully and promptly informed by the operators of steamers as to their position and movements, and through this arrangement, steamers are being operated at their maximum efficiency.

The port officials of the Boston Agency maintain, repair, man, and victual all United States Shipping Board steamers, as well as the requisitioned Dutch steamers.

In addition to directing the operations of the steamers and barges in the coastwise coal trade, the Boston Agency also represents the Division of Operations in New England and acts as agent for all Shipping Board steamers operated by other agencies.

San Francisco branch.—The branch of the Division of Operations at San Francisco is not analagous to the agencies at other ports. Because of the importance of the Pacific district and the great distance involved, a branch has been established there which serves as the supervising office on the Pacific and which reproduces the organization features of the Division of Operations at Washington.

The chief duty of the San Francisco branch has been to look after the interests of the United States in its trade with the Orient and Australia. As most of this trade is carried in foreign vessels, it was particularly desirable to safeguard the interests of the Philippine and Hawaiian trade against discrimination or neglect. This problem was made more difficult by the diversion of many of the large vessels formerly engaged in this trade to the Atlantic for military purposes. The Hawaiian sugar crop was finally taken care of by using fishing and coastwise vessels. The Alaska Packers' fishing vessels were requisitioned and used to carry the sugar crop and then released to their owners in time for the fishing season, which runs from April to September. Considerable reallocation of vessels has been made on the Pacific. Steel steamers are now used only when long steaming radius is necessary, and they are being rapidly replaced

by wooden vessels built on the Pacific coast for the Emergency Fleet Corporation. The larger vessels built on the coast are transferred to the Atlantic for military purposes.

Trade with the Philippines, especially in sugar, hemp, copra, and cocoa oil, has been handled principally by the passenger and freight steamers of the Pacific Mail Steamship Co., supplemented by several steamers from the Hawaiian trade and by using ex-German sailing vessels, as well as neutral ships subject to trade restrictions. The Alaska Packers also turned over one vessel for this trade. At present at least one passenger steamer voyage a month for the Philippines is provided. Freight rates to the Philippines have been held at relatively lower levels than the rates to other trans-Pacific destinations with comparatively small advances.

There have been no serious labor difficulties affecting shipping on the Pacific coast. No strikes have occurred and all disputes have been settled by local boards without appeals to the National Adjustment Commission.

Great Lakes vessels.—As noted in the first annual report of the board (p. 17), the Great Lakes have contributed considerably to the merchant fleet built for war purposes. Sixteen shipyards, building chiefly steel vessels, are located there, and are producing vessels which will be transferred to the coast for ocean-going service. Vessels have been commandeered from the Great Lakes fleet and transferred to the trans-Atlantic service. In many cases these vessels were too large to be brought through the locks of the canals, and it was necessary to cut them in two and put them together on the St. Lawrence. These vessels were put together while afloat, an engineering feat never previously accomplished. Considerable refitting also had to be undertaken to prepare these vessels for ocean-going service.

To mobilize the remaining Lake vessels for the most efficient utilization, the leading owners have formed a voluntary Lake Carriers' Association, which directs the movements and distribution of bulk freight on the Lakes and cooperates with the Shipping Board on freight rates and other matters.

Maritime Intelligence Department of the Division of Operations.

The Department of Maritime Intelligence of the Division of Operations was created by the Shipping Board to secure, classify, and analyze information concerning coastwise and foreign trade. The department collects information regarding the number and type of ships, the amount, season, and importance of the commerce in which they are engaged, and similar information bearing upon the question of what commerce, or portion thereof, must be maintained and what vessels may be temporarily or permanently directed to strictly war trade with the Allies.

By means of data secured from American collectors of customs, statements from owners of vessels, and information received through the United States Navy and the British Ministry of Shipping, a record is kept of the movements of all American seagoing vessels and of every foreign vessel that touches at American ports.

In order that information may be available at all times regarding the growth of the merchant marine, the number of foreign ships under charter, the assignment of vessels, arrival and clearance, etc., the Board is kept regularly informed by the department through the following compilations: "Ships in port" (showing arrival and clearance at American ports in foreign trade), "Exact Location of all Ships in which the Shipping Board is Interested," "Assignment Chart giving distribution of ships in various trades," "Expected Deliveries of Steel and Wood Steamships," "List of American Ships under requisition to the United States Shipping Board," "Foreign ships under Charter to the Shipping Board," "Charters Approved by the Chartering Committee of the United States Shipping Board," "Deliveries of Steel Seagoing Steamships from Great Lakes Yards," and "List showing ships removed from owner's service or assigned to Operating Companies." A complete file of all ships' plans is available for the use of such departments as may need them.

Assignment of Vessels.

In order to develop organizations capable of handling the vast business of the great American merchant marine which is being built, the Shipping Board is encouraging private enterprise, and will assign tonnage to those who are in a position to properly handle the vessels and in whom the Shipping Board has confidence, rather than build up new governmental agencies to do the work. For practical purposes these assignments have been divided into two classes, namely:

Assignments to managers, whose duties cover the engaging of officers and crew, purchase of consumable stores, deck and engine-room supplies, and general attention to the steamer from a husband's or shipowner's point of view.

Assignments to operators, whose duties are to attend to the loading and discharging of the cargo, paying all port charges, giving attention to the proper stowage of the cargo, collection of freight, demurrage, etc., and, in general terms, to operate the steamer in the same manner as if she were under time charter to them.

Both managers and operators are only acting as agents for the Division of Operations of the Emergency Fleet Corporation.

The tonnage may be divided into the following groups:

1. New ships built by United States Shipping Board;
2. American ships requisitioned on bare-boat form of charter;
3. American ships requisitioned on time form of charter;
4. Seized German ships;
5. Commandeered Dutch ships;
6. Chartered neutral ships.

Military requirements draw from all groups, and ships allocated to Army or Navy service are now for the most part (excepting chartered neutrals) manned by the Navy; hence, neither commercial managers nor operators are nominated for such vessels.

The Dutch vessels not allocated to Army or Navy service are manned by Shipping Board agencies but operated by existing private steamship organizations for the Board's account.

The vessels requisitioned on time-charter form are as far as possible assigned to their owners to operate.

The time-chartered neutrals, when not allocated to Army, Swiss, or Belgian relief service, are also assigned to existing steamship organizations for operation.

Whenever possible, tonnage under bare-boat requisition charter is assigned to the owners to manage and operate.

The seized German ships not allocated to the Army or Navy are managed by Shipping Board agencies but operated by private companies.

Several of the seized German ships have been allocated to the Philippine Government and Panama Railway operations.

All assignments are passed upon individually by the Board in each case and entered on its minutes. These arrangements find legal form in agreements made by the Division of Operations of the Emergency Fleet Corporation with managers and operators, under which managers are paid a fixed monthly fee and operators a percentage of the gross freight or a lump sum based on trade and cargo carried and services rendered.

Operators are at all times subject to the orders of the Shipping Board as to voyages, cargoes, priorities of cargoes, charters, rates of freight, and other charges, and all matters arising out of the use of the vessel.

Managers and operators account to the Comptroller of the Division of Operations of the Emergency Fleet Corporation for all moneys expended and collected in connection with the operation of the vessel. The Shipping Board may terminate the assignment of the vessels on 24 hours' notice, and the operator may terminate the agreement on 30 days' notice. Bonds may be required of operators, and disputes growing out of the agreement are referred to the arbitration of three

men, one chosen by each party to the agreement and the third chosen by these two.

Financial Department of the Division of Operations.

It is the function of the Comptroller's department to audit and disburse all the expenses of the Shipping Board (including the salaries and official expenses of its officers and employees) and to receive, disburse, and audit all the accounts of the Division of Operations. It has nothing to do with the fiscal affairs in connection with ship construction, which are in charge of the Comptroller of the Emergency Fleet Corporation.

The work of the department covers the auditing of voyage accounts, revenue auditing (charter hire and freight revenue), vessel deliveries and movements, accounts of vessels requisitioned, price auditing (to avoid extravagance and profiteering), the preparation of financial statements and balance sheets, and many detailed phases of vouchering and bookkeeping. In general the division keeps track of all charters, contracts, income, and expenditures, and sees that all proper income is received according to the legal obligations incurred, and that all expenditures are for proper purpose and properly vouchered and audited.

The most important financial operations at first were those which concerned the repair of the German vessels and the rather extensive operating activities placed in charge of the New York agency. The payments for these emergency activities (in the absence of any specific appropriations) were made out of the \$100,000,000 fund placed at the disposal of the President, to be expended at his discretion for the national security and defense. By the urgent deficiencies act of June 15, 1917, a fund of \$5,000,000 was made available for the operation of ships.

The extraordinary conditions attending the early operating activities of the Shipping Board presented unusual difficulties in auditing and supervising accounts. Owing to the fact that the ships go into all parts of the world, great delays are involved in obtaining the necessary vouchers for disbursements in distant ports. This difficulty, inherent in the shipping business, has been accentuated by the imperative demands of the war emergency. Since the energies of the country had to be suddenly marshaled for the prosecution of a gigantic overseas war, the first efforts were devoted to the construction and operation of ships, with a resulting volume of business that made it difficult to keep the accounting abreast with the building and operating activities.

During the past year, in spite of these difficulties, important tasks of organization have been accomplished; rules and regulations have

been promulgated for accounts pertaining to the operation of ships by United States consuls, acting as agents of the Division of Operations; standard forms of agency accounts have been prepared and instructions for agency accounting issued; a system of voucher registers, journals, and many forms of special ledgers have been put into operation; accounting plans have been made to cover vessel deliveries and provide for the payment of charter hire; and considerable progress has been made in remitting payments on approved accounts to shipping companies. The financial statement covering the accounts of the Comptroller's department will be found in the *appendix*, Table III.

THE SHIPPING CONTROL COMMITTEE.

As the scarcity of tonnage for both military and commercial purposes became more and more apparent, especially after the United States entered the war, the necessity for unified control became increasingly obvious. In 1917 the Shipping Board through its Division of Operations made a beginning of shipping control. As the result of gradual developments, in which the cooperation of the allied governments was obtained, the Shipping Board finally on February 11, 1918, acting in conjunction with the War Department, created the Shipping Control Committee, of three men, one of whom represents the British Ministry of Shipping.

Briefly the powers delegated to the Shipping Control Committee may be grouped under two main heads: (1) As the agent of the Shipping Board, it allocates the vessels owned by and under the control of the Shipping Board to cargoes and trade routes so as to use the available tonnage to the maximum efficiency in the most essential trades. (2) As the agent of the War Department, the committee has entire charge of the operation of the fleet of cargo steamers engaged in transporting military material to the American Army abroad. This involves the upkeep, manning, supplying, and actual operation of the vessels assigned to the Army for cargo purposes.

The Shipping Control Committee, therefore, controls a fleet of about 1,356 vessels of 7,224,862 dead-weight tons (Sept. 30, 1918). This number includes all vessels chartered to and requisitioned by the Shipping Board as well as those owned by it.

In order to carry on the vast amount of detailed work which is necessary for the efficient operation of this fleet, the machinery of the committee has been highly systematized. A large staff of experts has been employed to carry on the technical work of the com-

mittee, while the work in which the Army is directly interested is carried on by a detachment of the Quartermaster's Corps.

In order that the members of the committee may at all times have the information necessary to enable them to arrive at proper conclusions regarding the allocation of tonnage, and in order to supply the machinery with which to carry on the committee's work, departments have been constituted, at the heads of which are civilians who are prominent men in America's shipping. These departments obtain and tabulate all the information possible, according to the particular branches of the work in which they are concerned, and from their records the information is supplied to the committee as required. The departments then carry out the allocation of tonnage in accordance with the rulings of the committee.

The greater part of the work is carried on by the Division of Trades and Allocations through its subdivisions. The division is charged primarily with the duty of assigning tonnage, either steam or sail, owned by or under the control of the United States Shipping Board, for the movement of the country's essential imports and exports. This involves the distribution of a large volume of tonnage to take care of such important requirements, as nitrates, manganese ore, sugar, hemp, wool, hides, tanning extracts; and as the point of shipment of these commodities extends over the entire globe, the importance of the work must be apparent. The committee has no control over the place where new tonnage is tendered to it. It may be on the Pacific or on the Atlantic and the employment of such ships, until they get into a position to take care of a useful trade movement, becomes at times a rather serious problem, which is dealt with directly by this division. The division is also charged with the coastwise movement of coal to New England, a trade requiring a vast amount of tonnage and most careful supervision.

The branch of the Division of Trades and Allocations in charge of the allocation for trans-Atlantic and trans-Pacific tonnage, has up to September 30, 1918, allocated 125 vessels of a total dead-weight tonnage of 928,901. These vessels have carried cargo amounting to 882,563 tons, of which 110,811 tons were moved west, and the balance was moved east.

The committee has charge of the allocation of all tankers owned or controlled by the Shipping Board. These steamers carry principally various kinds of oil, although a small percentage of the tonnage is devoted to the carriage of molasses in bulk. This branch has to keep in touch with the status of the oil supply and stocks on hand so as to determine where the tonnage must be allocated in order to obtain the maximum results. The average monthly tonnage of tankers handled is approximately 1,400,000 tons dead-weight.

The branch of the Division of Trades and Allocations which handles the trade with South America and the West Indies operates a tonnage of approximately 750,000 tons dead-weight. Fixtures are made for the carriage of coal and coke, and some vessels are placed on a berth for general cargo. A record is kept of the movements of all vessels to South America and the West Indies, their arrival at various ports is reported to the committee, and provision is made for their future movements in accordance with the instructions of the committee. General instructions are issued to operators regarding the class of cargo that should be taken by vessels that are placed on berth, and detailed instructions are given as to the nature of cargo that should be lifted on individual ships. The more important commodities moved, together with the amount thereof, up to September 30, 1918, are nitrate, 1,274,976 tons; copper (including ore), 120,000 tons; coal, 1,350,000 tons. Other commodities handled are quebraco extract, hides, canned meats, linseed, sugar, iron ore, manganese ore, sisal, fruit, coconuts, coffee, sulphur, and phosphate rock. This branch also cares for transporting to the Panama Canal, by steamers that are assigned to load nitrates from the west coast of South America, practically all the coal that is needed by the canal. Up to September 30, 1918, 493,540 tons of coal had been moved to the canal by this service.

The branch of the Division of Trades and Allocations in charge of sailing vessels keeps a complete record of the position of all sailing vessels, irrespective of flag, and follows up the dispatch of all sailing tonnage. It also handles all matters pertaining to sailing vessels under charter to or owned by the United States Shipping Board. Up to September 30, 1918, this department had under its direct control 185 sailing vessels and 4 steamers, the latter being used to tow French sailers in the nitrate trade.

The Division of Despatch, with branch offices at Boston, Philadelphia, and Norfolk, and with agents at all of the Atlantic ports, keeps in touch with all vessels in which the Shipping Board and Shipping Control Committee are interested, submitting reports covering the handling of each steamer from the date of arrival until the date of departure, and giving detailed information as to the discharging and loading, and also as to all delays. This work has resulted in increased efficiency on the part of all operators at the various ports. The division also assists operators and owners in securing bunkers, clearance, crews, harbor equipment, and dry-dockage priority; and even acts as agents for the owners when necessary. Up to September 30, 1918, it had investigated and reported 6,602 steamer voyages. Besides the above work, the division keeps a detailed daily report showing the status of steamers in the New England coal-carrying

trade. The division was originally part of the United States Shipping Board Emergency Fleet Corporation, but was consolidated with the Shipping Control Committee on March 16, 1918.

The effects of the committee's work have been far-reaching because of the economy which has been obtained in the use of tonnage. As a result, in large part, of this economy there was made available the tonnage to carry to France the large number of men and amount of supplies for the Army which were sent over during the past six months.

The committee has removed from all essential trades every steamer over 5,000 tons capable of going trans-Atlantic and maintaining the necessary convoy speed. The results that have been accomplished in bringing the necessary imports into this country have been largely accomplished with chartered neutrals and sailing vessels, and that portion of the American fleet which is not capable of going overseas. Notwithstanding the fact that it was necessary to rely upon the very lowest class tonnage, in view of the Army necessities, the Shipping Control Committee has nevertheless succeeded in carrying out every program laid down by the Division of Planning and Statistics as to necessary requirement of the Nation's needs.

CHARTERING COMMITTEE.

When the Shipping Board decided to adopt the requisition program, whereby all steam vessels of 2,500 tons dead-weight and over came under its direct control, it was realized that steps would have to be taken to bring the balance of our merchant marine, i. e., steamers of less than 2,500 tons dead-weight and sailing ships, under its direction.

In addition there was also the fleet of neutral vessels, steam and sail, trading to and from the United States, which it was necessary to supervise closely in order to have it engage in services most essential to the United States in the prosecution of the war and at reasonable rates of freight.

On September 6, 1917, the Shipping Board resolved that no vessels should be chartered to an American or neutral without the approval of the Shipping Board, and on September 29, 1917, a Chartering Committee of three was appointed to administer this control.

The committee has exercised its power with several main objects in mind: First, to induce neutral tonnage to assume its fair share of trans-Atlantic trade; second, to effect a material reduction in the high charter rates prevailing, especially in trans-Atlantic, but also in South American and oriental trades; and, third, to secure tonnage for the trades and commodities that are considered most necessary under present war conditions.

The committee has the authority to approve, disapprove, or return for revision all charters not under the direct control of the Shipping Board. It also fixes outward and homeward charter rates, and in large measure decides the freight rates to be charged on merchandise shipments. Acting in concert with the Shipping Board and the Shipping Control Committee, it decides where tonnage can be used to best advantage and secures it for such purposes.

On March 29, 1918, the Shipping Board informed American charterers of neutral ships that they must carry such cargoes for such voyages as might be directed by the Shipping Board, and that if they declined to do so the Shipping Board would requisition the charters of such ships.

While the Chartering Committee had secured effective control, so far as charter rates (which are the basic ones) are concerned, it was found that this did not go far enough in bringing about control and reduction in berth rates, by which is meant the rates charged individual shippers on a particular vessel. Reducing the basic or charter rate, while it tended to force berth rates downward and did so, still left the situation open to the rapacity of the charterer, who in the first instance secured the tonnage at the reduced basic rate, but who still continued to charge individual shippers the rates that were current prior to control.

Realizing the need of correcting this situation, the Shipping Board on April 18, 1918, resolved that thereafter no charters of neutral vessels should be made except to the Shipping Board. The Shipping Board, knowing the costs and having the vessel in absolute control, was then in position to fix berth rates in keeping with the reduced charter rates, which has removed the criticism that attended the former ineffective supervision.

Since that date one of the principal duties of the committee has been to effect charters of neutral tonnage for account of the Board. These include both time and voyage charters.

It has been the endeavor of the committee to secure this tonnage on terms most satisfactory to the Shipping Board, as charterer, and negotiations with foreign owners are conducted with the same regard for getting it as reasonably as possible consistent with fair treatment to the owner as would apply in ordinary business.

In effect, the basic chartering of neutral steam tonnage formerly done by the entire country has been centralized in this committee. This action of the Shipping Board does not mean that the Board will operate the vessels themselves, for, though the vessels are chartered to the Shipping Board, they are assigned to American shipping companies for operation for the Shipping Board's account. Thus the operators, who receive compensation on a commission basis, are under

direct control of the Shipping Board in handling the vessels, and these carry cargoes as designated by the Shipping Board.

The bulk of the time charters effected for account of the Board is for periods which give it freedom of action in shifting the vessels about, enabling the tonnage to be used in trades deemed most essential at the moment.

To date the committee has chartered 326 steamers of 1,403,320 tons dead-weight. Of course this large total includes vessels rechartered. In addition to steam tonnage 55 sailers, totaling 129,121 tons, have been chartered.

In illustration of the wholesome effect control has had on rates, it may be pointed out that in 1917, prior to the formation of the Chartering Committee, time-charter rates for trading between the United States and South America reached the unprecedented figure of \$13.10 per dead-weight ton per month. The South American market, so vital to us for its ores, nitrates, copper, etc., had been more or less neglected by the foreign owner for other trades that yielded still greater rewards, and the resultant scarcity of tonnage forced freight rates on merchandise moving between the United States and South America to extreme levels, bringing in its train speculation and manipulation in freight room. Through gradual reductions in charter rates and by employing means available to them, the Chartering Committee succeeded in bringing about a readjustment. To-day the time-charter rate for neutral vessels trading between the United States and South America is \$8.33, a reduction from the former high level of more than 36 per cent.

A sufficient amount of tonnage was diverted to this market, with the result that there has been a constant flow of importation of the much-needed commodities from South America.

The berth rates are now down to such levels as \$35 a ton to and from Buenos Aires by steamers, and \$30 by sailers, where formerly, while uncontrolled, these rates had reached \$100 a ton.

The Statistical Department of the Chartering Committee analyzes its work and keeps a permanent record of all its decisions. Daily reports are prepared covering charters approved, disapproved, canceled, or returned for modification; and a record is kept of each individual charter approved. These reports are forwarded promptly to the various departments of the Shipping Board, War Trade Board, and other interested Government organizations.

Special reports on specific trades are periodically made to the United States Food Administration, the Joint Committee on West Indies Transportation, the Shipping Control Committee, and other departments, as required.

The indirect control over American vessels not requisitioned exercised by the Shipping Board through the Chartering Committee,

with the aid of the War Trade Board's control over granting licenses for bunkers and stores for imports and exports, and through the customs and inspection service of the Treasury Department, was made a direct control by the act of Congress approved July 18, 1918. This act grants to the President or the agency designated by him power to approve or disapprove of the charters of all vessels of the United States of any specified class or description, to determine and prescribe reasonable freight rates and conditions of transportation, to prescribe priorities in transporting goods by water, control procurement of bunker fuel, etc. The President may by proclamation extend these provisions to foreign vessels under charter to United States citizens and may require that no citizen of the United States may charter any vessel of foreign nationality unless the charter is approved by the President or his authorized agent. By proclamation of July 29, 1918, the President delegated to the Shipping Board the authority to pass upon charters. A penalty of fine, imprisonment, or both, now enables the Shipping Board to exercise direct control over the chartering of the small American vessels not taken over by it, as well as over the freight rates charged, the cargoes carried, and the chartering of foreign vessels by American citizens. The proclamation does not apply to small vessels (i. e., sailing vessels under 50 tons or steamers under 250 tons), nor does it cover vessels in the Great Lakes, rivers, or inland waterways, nor those engaged exclusively in the coastwise trade.

During the year ending September 30, 1918, the committee passed upon 7,139 charters, of which 5,261 were approved and 1,878 were disapproved, canceled, or returned for modifications. Of those approved, 2,681 were for steamers and 2,580 for sailers. In the following table the charters approved are given by flags. It will be seen that the American, Norwegian, and Danish flags predominate.

Charters approved by the United States Shipping Board Chartering Committee from Oct. 1, 1917, to Sept. 30, 1918.

Nationality	Number of charters.		
	Steam.	Sailing.	Total.
American.....	598	1,674	2,272
British.....	44	255	299
Danish.....	911	103	1,014
Dutch.....	124	24	148
French.....	3	83	86
Japanese.....	60	-----	60
Miscellaneous.....	40	65	105
Norwegian.....	754	354	1,108
Swedish.....	147	22	169
Total.....	2,681	2,580	5,261
Estimated dead-weight tonnage.....	10,106,486	3,741,465	13,847,949

PORT AND HARBOR FACILITIES COMMISSION.

The Port and Harbor Facilities Commission was created by a resolution of the United States Shipping Board dated May 23, 1918, to meet a need developed by existing conditions. The Board had found congestion at some ports, while others were idle. It had found delays in the dispatch of vessels, due to inadequate pier and cargo handling facilities, as well as to the lack of effective utilization of those already provided. It had found that present coaling, docking, and repair facilities would soon prove entirely inadequate for the rapidly growing merchant marine. It saw a need for some central authority to collect and furnish information regarding, and to stimulate and guide sentiment and action looking toward, proper port development and control, and to make recommendations and plans for the most effective utilization of each port to meet the needs of the great maritime commerce of the United States and its tremendous fleet of merchant ships.

The Commission has begun investigations as to harbor and terminal facilities in every port of the United States, and the comparative cost and efficiency of various methods of handling coal and cargo. It is inquiring into the location and quality of coal suitable for bunkering, so as to obtain types most efficient for steaming purposes and to secure maximum speed for ships. The need for dry docks and repair plants has been studied, as well as facilities for coal storage and bunkering at the various ports. Daily reports are obtained as to the use of present piers, dry docks, and repair plants, which show where idle or misused facilities exist to which tonnage may be sent. Mechanical devices for coal and cargo handling are being investigated, so as to secure the most efficient terminal arrangements possible. Representatives of most of the leading manufacturers of light and heavy coal and cargo handling and conveying machinery have been assembled and their organized cooperation has been secured in the improvement of method, design, and construction. Fuel-oil storage and bunkering facilities are also being investigated.

The Commission realizes that a general coordination of all terminal facilities is necessary for an economical handling of the foreign trade of the United States, and that without such coordination our newly developed merchant marine can not operate with the greatest dispatch. A study of the routing of shipments has been given special attention on the basis of obtaining facts regarding the points of origin and destination of all export and import business, so that plans may be worked out to secure the shortest and most expeditious movement of freight and to provide reciprocal cargoes

wherever possible. The Commission recommends the pooling of all harbor facilities at the principal ports, and the appointment at each of a dictator, to have absolute authority over all terminal and floating equipment for the period of the war.

Local and State port authorities are being advised, and their interest, as well as that of the public generally, is being stimulated in port improvements, and to this end all available information of value regarding port conditions is collected and distributed. Valuable first-hand suggestions obtained by a thorough inspection of English and French ports have been brought back by the chief engineer of the Commission, who has just returned from abroad.

One of the important phases of the Commission's activity has been that of carrying out a systematic inspection of ports. The Commission has inspected or caused to be inspected by its agencies the ports of New York, Philadelphia, Boston, Portland (Me.), Wilmington (N. C.), Charleston, Savannah, Brunswick, Jacksonville, San Diego, Los Angeles, San Francisco, Tacoma, Portland (Oreg.), and Seattle. After a thorough investigation of conditions, and of individual proposals, the Commission has recommended to the Shipping Board the construction of dry docks or marine railways, and commensurate repair plants at Boston, New York, Philadelphia, Norfolk, Pensacola, Astoria (Oreg.), Seattle, Portland (Oreg.), San Francisco, and Los Angeles, and has arranged for the conversion of five barges into floating repair plants for use at New York, Norfolk, Philadelphia, and Baltimore.

The Commission has also secured authority for the purchase of 11 coaling machines for more speedy bunkering at Hampton Roads, and has arranged to have 10 new steel tugs, reinforced for the purpose, ready for ice breaking in the coming winter.

Authorization has been secured for the immediate construction by the Emergency Fleet Corporation of two 20,000-ton and eight 10,000-ton floating dry docks which are to be located in the ports where the need is most urgent.

The Commission is doing work which is of vital importance to the successful prosecution of the emergency shipping program, and to the solution of after-the-war shipping and trade problems. It is studying trade and traffic conditions, with a view to securing the most efficient distribution of business among the various ports, and to providing such special appliances and conveniences as may attract foreign trade. It is endeavoring to work out a consistent plan for enabling the country to use all its available port facilities to their present full capacity, to develop them to a higher efficiency, and to provide additional facilities of the very best type.

DIVISION OF PLANNING AND STATISTICS.

In order to act upon the best scientific guidance in the conservation and maximum utilization of tonnage for essential war purposes, the Shipping Board on May 13, 1917, ordered that information should be compiled as to the needs for tonnage of the various commodities coming into the United States, and that data should be gathered showing the supplies of each kind of article available for shipment and for use in the United States, the vessels engaged in such trades, and similar facts.

By the end of 1917 it became evident that considerable tonnage must be diverted from commercial to military use and that such as remained in trade must be utilized to maximum efficiency for the carrying of such commodities as are most essential to the Nation under war conditions.

This program required the close coöperation of various governmental agencies, especially the War Trade Board, the Shipping Board, the War Industries Board, the War and Navy Departments, the Department of State, the Treasury Department, and the Food Administration. Since the departments directly concerned were the War Trade Board, which has authority by its licensing system to prohibit or restrict imports, and the Shipping Board, which controls the tonnage, a Division of Planning and Statistics was established by the Shipping Board on February 11, 1918, to secure the necessary information, and the director of this division was made a member of the War Trade Board.

The duties of this division are to keep a record of the movements and characteristics of ships and to plan voyage schedules so that the Board may use all ships to the limit of capacity; to obtain from available figures and through the advice of experts and business men, knowledge of the commodities imported, their essential uses, substitutes, possible sources of supply, and their relation to the prosperity of this and other nations, so that the ships left in commercial service after the Army needs are satisfied might be assigned by the Board to the most essential trade routes. The services of statistical experts were engaged for the Board as well as experts familiar with commodities, sources of supply, trade routes, and shipping.

It soon became necessary to secure information from the trades and importers affected to coöperate with them as far as possible, and to educate them to the demands of the war. For this purpose a Trade Hearings Section was established in March, 1918, and in July, because of the nature of its work, was transferred to the War Trade Board Building. On account of the special importance of mineral products in time of war, the large demand on ship tonnage involved in their importation, and their significance in the work of the War In-

dustries Board, a joint committee on minerals representing the Mineral Section of the War Industries Board and the Division of Planning and Statistics of the Shipping Board, was created February, 1918, to make recommendations to the War Trade Board concerning necessary importation of minerals, especially those used in the manufacture of munitions. In June this committee was reorganized and its scope broadened in order to develop better coöperation in the mineral work of the several war boards. The chairman of the former committee became mineral adviser for the War Industries Board, but continues in advisory charge of the work for the Shipping Board. This group now serves as a clearing house on mineral questions, especially those related to import and export, for the Shipping, War Trade, and War Industries Boards.

The work of the Division of Planning and Statistics has developed along two important lines—first, the study of commodities and trade, and, second, the study of ships and their employment. Under the first heading comes the investigation of all the factors affecting the import program, such as uses of commodities, possible substitutes, stocks on hand, essential requirements of Government and commercial bodies, countries and ports of origin, and shipping required for import. On the basis of these studies lists are prepared of imports to be prohibited or restricted. In general, no import licenses are granted by the War Trade Board for luxuries and articles classed as nonessentials in war time, and even strictly essential imports are reduced to a minimum.

From time to time the division recommends to the War Trade Board such revisions of restrictive rulings as changing conditions or unforeseen developments warrant. So far as possible it is desired to act in coöperation with the trades affected, and in hearings definite trade agreements have sometimes been made by which importers bind themselves to support certain restrictions.

It has been found necessary to have at hand the significant facts concerning current imports, and accordingly a regular monthly and ten-day tabulation of quantities and sources of all essential imports is carried on by the statistical staff of the division. The movement of restricted commodities is watched, and many special studies are prepared, such as reports on the effects of restrictions upon the trade of the United States with foreign countries, the tonnage needs of Pacific countries, the oil and coal bunkering facilities of the world, the general problem of ballast for sailing vessels, the transportation of oil, the tanker building program, and the balance of the import and export trade of the United States with various regions.

It is often necessary, because of the shortage of shipping in certain areas, to recommend priorities among essential imports from given countries or ports; to make studies of the trade of entire regions

with a view to eliminating crosshauls, efficiently combining cargoes, and defining standard shipping routes; to advise the diversion of tonnage to more essential commercial or military uses; and to decide on the cargoes of ships already waiting at foreign ports.

The statistics compiled on ships and their movement cover a wide variety of facts. The division has on file special information derived from the sources concerning the number and types of vessels, their age, draft, size, cargo capacity, speed, motive power, material of construction, number of decks, holds, hatches, fuel consumption, etc. Records are kept of the daily movements of ships in all parts of the world, of the dates and ports of entry and departure, and the tonnage employed in the different trade regions. Charts and diagrams are prepared to show the assignment of vessels to given trades, the length of voyages and stays in port, the performance of vessels engaged in carrying specified commodities, etc.

Directly connected with this work on ships are many special studies on such subjects as the control of vessels, chartering and subchartering, losses and acquisitions of merchant ships, the efficiency of vessels of different sizes, the movements of ships and cargoes by ports, bunkering and stowage, repairs and underloading, as well as studies on the suitability of American vessels and foreign vessels under American control for transfer from trade to Army use and from one trade to another.

The work on commodities and on ships heads up in a regular monthly survey of the shipping and import situation, in which a balance is struck between the tonnage required to lift necessary imports from the various trade regions and the tonnage actually in service in those regions. Important special studies coördinate both phases of the work likewise, as for example, the comprehensive report on the relation of the shipping situation to the proposed military program, which dealt with available tonnage, limiting factors in the shipbuilding program, the types of ships needed, and improvement of port facilities.

The Division of Planning and Statistics acts as a general clearing house for information needed by the Shipping Board in the various phases of its work. Information regarding the shipping situation is furnished regularly to the Allied Maritime Transport Council in London, with which close contact is maintained. Data concerning ship cargoes, trade regions, ship movements, and import needs are furnished daily through a resident representative to the Shipping Control Committee in New York, to serve as a basis for its work in allocating Shipping Board vessels to cargoes and trade routes. The division also coöperates closely with the Chartering Committee for guidance in its policy with reference to neutral vessels and American steam and sailing vessels. The problem of manning our new mercan-

tile fleet is being worked out by the Recruiting Service of the division, and a group of experts is making a detailed study of ocean freight rates.

In June, 1918, a coordination of the Statistical and Informational Services of the Shipping Board, the War Industries Board, and the War Trade Board was effected. The Director of the Division of Planning and Statistics of the Shipping Board was made head of a similar division of the War Industries Board, and the Bureaus of Research and of Statistics and Tabulation of the War Trade Board were placed under his direction. In this way much duplication in securing data and holding hearings is prevented, and the information secured by each Board can be easily placed at the disposal of the others. Certain investigations begun by the Division of Planning and Statistics of the Shipping Board, such as that on prices, have been transferred to the other Boards which they more directly concern. Certain other investigations, such as the revision of the commerce classification of imports and exports, have been undertaken in cooperation with the several Government bodies.

LAW DIVISION.

The Law Division of the Shipping Board advises the Board on legal matters and handles the current legal work arising out of the Board's activities. By resolution of the Board it is also charged with the law work of the Division of Operations of the Emergency Fleet Corporation. To aid in this purpose legal representatives are stationed at several of the important branch agencies of the Corporation, notably at New York and San Francisco, to handle the questions, chiefly of admiralty law, which arise in connection with the operation of Shipping Board vessels.

The Law Division furnishes legal assistance to the various divisions and bureaus of the Board. It handles the preparation of charters, requisition papers, operating agreements, and contracts made necessary by the Board's control over shipping and assists in the preparation of needed legislation for Congress. It also renders assistance in some activities not of a strictly legal character, such as certain relations with the State, War, and Navy Departments, the War Trade Board, and other Government departments or bureaus, questions relating to the transfer of ships to foreign registry, the placing of ship construction contracts for foreign account, and relations with the Cable Censor's office.

Among the important questions with which the Law Division has been concerned in the past year are the following: The problems of just compensation for vessels the title to which was requisitioned by the Shipping Board, or which were lost while in its use; the examination of

title papers covering vessels requisitioned; discussions with the Army and Navy as to terms on which Shipping Board vessels are properly turned over for the use of those departments, and as to the manning and operation of such vessels; arrangements with foreign countries, including Japan, Uruguay, and Peru, for securing tonnage; examination of ocean freight and charter rates; questions arising with the Railroad Administration over coastwise vessels taken over by it; requisition charters and agreements covering the operation of tankers and fruit vessels; the legal questions involved in the commandeering of the Dutch vessels and the disposition of their cargoes; the compensation of employees of the Shipping Board or the Division of Operations of the Emergency Fleet Corporation who are injured or killed by accident in the course of employment; the drafting of the new legislation adopted by Congress during the year amending and strengthening the provisions of section 9 of the original shipping act (which prohibits the transfers of American vessels to foreign registry during the national emergency) and providing for the regulation of charter and freight rates and the control of charges and services for dry docks and terminal facilities; and the many incidental legal questions to which the requisition of so many vessels and the operation of the vast merchant fleet controlled by the Board naturally give rise.

The Admiralty Section of the Law Division takes charge of all cases of collision, stranding, salvage, general average, and other maritime questions, especially those arising in connection with the operation of vessels. All such cases are directed in their preliminary stages, and any actual litigation resulting therefrom is referred to the Department of Justice. In that Department there has recently been appointed a Special Assistant to the Attorney General charged with the responsibility of handling all admiralty litigation in which the Government is interested, whether originating in connection with vessels operated by the Shipping Board or in connection with vessels operated by the War or Navy or other departments.

REGULATION OF RATES.

The function of the Shipping Board as originally contemplated by the shipping act was essentially one of regulation, and a considerable portion of its first annual report was devoted to the regulation of rates and practices of water carriers. (See First Annual Report of United States Shipping Board, pp. 22-29.) At present the regulatory functions of the Board have been subordinated to the needs of construction and operation. In this process the Shipping Board, by requisition, charter, purchase, and construction, has secured direct control over a large part of the American merchant marine, and through the Chartering Committee exercises considerable control

over the remaining American vessels and over neutral tonnage. Foreign freight rates for American commerce therefore are in a large measure determined by the Shipping Board. The Board continues to exercise regulatory control over the rates, regulations, and practices of interstate coastwise water lines operating on regular routes from port to port, except as such control has been restricted by the aforesaid requisitioning of vessels and the taking over by the Railroad Administration of several coastwise lines which had previously been subject to the jurisdiction of the Board.

During the past year the Division of Regulation has also been interested in the reorganization of the New England coal transportation service, increasing the efficiency of tugs and barges engaged in this service over 40 per cent. Long Island Sound barge operators have had conferences with the division and have made arrangements to transport considerable tonnage through the inside routes. Bunkering facilities at Hampton Roads were also increased to relieve congestion, and a considerable net profit is derived by the Shipping Board from the facilities it has installed there.

The chief difficulties during the past year arose on the Pacific coast, with special reference to increased rates between Alaska and Puget Sound ports and the question of tonnage for the Alaskan trade. In May and June, 1918, a number of hearings were held by the examiner of the division at Seattle and other Pacific coast ports on complaints as to Alaskan freight rates and the Alaskan tonnage situation. A report in the premises is now in process of preparation.

A considerable number of complaints have been settled during the year by correspondence and negotiation. Three formal cases are now pending.

RECRUITING SERVICE.

The work of recruiting and training officers and crews for the rapidly growing merchant marine was undertaken by the Shipping Board on June 1, 1917, when it authorized the establishment of the Recruiting Service, with its headquarters in the customhouse in Boston, Mass.

The first work undertaken was the training of deck officers. The school-ship method of training officers was considered too slow in the emergency then existing, and a plan was adopted of taking men already trained by experience in seamanship and giving them a short intensive period of training in special navigation schools, under the best available talent, including experienced sea captains as well as teachers from scientific schools and universities.

For admission to navigation or engineering schools candidates must be American citizens between 19 and 55, inclusive.

The first free navigation school to be conducted under the direction of the Shipping Board was opened at Cambridge, Mass., June 4, 1917. The work of organizing additional schools went on until 43 in all were established on the Atlantic, Gulf, and Pacific coasts and on the Great Lakes. Of these, at present 20 are in operation.

For administrative purposes in establishing and maintaining the schools, the country was divided into seven sections, following closely the geographical divisions employed by the United States Steamboat-Inspection Service of the Bureau of Navigation, Department of Commerce. This service from the first has cooperated with the Recruiting Service by assigning local inspectors to examine candidates for admission to the schools and by maintaining the standards required under the regulations of the Department of Commerce as to the necessary experience and ability for candidates seeking merchant officers' licenses.

The system of instruction makes it possible to impart to anyone having the requisite qualifications and experience for admission a groundwork of the theory and practice of navigation sufficient to enable him to pass the examination of the United States Steamboat-Inspection Service, entitling him to a license as master or first, second, or third mate. The average time required to complete the course at a navigation school is about six weeks. Students in need of practical experience are sent to sea in the capacity of reserve officers for a further period of two months before assuming the responsibility of an officer's position. The graduates from these schools from June 1, 1917, to November 9, 1918, numbered 3,300.

The next work to which attention was directed was the training of engineers. Classes are now maintained at 12 engineering schools, chiefly at technical colleges, the course of instruction covering a period of four weeks. Some of the men graduated require added training at sea, not exceeding six months, before becoming eligible for licenses.

Another kind of training is for chief engineers for turbine ships, who are sent to the shops of the manufacturers building turbine engines, so that they may know these engines from the bottom up and be able to make repairs. Similarly assistant engineers are sent to the shops where the boilers are being constructed, to become familiar with their construction and with their installation in the vessels.

The number of marine engineers graduated from the engineering schools between June 1, 1917, and November 9, 1918, was 2,961.

Of the 6,261 graduates from the navigation and engineering schools of the Recruiting Service in the period named, the records show that as many as 3,164 have received officers' licenses. During the first six months that the schools were in operation, however, it was not possible to keep record of the number of men licensed, and many of

the graduates entered the Navy, and hence do not appear in the list of licensed officers.

The average cost of training officers in the period named was found to be about \$55 per man for deck officers and \$65 per man for engineer officers, including all overhead expenses. This cost is low as compared with the cost, about \$1,000 per man, of training officers by the school-ship method used by some of the States. It should be noted, however, that the Recruiting Service candidates have previously had two years' experience at sea.

One noticeable effect of the board's recruiting campaign and its efforts to secure American citizens qualified to serve as officers and engineers in the merchant marine was the impetus given to men qualified to take the examination for officer's licenses without going through the Recruiting Service's schools. From June 1, 1917, to October 1, 1918, 11,618 officers' licenses were granted by the Steamboat-Inspection Service. This includes the licenses granted for the graduates of the Recruiting Service's navigation and engineering schools, and also licenses that were extended or transferred from fresh water to salt.

By the autumn of 1917 the ship construction program of the Emergency Fleet Corporation had reached a stage that warranted the beginning of the second phase of the training plan, namely, the training of crews. This involves the recruiting of large numbers of young men without experience in navigation or technical training. Much thought was given by the Recruiting Service staff to working out a system of intensive training by use of training ships, using for this purpose vessels that were unsuited for freight traffic or trans-Atlantic trade.

In December the Shipping Board approved the plans submitted by the Recruiting Service, and on December 12, 1917, announcement was made in the press that the service was prepared to receive applications from young Americans who wished to be trained for service on merchant ships as sailors, firemen, coal passers, oilers, water tenders, cooks, and stewards (messmen). In the three months following more than 7,500 applications were received. Up to November 8, 1918, applications totaled 32,014. The highest enrollment total in any one month was 11,000 in September, 1918.

Inexperienced men, who are American citizens, 18 to 20 years of age, inclusive, and 32 to 35, inclusive, are accepted for training as sailors, cooks, or stewards, and those 18 to 35, inclusive, are accepted for training as firemen.

The total number of men needed for this service was at first estimated at about 85,000. The increased number of ships planned for undoubtedly will call for an extension of this total, and it is esti-

mated that after the war the merchant marine will need a total of not less than 200,000 men.

The administration of this department of the training service was begun as soon as authorized by the Shipping Board, under a supervisor of sea training. There are seven training ships in the Atlantic Squadron and four in the Pacific Squadron, besides a ship at New Orleans and one at Cleveland. The training ships now in use have a total capacity of more than 4,500 apprentices.

The training course is of an intensive character. There is an instructor to each 10 apprentices, who work under constant direction all day, every day except Sunday, during their stay on the training vessel. The period of training is from a month to six weeks, for which the apprentices receive pay at the rate of \$30 per month.

As far as possible the recruits are allowed to select their own line of work, and they may enter either (1) deck, (2) fire room, or (3) steward's department. In the deck department they are trained to be sailors. In the fire-room department they are trained to be firemen and coal passers. In the steward's department they are trained to be cooks, bakers, or stewards (messmen). In Chicago men between 18 and 35 years, inclusive, who have had experience as oilers or water tenders are further trained for these grades in a special Shipping Board course at the Joseph G. Branch School of Engineering. Firemen also are given special training at this school.

Deferred classification under the selective-service regulations applied to regular members of merchant crews, while apprentices enrolled for training in the Shipping Board Recruiting Service were held to be not available for military service. If such men left the merchant marine, however, they were liable to immediate draft.

When the apprentices have finished their intensive training they are added to the regular crews of the merchant marine on a given ratio to experienced men carried. In the deck department this ratio is four apprentices to six able seamen carried. By this method it is hoped to secure full crews for all ships added to the merchant fleet of the Shipping Board.

The recruiting problem was greatly simplified by the use of a chain of more than 6,000 drug stores placed at the disposal of the Board, an official enrolling station being established in each store.

In order to keep in close touch with the merchant marine, the Recruiting Service established in July, 1917, a Sea-Service Bureau, whose work is to find positions for the officers and crews trained by the Recruiting Service and to find officers and crews for merchant vessels in need of them. Graduates from the schools were placed on board ship by this department, at first through cooperation of private steamship interests, and later also on ships controlled directly by the Shipping Board. Without the work of this bureau there would have

been a serious shortage of mates and assistant engineers in 1917, even before the Shipping Board's construction program began to turn out new vessels.

LABOR PROBLEMS.

In order to free the movement of water transportation from interruptions and stoppages arising from conditions of work connected with the operation of vessels, and to stabilize and render more effective industrial relations as they affect water transportation, the Board has employed special labor experts and has entered into certain agreements with labor organizations and with other governmental departments.

It is the Board's policy to adjust, without stoppage of work, all differences arising between employers and employees engaged in carrying out its operating or construction program. By gradual standardization of wages and work, and by the creation of machinery for arbitration and conciliation in all branches of water transport, it is hoped to avoid serious disputes. Efforts are also being made to develop through conferences, propaganda, and personal contact a spirit between employers and employees that will eliminate friction. It is hoped that the jurisdiction of adjustment boards, already provided for shipbuilders and longshoremen, may be extended to cover all men and operators engaged in the operation of vessels. Plans are now under way to unify all arbitrations for marine employees of the Shipping Board, the War Department, and the Railroad Administration.

In order to make intelligent recommendations to the Shipping Board concerning wage scales to be adopted for officers, engineers, and crews on Shipping Board vessels, and for men employed in harbors and on water fronts, the following information is being collected: (1) Copies of all agreements between operators and men engaged directly or indirectly in the operation of vessels; (2) wage scales now in force in all United States ports for all classes of men directly or indirectly engaged in the operation of vessels; (3) wage increases granted since August, 1914; (4) schedules showing hours and other working conditions for each class of men in all ports; (5) names, officers, and strength of employers' and employees' organizations; (6) minimum cost of living in important ports. After careful investigation by its labor experts, the Shipping Board has issued various rulings concerning wages, hours, and conditions of labor for men employed on Shipping Board vessels.

The special agencies through which the Board works in carrying out its labor program are the Marine and Dock Industrial Relations Division, a department of the Board which has general supervision of labor questions pertaining to the operation of vessels and marine

equipment; the Shipbuilding Labor Adjustment Board, an independent organization which acts as an adjustment agency in the field of construction; the National Adjustment Commission, a cooperating agency, representing also the War and Labor Departments, which serves the same purpose for longshoremen; and the New York Harbor Wage Adjustment Board, which has a similar function for the operators of harbor boats at New York. An account of these various organizations is given in the following pages.

MARINE AND DOCK INDUSTRIAL RELATIONS DIVISION.

Because of new industrial questions constantly arising in the operation, loading, and unloading of vessels, and in order to round out the Shipping Board's organization by establishing a division analogous to that existing in other governmental departments, the Shipping Board, by resolution under date of September 19, 1918, created the Marine and Dock Industrial Relations Division.

It is the duty of this new division to act as a coordinating agency in all labor matters affecting the Board; to supervise labor questions which pertain to the operation of vessels and marine equipment, including the work of loading and unloading; to secure peaceful adjustment of disputes; to establish better relations between employers and employees; and to handle the problem of deferred military classification as it applies to marine and dock labor. The division will steer agreements to arbitrate disputes and will operate in general to promote industrial harmony.

Before the establishment of this new division the work had been carried on by the Shipping Board, but without a formally recognized division. During the past year many marine labor difficulties were adjusted without any serious stoppage of transportation. There is a growing tendency on the part of vessel operators and the unions to refer matters in dispute to the Shipping Board for decision and to continue to work pending an award.

SHIPBUILDING LABOR ADJUSTMENT BOARD.

The Shipbuilding Labor Adjustment Board, created August 20, 1917, is a body composed of three members, entirely independent of the Emergency Fleet Corporation, one member being appointed jointly by the Emergency Fleet Corporation and the United States Navy Department, one representing the public appointed by the President of the United States, and one representing the labor unions and appointed by the president of the American Federation of Labor.

The Labor Adjustment Board was established for the purpose of adjusting disputes which might arise concerning wages, hours, and working conditions of labor engaged in the construction or repair of

shipbuilding plants or of hulls and vessels in the shipyards under contract with the Emergency Fleet Corporation or the United States Navy Department.

The awards and decisions of the Labor Adjustment Board apply with equal force to employees, shipbuilders, the Corporation, and the Navy Department as related to work in private yards and are binding on all parties unless appeal from the decision rendered by the Labor Adjustment Board by any of the parties is made.

In an amended agreement, under date of December 8, 1917, the terms under which the Board acts in the adjustment of disputes as well as the pledge to submit controversies to the Board are fully set forth. (For the text of this document, see Appendix, Table V.)

The purpose of the Adjustment Board has in general been stated as the "maximum production of ships without interruption by industrial disputes." In following out this general purpose the duties of the Board have been to standardize wages and conditions of employment, select district examiners, investigate conditions and disputes, hold hearings, and bring about more stable conditions by their award.

The first important case taken up by the board was that of the shipyard workers on the Pacific coast, a wage scale for whom was fixed in October, 1917. A 10 per cent wage increase was granted by the Shipping Board and the Navy Department to the Pacific coast workers as a bonus, or "war-service payment," and by an agreement, which became effective February 1, 1918, this increase was made permanent and was to be applied against any increase in the cost of living after October, 1917, which increase was to be regarded as a component element in the fixing of wage rates. A dispute arose between the board and the Seattle Metal Trades Council as to the right of the workers to a further increase and as to the actual rise in the cost of living. The Shipbuilding Labor Adjustment Board estimated that the actual increase was 8½ per cent and that under the terms of the existing contract the shipyard workers were not entitled to any higher scale. The Trades Council of Seattle differed with the board on this point, and for the adjustment of this dispute an appeal board was created in accordance with the conditions specified in the memorandum of December 8, 1917. In all of the points touching the interpretation of the contract the appeal board sustained the decision of the Shipbuilding Labor Adjustment Board, but in order to secure the most accurate statistics the appeal board decided that the situation with regard to the cost of living on the entire Pacific coast should be reviewed by the Shipbuilding Labor Adjustment Board as of July 1, 1918, and that appropriate readjustment be made retroactive to February 1, 1918. This is the only case in which it has been found necessary to put into actual effect

that portion of the agreement which applies to the creation of an appeal board.

On December 1, 1917, the trustees of the Emergency Fleet Corporation voted to cooperate with the War and Navy Departments in establishing a common policy involving a liberal wage. In order to prevent so far as possible the abuse of enticing men from yard to yard by the offer of higher wages and varying conditions the board divided the country into districts in which uniformity of wages and conditions prevailed. By a series of decisions the variations between districts were eliminated until at the present time there are only two scales of wages, one for the Pacific coast and one for the Atlantic coast, Great Lakes, and Gulf.

For administrative purposes and for the machinery of enforcement, the board has accepted the eight districts established by the Fleet Corporation. The board is represented by an "Examiner," whose duty is to enforce and interpret the awards within the districts. He also cooperates with the Industrial Service Section of the Fleet Corporation.

The most significant features of these awards are: (1) Establishment of a uniform wage scale for the Atlantic and Gulf coast shipyards whereby the labor turnover, which hampered production under the former variable wage scheme, is in large measure removed (Pacific coast awards were in general somewhat higher); (2) establishment of a basic 8-hour day, with time and a half for over time, with maximum working time of 60 hours per week; (3) no discrimination between union and nonunion men; (4) limitation of the jurisdiction of the board to shipyards which have direct contracts, other than lump-sum contracts for submarine chasers for the Navy Department; (5) creation of machinery for settling minor disputes by a system of craft and shop committees conferring progressively with foremen, superintendents, higher yard officials, district examiners, and, if necessary, the Adjustment Board; and (6) reconsideration of the decisions every six months. In addition to making these minor awards the board prepares for possible readjustments or new disputes by keeping in constant touch with conditions of labor, wages, and cost of living and by adjusting various minor questions involving personal controversies, accusations of discriminations, etc., which are liable to spread into open and disastrous strikes.

NATIONAL ADJUSTMENT COMMISSION.

In order to facilitate the settlement of labor disputes affecting longshoremen and avoid interruption or delay in the vitally essential work of dispatching vessels, the National Adjustment Commission was created in August, 1917, by an agreement between the

Shipping Board, the War and Labor Departments, the International Longshoremen's Association, the American Federation of Labor, and the principal shipping operators. While the commission is not a part of the Shipping Board, yet its relation to the board is very close, and its services are of great importance in the arbitration of disputes which vitally affect the board's activities.

Local adjustment commissions have been created in the important ports, each of which consists of four members, one to represent the Shipping Board and War Department, one to represent the International Longshoremen's Association, and two shipping representatives, one of whom acts in cases involving foreign trade, while the other serves where coastwise trade is involved.

In the agreement creating the commission it was stipulated that the basic standard should be the union scale of wages, hours, and conditions in force August 1, 1917; that any differences arising in any port should first be adjusted by the local commission if possible; that the case might be appealed by either party to the National Commission; that there should be no interruption of work; and that the National Commission's adjustments should be binding on all parties.

The activities of the commission have been very extensive and have involved many thousands of men. During the course of the year cases have been arbitrated and adjusted at the following ports:

Atlantic and Gulf district:	Great Lakes district:	Pacific coast district:
Key West.	Buffalo.	Puget Sound.
New Orleans.	Ashland.	Portland, Oreg.
Charleston, S. C.	Escanaba.	San Diego.
Savannah.	Chicago.	San Francisco.
Philadelphia.	Duluth.	Honolulu.
Mobile.	Cleveland.	Seattle.
Baltimore.	North Tonowanda.	
Boston.		
Galveston.		
Norfolk.		
New York.		
Portland, Me.		
Providence.		

It will thus be seen that the National Adjustment Commission is the recognized agency for arbitrating longshore disputes, made so by a general arbitration agreement to which the union of longshoremen is a party. In addition the commission, as well as the local commissions, is available for the adjustment of any other disputes which may be referred to it by special agreement involving mutual consent of both parties. (For a complete statement of the work of the commission see First Annual Report of National Adjustment Commission, August, 1918.)

NEW YORK HARBOR WAGE ADJUSTMENT BOARD.

An independent adjustment board known as the New York Harbor Wage Adjustment Board has been created by two dual agreements on the one hand between the Shipping Board and the chief harbor boat operators in New York and on the other hand the Shipping Board and the representatives of the four unions involved.

Under the agreement of October 20, 1917, the employers and employees engaged in the operations of tugs, barges, lighters, ferry-boats, etc., in the port of New York agree to submit to the above board all differences concerning wages and conditions of labor which can not first be adjusted by the employers and employees concerned. Pending the decision of the board work is to go on uninterrupted. The board has no authority to pass upon the question of open or closed shop or the recognition of union men, but the board has the power to determine questions of discrimination.

WAR ZONE PASS COMMISSION.

On recommendations of the National Adjustment Commission the Shipping Board, on January 22, 1918, authorized that commission to appoint a commission at the port of New York to pass upon the suspension and revocation of passes to longshoremen in the war zone on the New York water front. A commission for this purpose was appointed in February, consisting of three members, who represent, respectively, (a) the Government and the public, (b) the shipping interests, and (c) the longshoremen.

BOARD OF SURVEY AND CONSULTING ENGINEERS.

This board was organized on April 7, 1917, because of the necessity of surveying and repairing speedily the German and Austrian vessels acquired after the United States entered the war. It repaired in record time 36 German and Austrian vessels, not including those taken over by the Navy Department, aided in bringing 21 steamers from the Great Lakes to the seaboard and designed and rebuilt these vessels for salt-water service, made a report to the Shipping Board on the value of requisitioned vessels taken from the Great Lakes, and at present has charge of the repairing and refitting of all vessels operated by the Shipping Board, except those assigned to the Army and Navy. It also surveys assigned vessels for the Shipping Board and makes recommendations as to their purchase and requisition. It supervises the repairs and alterations made on Shipping Board vessels which private operating companies operate on a bare-boat basis. The board also investigated and reported on the scarcity of dry docks, the chief obstacle to its work. It investigates cases

of damage, collision, etc., and acts in general in an advisory capacity on all questions requiring technical knowledge of ship construction and repairing.

OCEAN ADVISORY COMMITTEE ON JUST COMPENSATION.

Permanent machinery for determining just compensation to be paid in accordance with the provisions of the urgent deficiencies appropriation act, approved June 15, 1917, for vessels requisitioned or lost while in the national service, was established on April 1, 1918, when the Ocean Advisory Committee on Just Compensation was appointed by the Board. The committee is composed of four members, of whom two are marine surveyors and engineers, one a marine insurance expert, and one an ex-judge of the Supreme Court of New York.

Primarily the duties of the committee are to recommend to the Board the amount to be paid as just compensation for (1) vessels to which title has been taken, and (2) requisitioned vessels lost by risks assumed by the Government while under requisition charter. It should be noted that it is the Board's policy to assume only the war risk on vessels requisitioned on time form and operated by the owner, and to assume both war and marine risks on vessels requisitioned bare boat, i. e., operated entirely at the Board's expense and by its agents or by the Army or Navy.

The committee is purely advisory in function. It holds hearings at which the owners interested have opportunity to present their claims in detail, and after collecting all relevant data it submits a formal report to the Board embodying its findings and recommendations.

The Board then passes upon the committee's report and makes such award as it deems proper. Under the provisions of the law owners not satisfied with the awards of the Board may accept three-fourths thereof and sue in the Court of Claims for the balance claimed to be due them. Up to October 17, 1918, the committee had held hearings and submitted reports on a total of 59 vessels, involving the sum of \$26,152,675 designated as just compensation.

Prior to the appointment of the Ocean Advisory Committee, corresponding functions with regard to some 32 vessels requisitioned on the Great Lakes were exercised by a Great Lakes Advisory Committee.

DIVISION OF INSURANCE.

On September 28, 1917, an Advisory Insurance Committee was appointed to advise the Shipping Board on all questions of marine, war risk, and protection and indemnity insurance, and to superintend the operation of an insurance fund, to be created by the Shipping

Board, for the above purposes, subject to the direction and approval of the Board. The active work of organizing the insurance fund was begun on November 12, 1917.

By resolution of the Board of October 9, 1918, the Division of Insurance was created to take the place of the Advisory Insurance Committee. This was done because of the growing importance of the insurance work, and because it was considered necessary to have a division authorized to make salvage and wrecking contracts so that no time might be lost in arranging for assistance to proceed to endangered vessels.

The marine and war risk premium rates are fixed by the committee, the former in general following the commercial market, while the latter follows very closely the rates fixed by the Bureau of War Risk Insurance of the Treasury Department.

The finances are handled by the Comptroller of the Division of Operations, who arranges that the premiums are charged against the operating expenses of the vessels. All claims before being paid by the insurance fund are submitted to the committee for approval.

The general nature of the duties performed by the committee, which is concerned only with the operation of vessels and not with their construction, are as follows:

1. Advising as to all operating contracts and charters in so far as any question of insurance is concerned; also as to the questions of liability for damage to cargo or insurance of crew. This includes conference with the Legal and Operations Divisions as to clauses in the requisition charters and charters made with foreign owners. Recommendations have also been made as to the appointment of general average adjusters.

2. The management of the insurance fund which protects the risks assumed by the Shipping Board and the Emergency Fleet Corporation as owners or charterers. In this fund are entered:

- (a) Marine and war risk insurance on vessels in accordance with the liabilities assumed by the Shipping Board and the Emergency Fleet Corporation. The number of vessels owned, controlled, or chartered is about 1,400, of which 500 are requisitioned, 500 chartered, and 400 owned.

- (b) Marine and war risk insurance on freight which is at the risk of the Shipping Board and the Emergency Fleet Corporation.

3. Recommendations as to salvage operations and the settlement of salvage cases.

4. Arrangements to enter vessels in the American Steamship Owners' Mutual Protection & Indemnity Association (Inc.), which protects against the steamer's liability for damage to cargo and also personal injury to the crew.

5. The management of the charterer's risk fund, which protects the liability risks, known as "charterer's P. & I. risks," to which the Shipping Board and the Emergency Fleet Corporation are exposed as charterers of ships of foreign flag.

On January 26, 1918, the Shipping Board passed a resolution appropriating \$10,000,000 to the insurance fund to be used in settling claims, but so far the premiums have been sufficient to take care of losses, and it has been unnecessary to draw upon this appropriation. Since the organization of the insurance fund the work of this fund, as well as of the committee, has constantly expanded as the number of vessels owned by the Shipping Board has increased and other steamers have been chartered from foreign owners and Governments. Not only does the work of keeping the vessels covered by insurance increase, but more and more the committee is acting in an advisory capacity to the Division of Operations.

THE SHIP PROTECTION COMMITTEE.

The purpose of the Ship Protection Committee is to consider every suggestion received by the United States Shipping Board, the Emergency Fleet Corporation, and the Naval Consulting Board which in any way concerns the defensive side of merchant-ship protection.

The Committee holds regular meetings, at which numerous persons with ideas or inventions are given ample opportunity to present them in person. Very soon after its organization the Committee presented a number of recommendations which were immediately approved and which were all more or less directly put into effect. These recommendations covered:

1. The arming of merchantmen.
2. The provision of smoke-producing apparatus.
3. The application of low-visibility painting or camouflage as it later came to be called.
4. The provision of an approved form of smokeless coal for use through the war zone.
5. The consideration of means for throwing depth bombs.
6. The installation of reserve or permanent buoyancy to keep a ship afloat after it has been torpedoed.

The first two recommendations were given consideration by the Navy Department, the matter of arming being put into effect as rapidly as guns were available, and the development of smoke-producing apparatus being started at once.

The third and fourth recommendations were put into effect by the United States Shipping Board in cooperation with the Bureau of War Risk Insurance of the Treasury Department, a penalty being established for noncompliance. The depth-bomb thrower was given

careful study in cooperation with the Navy Department, while the recommendation for added buoyancy was immediately applied by the Shipping Board.

Large numbers of inventions and ideas are daily received and reviewed by the Committee, many of which demand either prolonged conferences or extended correspondence. In the Committee's meetings every phase of the submarine problem is carefully considered. It is felt that in this work alone the Committee has rendered a valuable service to the country, as it insured that no idea of merit presented to the Government would fail to be recognized and made available. The Committee has exercised the greatest patience in its attention to the countless overtures made to it by the many hundreds of citizens who were striving so patriotically to serve their country in its hour of peril.

In connection with the Federal control of all shipping which the Shipping Board assumed on October 15, 1917, the Committee considered and passed upon many important matters, and it served as a valuable counsel and guide to the Chairman. Numerous conferences were held with representatives of our Allies, and data were freely exchanged.

During the latter part of 1917 the Committee began some experimental work in cooperation with the United States Naval Engineering Experiment Station at Annapolis, Md., and with certain private individuals who had submitted ideas appearing to have valuable possibilities. Some of these were developed to a point where it was thought advisable for the Navy Department to take them up secretly. Others were carried on through the winter by the Committee.

In the spring of 1918 sufficient evidence was at hand to justify an extended experimental organization to try several ideas which seemed to contain possibilities of success. Accordingly, with the cooperation of the Secretary of the Navy, an experimental department was established at New London, Conn., where the Navy Department had previously established an experimental station on antisubmarine work. During the spring and summer continuous work has been under way at New London, the trials of the apparatus being carried out with naval vessels in the waters adjacent to New London.

During the past summer the experimental work, both at New London and at New York, has been carried out to definite ends upon which the Committee has made recommendations to the United States Shipping Board.

The recommendations called for trial installations of several forms of protecting equipment on merchantmen to be put into regular service through the submarine zone, and it is felt that the experience which will be gained in these trials will determine the future

possibilities of the several forms. The confidential nature of the Committee's activities makes it inadvisable to disclose further details relative to its work.

INFORMATION BUREAU.

In March, 1918, an Information Bureau was established by the Shipping Board. The main office is in Washington, with a branch office in Philadelphia, that furnishes information as to ship construction, housing conditions, labor situation, and similar matters regarding the work of the Fleet Corporation.

The Washington office serves as the clearing house for all information relating to the work of the Shipping Board and the Emergency Fleet Corporation, supplying data to chambers of commerce, boards of trade, merchants' associations, and other commercial organizations; prepares articles for technical publications and trade journals; furnishes the press with special articles and such information as is required and attends to the numerous inquiries from far and near as to the progress of construction and other matters in which the public is interested.

II. UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION.

ORGANIZATION AND JURISDICTION OF THE CORPORATION.

The United States Shipping Board Emergency Fleet Corporation was incorporated under the laws of the District of Columbia on April 18, 1917, under the authority of an act of Congress dated September 7, 1916, to which there was added an "Emergency Shipping Fund Provision," dated June 15 1917. The Corporation was organized with a capital of \$50,000,000, all of which, with the exception of the qualifying shares held by the members of the Board of Trustees, is owned and was subscribed by the United States Government. Its jurisdiction and duties as defined in this act, and further defined by various executive orders of the President of the United States, are to provide by purchase, requisition, commandeering, or by construction a ship tonnage adequate to satisfy the war needs of the United States, and to provide a means for operating such ships.

The controlling authority of the United States Shipping Board Emergency Fleet Corporation is vested in a Board of Trustees. The Board of Trustees and the officers of the Corporation are as follows:

TRUSTEES.

Edward N. Hurley, President.	Charles R. Page.
John A. Donald, Vice President.	Charles Day.
Bainbridge Colby, Vice President.	John H. Rosseter.
E. F. Carry.	

OFFICERS NOT MEMBERS OF THE BOARD OF TRUSTEES.

Charles M. Schwab, Director General.	J. L. Ackerson, Vice President and As-
Charles Piez, Vice President and General Manager.	sistant General Manager.
Howard Coonley, Vice President.	Stephen N. Bourne, Secretary.
	George T. Smith, Treasurer.

The assigned duties and jurisdiction of the United States Shipping Board Emergency Fleet Corporation fall naturally into two principal groups of activities: (1) Those concerned with the construction of ships, and (2) those concerned with the operation of ships. The construction functions are exercised by the Corporation under a direct delegation of authority from the President; the operating functions are exercised under appointment of the Shipping Board, to whom the President delegated operating authority in the first instance. The present section of this report deals entirely with construction activities which the Corporation has carried on under the President's direct authority.

Development of the organization and management methods of the corporation.

Since the organization of the Corporation the following changes have taken place in its management. Mr. William Denman, the first President of the Corporation, resigned July 24, 1917, and Mr. E. N. Hurley became President July 24, 1917. Maj. Gen. George W. Goethals, who was appointed General Manager on April 26, 1917, resigned July 27, 1917, being succeeded by Admiral W. L. Capps, who resigned on December 3, 1917, because of ill health. Mr. Charles Piez was elected Vice President of the Corporation on November 11, 1917, and appointed General Manager on December 15, 1917. By this time, through a change in the by-laws, dual responsibility was abolished, all authority was concentrated in the hands of the President of the Board of Trustees with power to delegate, and the Corporation managership was made an appointive office.

As a result of the German drive in March, 1918, the already large program which the Corporation had under way was materially added to by additional demands of the War Department, which were presented in April. The great expansion of facilities which this new program necessitated, justified the enlistment of Charles M. Schwab as Director General, to whom Mr. Hurley and the Board delegated the control of the construction work of the Emergency Fleet Corporation. Mr. Howard Coonley joined the organization in May as Vice President, in charge of the Administrative Departments, and Mr. J. L. Ackerson was later elected Vice President and appointed Assistant General Manager, assisting Mr. Piez, Vice President and General Manager.

The present scheme of internal management and organization of the Corporation has taken shape during the past year, a result of a gradual evolution effected since the submission of the last annual report. Instead of having a plan of control predicated upon the individualities of the executive officers, the aim has been to build an organization into which men of all management grades could be fitted and refitted without disturbing its fundamental processes.

The development of the new organization had to be carried on without the assistance of any adequate precedent and in such a way as to facilitate the immediate speeding up of ship construction. The call for ship tonnage during the spring of 1918 was so urgent that it was impossible to sacrifice anything of the present even for a greater return in the future. It was an emergency problem in which time was the only fundamental consideration. The organization task was therefore to tear down an old bridge while building around it and through it a new bridge without any interruption of traffic.

Briefly summarized, the principles which have guided the building of the organization are these: Service and helpfulness to the ship-builders; geographical decentralization to eliminate long delays in decisions; alignment of the organization in the Home Office to con-

form to the problems of policy and administration; a designing, guiding, controlling, and policy-determining organization in the Home Office and a supervisory, general service and local management agency in the field.

Removal of the offices of the Corporation to Philadelphia.

Not the least important of the changes which made possible the rapid completion of the management organization was the moving of the Corporation's offices from Washington to Philadelphia. The various war activities were literally swamping Washington during the early months of 1918, and the Emergency Fleet Corporation was hard pressed to find sufficient building space to house its administrative force. It was impossible to secure living quarters for the employees, whose number was rapidly increasing. By May the offices of the Corporation in Washington had spread over 23 buildings. With such conditions it was impossible to keep the various parts of the organization in touch with one another and the moving of the entire office to Philadelphia was ordered. The moving began on June 1, and was practically completed within one week.

AUTHORIZATIONS, APPROPRIATIONS, AND COMMITMENTS.

A comprehensive statement of authorizations, appropriations, and commitments of the United States Shipping Board Emergency Fleet Corporation, as at October 15, 1918, is presented herewith, arranged according to the following order of treatment:

INDEX.

Section A.—Authorizations, Appropriations, and Commitments.

1. Authorizations and Commitments, Complete.
2. Authorizations and Commitments, Recapitulation.
3. Balance Available from Authorizations.
4. Authorizations, Appropriations, and Expenditures.
5. Summary Authorizations, Expenditures, and Cash Requirements.
6. Estimated Cost of Freight and Labor Increase.

Section B.—Requisitioned Ships.

1. Authorizations, Appropriations, and Commitments, Requisitioned Ships.
2. Number of Requisitioned Ships.
3. Requisition Ship Summary.

Section C.—Contract Ships.

1. Contract Ships—Authorizations, Appropriations, and Commitments.
2. Contract Ships—Contracts and Commitments.
3. Contract Ships—Expenses to be prorated.

Section D.—Steel Ships.

1. Steel Ships Summary of Contracts and Commitments.
2. Steel Ships Additional Cost.
3. Steel Cargo Vessels.
4. Steel Tankers.
5. Steel Troop, Hospital, and Refrigerator Ships.
6. Steel Tugs.
7. Steel Barges.

Section E.—Wood and Composite Ships.

1. Wood and Composite Ship Summary.
2. Wood Ships, Additional Cost to Complete over Contract Price.
3. Wood Ships, Complete, Contracts and Commitments.
4. Wood Ship Hulls, Contracts and Commitments.
5. Wood Tugs, Contracts and Commitments.
6. Wood Barges, Contracts and Commitments.
7. Composite Ships Complete, Contracts and Commitments.

Section F.—Concrete Ships.

1. Concrete Hulls, Contracts and Commitments.
2. Concrete Hulls, Additional Cost to Complete.

Section G.—Foreign Yards.

1. Summary Foreign Yard Ship Construction.
2. Ships under Contract and Commitments.

Section H.—Plant and Property.

1. Authorizations, Appropriations and Commitments.
2. Summary Plant and Property.
3. Investments in Fabricated Yards.
4. Investments in Shipyards and Other Plants.
5. Small Tools and Plant Protection.

Section I.—Housing and Transportation.

1. Authorizations, Appropriations and Commitments.
2. Housing Contracts and Commitments.
3. Transportation Contracts and Commitments.

Section J.—Dry Docks and Marine Railways.

1. Authorizations, Appropriations and Commitments.
2. Dry Docks.
3. Marine Railways.

A. AUTHORIZATIONS, APPROPRIATIONS, AND COMMITMENTS.

(1) *Authorizations and Commitments Complete.*

	Authorization.	Commitments.	Balance available.
Requisitioned ships.....	\$515,000,000	\$479,487,827	\$35,512,173
Contract ships.....	2,804,000,000	2,681,963,071	122,036,929
Plant and property.....	177,000,000	148,493,000	28,506,000
Housing.....	75,000,000	68,006,475	6,993,525
Transportation.....	20,000,000	10,700,791	9,299,209
Dry docks and marine railways.....	25,000,000	7,202,500	17,797,500
Foreign shipyards.....	55,000,000	50,823,750	4,176,250
	3,671,000,000	3,416,679,414	224,320,586
Balance available.....			\$224,320,586
¹ Less estimated increase in materials and labor.....			200,000,000
Balance.....			24,320,586

¹ Freight advance ordered in July estimated \$50,000,000 and Labor award October 26 estimated cost \$150,000,000 not provided in the above.

(2) *Authorizations and Commitments, Recapitulation.*

Authorization:

Requisitioned ships.....		\$515,000,000.00
Contract ships.....	\$2,884,000,000.00	
(See below) plant and property.....	80,000,000.00	
		<hr/> 2,804,000,000.00
Plant and property.....	122,000,000.00	
(See above) contract ships.....	80,000,000.00	
		<hr/> 202,000,000.00
(See below) dry docks and marine rail- ways.....	25,000,000.00	
		<hr/> 177,000,000.00
Housing.....		75,000,000.00
Transportation.....		20,000,000.00
Dry docks and marine railways (see above).....		25,000,000.00
Foreign ship construction.....		55,000,000.00
		<hr/> 3,671,000,000.00

Commitments:

Requisitioned ships.....	524,889,000.00	
Reconveyed.....	45,401,173.00	
		<hr/> 479,487,827.00
Contract ships.....		2,681,963,071.00
Plant and property.....		148,495,000.00
Housing.....		68,006,475.00
Transportation.....		10,700,791.00
Dry docks and marine railways.....		7,202,500.00
Foreign ships.....		50,823,750.00
		<hr/> 3,446,679,414.00

(3) *Balance available from authorizations.*

Requisitioned ships.....	\$35,512,173.00
Contract ships.....	122,036,929.00
Plant and property.....	28,505,000.00
Housing.....	6,993,525.00
Transportation.....	9,299,209.00
Dry docks and marine railways.....	17,797,500.00
Foreign shipyards.....	4,176,250.00
	<hr/> 224,320,586.00
Total balance available.....	224,320,586.00
Less increase material and labor estimates ¹	200,000,000.00
	<hr/> 24,320,586.00

¹ Freight advance ordered in July, estimated \$50,000,000, and labor award Oct. 26, estimated cost \$150,000,000, not provided in the above.

(4) Authorizations, appropriations, and expenditures.

	Authorizations.	Appropriations.	Expenditures.	Appropriations unexpended.	To be appropriated.
Requisitioned ships.....	\$515,000,000.00	\$415,000,000.00	\$309,783,688.27	\$105,216,312.73	\$100,000,000.00
Contract ships.....	2,804,000,000.00	1,858,451,000.00	614,132,638.82	1,244,318,361.18	945,549,000.00
Plant and property.....	177,000,000.00	177,000,000.00	100,258,840.90	76,741,159.10	.....
Housing.....	75,000,000.00	75,000,000.00	¹ 16,353,274.41	58,646,725.59	.....
Transportation.....	20,000,000.00	20,000,000.00	.....	20,000,000.00	.....
Dry docks and marine rallways.....	25,000,000.00	25,000,000.00	1,278,483.31	23,721,516.69	.....
Foreign shipyards construction.....	55,000,000.00	55,000,000.00	.....	55,000,000.00	.....
Total.....	3,871,000,000.00	2,825,451,000.00	1,041,806,923.71	1,583,644,076.29	1,045,806,923.71

¹ This balance would be available if the Treasurer had not drawn against the same for other expenditures which were not included in our estimates.
² Includes expenditures for transportation.

(5) Summary authorizations and expenditures and cash requirements.

Total authorizations.....	\$3,671,000,000.00
Expended to June 30, 1918.....	\$770,694,057.30
Estimated expenditures to June 30, 1919...	2,399,756,942.70
Estimated expenditures to June 30, 1920...	500,549,000.00
	3,671,000,000.00

Expenditures and requirements:

Expended to Aug. 31, 1918.....	1,041,806,923.71
Estimated expenditures for September, 1918	196,979,440.00
Estimated expenditures for October, 1918..	200,902,610.00
Estimated expenditures for November, 1918	218,625,907.00
	1,658,314,880.71
Estimated expenditures to June 30, 1919, based on 5 months' expenses and taking increase into account.....	1,512,136,119.29
	3,170,451,000.00
Balance of authorization estimated expenditures to June 30, 1920.....	500,549,000.00
	3,671,000,000.00

(6) *Estimated cost of freight and labor increase.*—Eight million tons, at \$25 ton, totaling \$200,000,000, estimated as increase in labor and freight on contracts placed prior to Labor Adjustment Board's decision March 22, 1918.

B. REQUISITIONED SHIPS.¹(1) *Authorizations, appropriations, and commitments requisitioned ships.*

Authorizations:

Act June 15, 1917.....	\$250,000,000	
Act Oct. 6, 1917.....	265,000,000	
		<u>\$515,000,000</u>

Appropriations:

Act June 15, 1917.....	150,000,000	
Act Oct. 6, 1917.....	200,000,000	
Civil appropriation, 1918.....	65,000,000	
		<u>415,000,000</u>

Unappropriated.....		100,000,000
		<u>515,000,000</u>

Commitments:

Ship construction.....	524,889,000	
Reconveyed.....	45,401,173	
		<u>479,487,827</u>

Balance available.....		<u>\$35,512,173</u>
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(2) *Number of requisitioned ships.*

Number of ships requisitioned.....	437
Released as per statement attached.....	13

Canceled:

Harlan & Hollingsworth (hulls 450-451).....	2
New York Shipbuilding Co. (hulls 208-209).....	2
Newport News Shipbuilding Co. (hulls 203-214).....	2
Hanlon Drydock & Shipbuilding (hull 80-81).....	2
American Shipbuilding Co. (hulls 466-526).....	2
	<u>10</u>

Transferred into contract:

106 Bethlehem Shipbuilding Co (hull 176).....	1
297 Columbia River Shipbuilding Co (hulls 4, 6, 7, 8, 9, 10).....	6
203/4 Manitowoc Shipbuilding Co. (hull 96).....	1
191 Union Iron Works (hulls 150-153).....	4
	<u>12</u>
	<u>35</u>

Total requisitioned ships under construction.....	402
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(3) *Requisitioned ship summary.*

Type.	Number of ships.	Tonnage.
Cargo.....	311	1,978,362
Tankers.....	60	580,430
Refrigerator.....	10	72,900
Colliers.....	9	70,350
Transports.....	12	88,750
Total.....	402	2,790,792

¹The term "requisitioned ships" is used throughout this report as a means of convenient brevity to cover ships constructed by the corporation from hulls and materials requisitioned in shipyards on Aug. 3, 1917. As a matter of fact, the Fleet Corporation requisitioned no completed ships, but only materials and hulls in various stages of incompleteness.

²This balance would be available if the Treasurer had not drawn against the same for other expenditures which were not included in our estimates.

C. CONTRACT SHIPS.

(1) *Authorizations, appropriations, and commitments, contract ships.*

Domestic:

Authorizations—

Urgent deficiency act, June 15, 1917.....	\$500,000,000	
Urgent deficiency act, Oct. 6, 1917.....	734,000,000	
Sundry civil appropriation, 1919.....	1,650,000,000	
	<u>2,884,000,000</u>	
Set aside for plant and property.....	80,000,000	\$2,804,000,000

Appropriations—

Urgent deficiency act, June 15, 1917.....	250,000,000	
Urgent deficiency act, Oct. 6, 1917.....	250,000,000	
Sundry civil appropriation, 1919.....	1,438,451,000	
	<u>1,938,451,000</u>	
Set aside for plant and property.....	80,000,000	1,858,451,000

Unappropriated—

Urgent deficiency act, June 15, 1917.....	250,000,000	
Urgent deficiency act, Oct. 6, 1917.....	481,000,000	
Sundry civil appropriation, 1919.....	211,549,000	
	<u>945,549,000</u>	
		2,804,000,000

Commitments—

Ship construction.....	2,681,963,071	
Balance available.....	122,036,929	

Foreign yards:

Authorized and appropriated—

Sundry civil appropriation, 1919.....	55,000,000	
Commitments.....	50,823,750	
	<u>105,823,750</u>	
Balance available.....	4,176,250	

(2) *Contract ships—Contracts and commitments.*

Type.	Number of ships.	Tonnage.	Value.
Steel.....	1,604	10,513,905	\$2,097,757,289
Wood and composite.....	1,034	3,024,000	503,129,582
Concrete.....	42	293,500	39,946,200
Extras.....			41,130,000
Total.....	2,680	13,836,405	2,681,963,071
Foreign construction.....	34	285,850	50,823,750
Total.....	2,714	14,122,255	2,732,786,821

(3) *Contract ship construction expenses to be prorated over ships.*

Home and administrative expense.....	\$35,000,000
Plant investments.....	6,130,000
Total.....	<u>41,130,000</u>

D. STEEL SHIPS.

(1) Summary of contracts and commitments.

Type.	Number of ships.	Tonnage.	Contract value.	Additional.	Total.
Cargo.....	1,296	8,877,605	\$1,626,278,708.60	\$42,382,272.00	\$1,668,660,980.60
Tankers.....	80	737,000	168,762,000.00	488,000.00	169,250,000.00
Transports.....	94	787,000	206,825,000.00	573,400.00	207,398,400.00
Hospital.....	2	20,000	7,000,000.00	12,200.00	7,012,200.00
Refrigerators.....	4	37,500	6,009,006.40	24,400.00	6,033,406.40
Tugs.....	112	.....	32,815,000.00	683,200.00	33,498,200.00
Barges.....	16	54,800	5,904,102.00	.....	5,904,102.00
Total.....	1,604	10,513,905	2,053,593,817.00	44,163,472.00	2,097,757,289.00

(2) Additional cost over contract value to complete.

Cargo vessels:	
1,296 ships, wireless, \$6,100 per ship.....	\$7,905,600
2,710,400 tons material, \$12 per ton.....	32,524,800
441,600 tons steel, \$4.42 per ton.....	1,951,872
	<u>42,382,272</u>
Tankers:	
80 ships, wireless, \$6,100 per ship.....	488,000
Transports:	
94 ships, wireless, \$6,100 per ship.....	573,400
Hospital ships:	
2 ships, wireless, \$6,100 per ship.....	12,200
Refrigerators:	
4 ships, wireless, \$6,100 per ship.....	24,400
Ocean tugs:	
104 ships, wireless, \$6,100 per ship.....	634,400
Harbor:	
8 ships, wireless, \$6,100 per ship.....	48,800

SUMMARY.

Cargo.....	\$42,382,272
Tankers.....	488,000
Transports.....	573,400
Hospital.....	12,200
Refrigerators.....	24,400
Ocean tugs.....	634,400
Harbor tugs.....	48,800
Total.....	<u>44,163,472</u>

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 103

(3) *Steel cargo ships.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
2	Merrill Stevens Co.	4	24,000
4	Los Angeles Shipbuilding & Dry Dock Co.	8	70,400
10	Skinner & Eddy	6	52,800
13	Seattle Construction & Dry Dock Co.	10	75,000
18	Moore Shipbuilding Co.	6	56,400
26	Baltimore Dry Dock & Shipbuilding Co.	8	70,400
30	Downey Shipbuilding Co.	10	75,000
33	Sun Shipbuilding Co.	4	40,000
48	Western Pipe & Steel Co.	8	70,400
57	Groton Iron Works	6	52,800
61	Saginaw Shipbuilding Co.	6	21,000
63	Long Beach Shipbuilding Co.	3	18,000
83	American International Shipbuilding Co.	110	825,000
86	Submarine Boat Co.	150	755,400
87	Merchants' Shipbuilding Co.	60	540,000
91	Newburgh Shipyards	10	90,000
92	Los Angeles Dry Dock & Shipbuilding Co.	22	193,600
95	Federal Shipbuilding Co.	10	96,000
97	Oscar Daniels Co.	10	95,000
98	Erickson Shipbuilding Co.	10	94,000
99	Bayles Shipyards	4	20,000
101-106	American Shipbuilding Co.	6	21,300
107-140	do.	34	120,700
142	Pacific Coast Shipbuilding Co.	10	94,000
144	Pensacola Shipbuilding Co.	10	90,000
145	Virginia Shipbuilding Co.	12	112,800
146	Atlantic Corporation	10	88,000
149	Merrill Stevens Co.	6	54,000
152	Moore Shipbuilding Co.	10	94,000
156	J. M. Standtler Construction Co.	10	95,000
157	Northwest Steel Co.	8	70,400
158	Columbia River Construction Co.	8	70,400
160-169	American Shipbuilding Co.	10	35,500
173	Toledo Shipbuilding Co.	8	28,000
174	Hanlon Dry Dock & Shipbuilding Co.	6	32,100
175	Skinner & Eddy	14	123,200
178	Bethlehem Shipbuilding Corp.	3	22,200
180	Western Pipe & Steel Co.	10	88,000
181	Saginaw Shipbuilding Co.	6	21,000
190	Albina Engine & Machine Co.	4	15,200
191	Bethlehem Shipbuilding Co.	4	47,300
192	Globe Shipbuilding Co.	4	14,000
196	Bethlehem Shipbuilding Corp.	1	7,400
199	Great Lakes Engineer Works	24	100,800
200	do.	6	20,100
202	Standard Shipbuilding Co.	10	74,330
203	Manitowoc Shipbuilding Co.	6	20,400
204	do.	3	10,200
205	McDougall-Duluth	10	35,000
210	Western Pipe & Steel Co.	10	88,000
217	Northwest Steel Co.	8	70,400
219	Federal Shipbuilding Co.	20	192,000
220	Carolina Shipbuilding Co.	12	115,200
222	Union Construction Co.	10	94,000
223	Globe Shipbuilding Co.	2	7,000
224	J. F. Duthie & Co.	10	88,000
225	Groton Iron Works	6	56,400
226	Bethlehem Shipbuilding Co.	3	22,200
227	Albina Engine & Machine Co.	5	19,000
228	Merrill Stevens Co.	5	21,500
230	Bethlehem Shipbuilding Corp.	2	23,600
231-236	American Shipbuilding Co.	6	21,300
237-296	do.	60	252,000
297	Columbia River Shipbuilding Co.	6	62,800
301	Bethlehem Shipbuilding Corp.	6	70,800
302	Columbia River Shipbuilding Co.	14	123,200
303	Mobile Shipbuilding Co.	12	60,000
304	Doulet & Williams	8	76,800
309	Skinner & Eddy	15	144,000
311	Long Beach Shipbuilding Co.	8	70,400
312	Bethlehem Shipbuilding Corp.	3	22,200
314	do.	7	35,700
315	Ames Shipbuilding & Dry Dock Co.	14	123,200
316	Chester Shipbuilding Co.	7	61,075
317	Manitowoc Shipbuilding Co.	18	74,900
318	Saginaw Shipbuilding Co.	12	48,600
319	American Shipbuilding Co.	60	243,000
320	Toledo Shipbuilding Co.	16	64,800
321	Globe Shipbuilding Co.	5	20,250
322	McDougall-Duluth	15	60,750

(3) *Steel cargo ships—Continued.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
323	Great Lakes Engineering Works	24	97,200
324	Skinner & Eddy	35	332,800
334	J. F. Duthie & Co	5	44,000
416	Mobile Shipbuilding Co	12	60,000
424	Western Pipe & Steel Co	4	35,200
425	Southwestern Shipbuilding Co	13	114,400
433	Todd Shipbuilding Co	24	180,000
435	Moore Shipbuilding Co	10	94,000
440	Los Angeles Shipbuilding Co	10	88,000
441	Albina Engine & Machine Works	4	15,200
442	Hanlon Shipbuilding Co	6	32,100
443	Pensacola Shipbuilding Co	6	54,000
447	Skinner & Eddy	12	115,200
453	New York Shipbuilding Co	1	11,750
455	Globe Shipbuilding Co	5	20,250
458	Northwest Steel Co	10	88,000
466	Long Beach Corporation	4	35,200
467	do	1	3,200
503	Standifer Construction Co	5	47,500
511	Newburgh Shipyards	2	18,000
	Total	1,296	8,877,605

(4) *Steel tankers, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
153	Moore Shipbuilding Co	6	60,000
177	Bethlehem Shipbuilding Corpn	12	121,200
178	do	3	22,500
179	do	3	30,300
183	do	3	27,300
197	Baltimore Dry Dock & Shipbuilding Co	12	123,600
206	do	6	36,900
215	Terry Shipbuilding Co	10	75,000
226	Bethlehem Shipbuilding Corpn	4	40,400
299	do	3	27,300
300	do	3	30,300
301	do	6	60,500
314	do	3	22,500
436	Moore Shipbuilding Co	6	60,000
	Total	80	737,000

(5) *Steel troop, hospital, and refrigerator ships, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
TROOP SHIPS.			
83	American International Shipbuilding Co	70	560,000
151	New York Shipbuilding Co	1	10,000
182	Bethlehem Shipbuilding Corpn	2	20,000
403	Newport News Shipbuilding Co	2	22,750
418	New York Shipbuilding Co	7	54,250
419	do	2	20,000
420	do	4	40,000
465	Bethlehem Shipbuilding Corpn	6	60,000
	Total	94	787,000
HOSPITAL SHIPS.			
151	New York Shipbuilding Co	2	20,000
STEEL REFRIGERATOR SHIPS.			
18	Moore Shipbuilding Co	4	37,500

(6) *Steel tugs, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Type.
184	Bethlehem Shipbuilding Corpn.....	20	Ocean.
198	Johnson Iron Works.....	6	Harbor.
207	Northwest Engineering Works.....	2	Do.
208	Providence Engine Co.....	10	Ocean.
214	Bayles Shipyards.....	2	Do.
216	Whitney Bros.....	10	Do.
313	Bethlehem Shipbuilding Co.....	10	Do.
343	Northwest Engineering Works.....	6	Do.
387	Newburg Shipbuilding Co.....	3	Do.
396	New Jersey Dry Dock & Transportation Co.....	2	Do.
398	Laks & Ocean Navigation Co.....	3	Do.
412	Foundation Co.....	10	Do.
432	W. H. Gahagan.....	10	Do.
439	Chas. L. Seabury.....	3	Do.
464	Bayles Shipyards.....	6	Do.
505	Northwest Engineering Works.....	9	Do.
Total.....		112	
SUMMARY.			
Harbor.....		8	
Ocean.....		104	
Total.....		112	

(7) *Steel barges, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
42	Alabama Dry Dock Co.....	2	15,000
415	Merrill Stevens Shipbuilding Co.....	6	19,800
500	Nashville Bridge Co.....	8	20,000
Total.....		16	54,800

E. WOOD AND COMPOSITE SHIPS.

(1) *Wood and composite ship summary.*

Type.	Number of ships.	Tonnage.	Contract value.	Additional.	Total.
Complete.....	181	707,500	\$96,615,332	\$13,571,550	\$110,186,882
Hulls.....	519	1,841,000	168,688,800	150,602,200	319,291,000
Barges.....	140	359,500	27,202,000		27,202,000
Tugs.....	162		28,994,500	366,000	29,360,500
Composite.....	32	116,000	15,668,000	1,421,200	17,089,200
Total.....	1,034	3,024,000	337,188,632	165,960,950	503,129,582

(2) *Wood ships, additional cost to complete over contract price.*

Complete:

Wireless, 181 ships, \$6,100 per ship.....	\$1, 104, 100
Lumber, 181 ships, \$7,500 per ship.....	1, 357, 500
Material, 624,700 tons, \$8.50 per ton.....	5, 309, 950
Machinery, 14 ships, \$200,000 per ship.....	2, 800, 000
Installation, machinery, 12 ships, \$250,000 per ship.....	3, 000, 000
Total.....	13, 571, 550

Hulls:

Wireless, 519 ships, \$6,100 per ship.....	3, 165, 900
Lumber, 519 ships, \$7,500 per ship.....	3, 892, 500
Material, 1,622,800 tons, \$8.50 per ton.....	13, 793, 800
Machinery installation, 519 ships, \$250,000 per ship.....	129, 750, 000
Total.....	150, 602, 200

Tugs:

Wireless, 60 ships, \$6,100 per ship.....	366, 000
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Composite:

Wireless, 32 ships, \$6,100 per ship.....	195, 200
Material, 116,000 tons, \$8.50 per ton.....	986, 000
Lumber, 32 ships, \$7,500 per ship.....	240, 000
Total.....	1, 421, 200

SUMMARY.

Complete.....	13, 571, 550
Hulls.....	150, 602, 200
Tugs.....	366, 000
Composite.....	1, 421, 200
Total.....	165, 960, 950

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 107

(3) Wood ships complete, contracts and commitments.

Contract.	Shipbuilder.	Number of ships.	Tonnage.
3	G. M. Standifer Construction Co.....	10	35,000
5	Peninsula Shipbuilding Co.....	4	16,000
6	Sloan Shipyards.....	16	56,000
22	Newcomb Life Boat Co.....	4	14,000
23	Traylor Shipbuilding Co.....	10	35,000
25	Lake & Ocean Navigation Co.....	1	2,500
32	National Shipbuilding Co.....	12	56,400
34	Grant, Smith & Porter Co.....	12	42,000
40	.....do.....	16	56,000
143	Meacham & Babcock.....	6	21,000
154	Coast Shipbuilding Co.....	4	14,000
155	R. J. Chandler.....	2	7,000
172	Peninsula Shipbuilding Co.....	4	16,000
176	G. M. Standifer Construction Co.....	6	27,000
187	Pacific American Fisheries.....	7	21,500
336	National Shipbuilding Co.....	16	78,400
384	Continental Shipbuilding Co.....	1	1,500
389	Supple & Ballin.....	4	18,000
401	Kiernan & Kern.....	4	18,000
428	Grant, Smith & Porter Co.....	4	28,000
429	.....do.....	14	49,000
438	Dierks & Blodgett.....	6	30,000
445	Patterson & McDonald.....	4	19,200
437	Peninsula Shipbuilding Co.....	4	16,000
509	G. M. Standifer Construction Co.....	6	27,000
	Total.....	151	707,500

(4) Wood ship hulls, contract and commitments.

Contract.	Shipbuilder.	Number of ships.	Tonnage.
7	Grays Harbor M. S. Co.....	4	16,000
8	Coast Shipbuilding Co.....	4	14,000
11	Sanderson & Porter.....	15	52,500
12	Maryland Shipbuilding Co.....	6	21,000
14	Foundation Co.....	10	35,000
15	Groton Iron Works.....	12	42,000
16	Ship Construction Co.....	2	7,000
19	Russell Ship Co.....	6	21,000
20	Universal Shipbuilding Co.....	12	42,000
21	McBride & Law.....	4	14,000
28	Union Bridge Co.....	12	48,600
29	Jahncke Shipbuilding Co.....	6	21,000
35	Gildersleeve Shipbuilding Co.....	2	7,000
36	Lone Star Shipbuilding Co.....	8	28,000
37	Kingston Shipbuilding Co.....	4	14,000
38	Johnson Shipyards.....	3	10,500
39	Dierks & Blodgett.....	6	21,000
45	J. N. McCammon.....	2	7,000
46	Hammond Lumber Co.....	2	7,000
47	Alabama Dry Dock & Shipbuilding Co.....	2	7,000
49	Murnan Shipbuilding Co.....	4	14,000
50	G. A. Gillerist.....	1	3,500
51	Hodge Ship Co.....	4	14,000
52	Southern Dry Dock & Shipbuilding Co.....	5	17,500
54	Midland Bridge Co.....	6	21,000
55	United States Maritime Co.....	6	21,000
56	North Carolina Shipbuilding Co.....	2	7,000
58	Morey & Thomas.....	4	14,000
59	Cumberland Shipbuilding Co.....	9	31,500
60	L. H. Shattuck.....	18	63,000
62	York River Shipbuilding Co.....	8	28,000
64	Kruse & Banks Shipbuilding Co.....	6	21,000
65	Fulton Shipbuilding Co.....	4	14,000
66	Freeport Shipbuilding Co.....	1	3,500
67	Sommerstrom Shipbuilding Co.....	4	14,000
68	Kelly Spear Co.....	1	3,500
69	Meacham & Babcock.....	2	7,000
70	Wilson Shipbuilding Co.....	3	10,500
72	Coos Bay Shipbuilding Co.....	4	14,000
73	Housatonic Shipbuilding Co.....	6	21,000
74	Wilson & Keyes.....	4	14,000
75	Geo. F. Rodgers & Co.....	4	14,000
76	Seaborn Shipyards.....	8	28,000

108 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

(4) Wood ship hulls, contract and commitments—Continued.

Contract.	Shipbuilder.	Number of ships.	Tonnage.
77	St. Helens Shipbuilding Co.	2	7,000
78	Barbare Bros.	1	3,500
79	R. J. Chandler	2	7,000
80	Sandy Point Shipbuilding Co.	2	7,000
81	Benecia Shipbuilding Co.	2	7,000
82	Wright Shipyards	2	7,000
84	Feeney & Bremer	1	3,500
85	Tacoma Shipbuilding Co.	4	14,000
88	Dantzer Shipbuilding Co.	6	21,000
89	Heidenfels Bros.	4	14,000
90	Hammond Lumber Co.	2	7,000
96	McEachern Shipbuilding Co.	10	35,000
148	Grays Harbor M. S. Co.	13	52,000
159	Puget Sound Bridge & Dredging Co.	8	32,000
170	National Shipbuilding & Dry Dock Co.	2	7,000
189	S. B. Rolph & Co.	2	7,000
193	Allen Shipbuilding Co.	2	7,000
195	Barbare Bros.	2	7,000
201	Coos Bay Shipbuilding Co.	2	7,000
209	Wright Shipyards	2	7,000
212	Fulton Shipbuilding Co.	2	7,000
213	Freeport Shipbuilding Co.	3	10,500
221	Wilson Shipbuilding Co.	3	10,500
310	Tacoma Shipbuilding Co.	6	21,000
325	Fulton Shipbuilding Co.	2	7,000
326	R. J. Chandler	2	7,000
327	Hammond Lumber Co.	3	10,500
328	Seaborn Shipyards	6	21,000
329	Wright Shipyards	5	17,500
330	McEachern Shipbuilding Co.	10	35,000
331	Sommerstrom Shipbuilding Co.	4	14,000
332	Wilson Shipbuilding Co.	1	3,500
333	Coos Bay Shipbuilding Co.	4	14,000
335	Meacham & Babcock	4	14,000
337	St. Helens Shipbuilding Co.	2	7,000
338	Benecia Shipbuilding Co.	1	3,500
339	G. F. Rodgers Shipbuilding Co.	2	7,000
341	Nilson & Kelez	2	7,000
342	Feeney & Bremer	1	3,500
377	Kruse & Banks	6	21,000
379	J. N. Murdock	6	21,000
385	Missouri Valley Co.	7	24,500
386	Rolph Shipbuilding Co.	2	7,000
395	Hodge Shipbuilding Co.	4	14,000
392	Jahncke Shipbuilding Co.	6	21,000
405	St. Johns River Shipbuilding Co.	6	21,000
411	Beaumont Shipbuilding Co.	12	42,000
407	Tampa Dock Co.	8	28,000
423	Universal Shipbuilding Co.	6	21,000
393	Midland Bridge Co.	2	7,000
430	Allen Shipbuilding Co.	2	7,000
434	Johnson Shipyards	1	3,500
444	Morey & Thomas	4	14,000
459	Rolph Shipbuilding Co.	4	14,000
456	Southern Dry Dock & Shipbuilding Co.	5	17,500
468	Grays Harbor M. S. Co.	8	32,800
477	American Shipbuilding Co.	10	35,000
481	North Carolina Shipbuilding Co.	2	7,000
484	Barbare Bros.	2	7,000
485	Meacham & Babcock	2	7,000
488	Nilson & Kelez	2	7,000
489	Coast Shipbuilding Co.	4	14,000
490	Heidenfels Bros.	4	14,000
491	McBride & Law	2	7,000
492	Benecia Shipbuilding Co.	2	7,000
493	Russell Shipbuilding Co.	3	10,500
497	Kingston Shipbuilding Co.	3	10,500
498	Wilson Shipbuilding Co.	3	10,500
499	Geo. F. Rodgers Co.	2	7,000
504	St. Helens Shipbuilding Co.	2	7,000
508	Standifer Construction Co.	4	14,000
510	St. Johns River Shipbuilding Co.	2	7,000
512	Hy. T. Smith Bros.	4	14,000
513	Fulton Shipbuilding Co.	4	14,000
Com.	United States Maritime Co.	3	10,500
	Total	513	1,841,000

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 109

(5) Wood tugs, contracts and commitments.

Contract.	Shipbuilder.	Number of ships.
Ocean:		
168	M. M. Davis & Son.....	8
194	Crowinshield Shipbuilding Co.....	6
211	Southland Shipbuilding Co.....	7
391	Crowinshield Shipbuilding Co.....	6
413	Universal Shipbuilding Co.....	3
422	M. M. Davis & Son.....	12
457	Sydney C. McLouth.....	4
472	Continental Shipbuilding Co.....	2
483	Main Iron Works.....	7
Com.	Sydney C. McLouth.....	5
Total.....		60
Harbor:		
218	Northwest Engineering Works.....	1
378	Leathem & Smith.....	3
383	Northwest Engineering Works.....	4
404	Capt. Geo. F. Pilkington.....	2
417	Chas. L. Seabury.....	6
421	Cumberland Shipbuilding Co.....	2
431	International Shipbuilding & Marine Co.....	5
460	Eastern Shore Shipbuilding Co.....	6
461	Burger Boat Co.....	6
470	Chance Marine Co.....	6
473	Gibbs Gas Engine Co.....	6
476	Jno. W. Sullivan Co.....	4
478	Vinard Shipbuilding Co.....	3
479	John H. Machias Co.....	5
486	Dachel Carter Boat Co.....	5
487	Leathem & Smith.....	9
495	A. C. Brown & Sons.....	10
496	Smith & Williams.....	4
502	Ward & Pride.....	2
506	Northwest Engineering Works.....	12
Com.	Weehawken Dry Dock Co.....	1
Total.....		102
SUMMARY.		
Ocean.....		60
Harbor.....		102
Total.....		162

(6) Wood-ship barges, contracts and commitments.

Contract.	Shipbuilder.	Number of ships.	Tonnage.
343	Union Bridge & Construction Co.....	3	7,500
374	Houston Shipbuilding Co.....	5	12,500
375	American Shipbuilding & Dry Dock Co.....	4	10,000
376	Coastwise Shipbuilding Co.....	5	12,500
380	Gulf Coast Transportation Co.....	6	15,000
381	Machias Shipbuilding Co.....	4	10,000
388	Kelley & Spear.....	6	15,000
390	Atlantic, Gulf & Pacific.....	8	20,000
392	Jahneke Shipbuilding Co.....	4	14,000
393	Midland Bridge Co.....	10	25,000
394	American Lumber Co.....	8	20,000
397	Smith & Terry.....	2	5,000
400	Mississippi Shipbuilding Co.....	4	10,000
402	Cumberland Shipbuilding Co.....	4	10,000
405	John H. Fahey.....	6	15,000
406	White Haven Shipbuilding Co.....	2	5,000
408	Calais Shipbuilding Co.....	2	5,000
409	Anclote Shipbuilding Co.....	4	10,000
410	Newcastle Shipbuilding Co.....	4	10,000
411	Beaumont Shipbuilding Co.....	2	4,000
414	Sandy Point Shipbuilding Co.....	2	5,000
423	Universal Shipbuilding Co.....	2	5,000
427	Crisfield Shipbuilding Co.....	2	5,000
446	Richard T. Green.....	1	2,500
448	Johnson Shipyards.....	6	15,000

(6) *Wood-ship barges, contracts and commitments—Continued.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
450	Bloxom Bros.....	2	5,000
451	Sawyer Shipyards.....	2	5,000
454	Darfen Shipbuilding Co.....	2	5,000
462	Francis Cobb Co.....	2	5,000
463	Naches Shipbuilding Co.....	4	14,000
469	Crosby Navigation Co.....	2	5,500
471	Standard Shipyards.....	2	5,000
474	H. E. Crook Shipbuilding Co.....	3	7,500
475	Aulick, Kendrick, Cobb & Tucker.....	4	10,000
480	Narraganset Shipbuilding Co.....	3	7,500
494	Bangor Brewer Shipbuilding Co.....	2	5,000
501	Elliott Bay Shipbuilding Co.....	2	7,000
507	J. W. McCammon.....	2	5,000
Com.	E. James Tull.....	2	5,000
	Total.....	140	359,500

(7) *Composite ships complete, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
1	Morrill Stevens Co.....	8	28,000
9	Terry Shipbuilding Co.....	10	35,000
31	Supple & Ballin.....	8	32,000
44	Mobile Shipbuilding Co.....	6	21,000
		32	116,000

F. CONCRETE SHIPS.

(1) *Concrete ship hulls, contracts and commitments.*

Contract.	Shipbuilder.	Number of ships.	Tonnage.
147	Liberty Shipbuilding Co.....	1	3,000
185	Fougner American Concrete Steel.....	1	3,500
208	San Francisco Shipbuilding Co.....	8	60,000
305	A. Bentley & Sons.....	8	60,000
306	Fred T. Ley & Co.....	8	60,000
307	Scofield Engineering Co.....	8	60,000
229	Liberty Shipbuilding Co.....	8	52,000
	Total.....	42	298,500

(2) *Additional cost to complete concrete hulls.*

42 ships, wireless, \$6,100.....	\$256,200
38 ships, machinery, \$500,000 per hull.....	19,000,000
4 ships, machinery, \$250,000 per hull.....	1,000,000
38 ships, labor and material, \$100,000 per hull.....	3,800,000
4 ships, labor and material, \$75,000 per hull.....	300,000
Total.....	24,356,200

G. FOREIGN YARDS.

(1.) Summary, foreign yard ship construction.

	Number of ships.	Tonnage.
Japan	30	245,850
China	4	40,000
Total	34	285,850

(2.) Ships under contract and commitment for construction in foreign yards.

Contract.	Shipbuilder.	Number of ships.	Tonnage.
344	Asahi	1	5,500
345	Fuginigata	1	6,300
346-347	Harima Co	2	15,500
348-349	Ishikawajima	2	10,000
350-354	Kawasaki	5	45,000
355	Nitta	1	5,500
356-358	Yokohama	3	18,900
359-360	Asano	2	25,200
361-363	Uraga	3	19,950
364-365	Mitsua Bussan	2	18,200
366-367	Nitsubishi	2	16,800
378-369	Uchida	2	17,000
0-373	Osaka	4	42,000
399	Kiangnan Dock & Engineering Co	4	40,000
	Total	34	285,850

H. PLANT AND PROPERTY.

(1.) Plant and property authorizations, appropriations, and commitments.

Authorizations and appropriations:

Urgent deficiency, Oct. 6, 1917

\$35,000,000

Sundry civil appropriation bill..... 87,000,000

122,000,000

Transferred from ship funds..... 80,000,000

202,000,000

Set aside for marine railways and dry docks

25,000,000

\$177,000,000

Commitments:

Summary..... 148,495,000

Balance available..... 28,505,000

(2.) Plant and property summary.

Fabricated yards..... \$93,850,000

Shipyards and other plants..... 46,645,000

Small tools and plant protection

8,000,000

Total..... 148,495,000

(3.) *Investments in fabricated yards.*

Hog Island.....	\$58,850,000
Submarine Boat.....	17,000,000
Merchants Shipbuilding Co.....	11,000,000
Wilmington Steel ¹	2,000,000
Concrete Yards.....	5,000,000
Total.....	93,850,000

(4.) *Investments in shipyards and other plants.*

Newport News Shipbuilding Co.....	\$2,900,000
Do.....	550,000
McClintock Marshall.....	5,025,000
Ralston Steel Car Co.....	354,000
Standard Steel Car Co.....	900,000
Baltimore Car & Foundry Co.....	750,000
John Brennan Co.....	233,000
Pressed Steel Car Co.....	267,000
Bethlehem Shipbuilding Corporation (Harlan).....	141,000
Bethlehem Shipbuilding Corporation (Sparrows Point).....	3,100,000
Bethlehem Shipbuilding Corporation (Union).....	1,500,000
Bethlehem Shipbuilding Corporation (Liberty) ²	10,000,000
Seattle Construction & Drydock Co.....	6,000,000
Midland Bridge Co.....	375,000
New York Shipbuilding Co.....	14,000,000
Newburgh Shipyards.....	550,000
Total.....	46,645,000

(5) *Small tools and plant protection.*

Small tools, fire protection, dredging.....	\$6,000,000
Plant protection.....	2,000,000
Total.....	8,000,000

I. HOUSING AND TRANSPORTATION.

(1) *Authorizations, appropriations, and commitments, housing and transportation.*

Housing:

Authorizations—

Housing act, Mar. 1, 1918.....	\$50,000,000
Sundry civil appropriation bill, 1919.....	25,000,000
	<u>\$75,000,000</u>

Appropriations—

Sundry civil appropriation bill, 1919.....	75,000,000
Commitments.....	68,006,475

Balance available.....	<u>6,993,525</u>
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Transportation:

Authorizations and appropriation—

Sundry civil appropriation bill, 1919.....	20,000,000
Commitments.....	10,700,791

Balance available.....	<u>9,299,209</u>
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¹ Two ways canceled on Oct. 15, reducing cost to \$2,000,000.² This contract has since been canceled.

(2) *Housing contracts and commitments.*

Atlantic Corporation, Portsmouth, N. H.....	\$1,900,000
Newport News Shipbuilding & Dry Dock Co., Newport News.....	4,880,500
New York Shipbuilding Co., Camden.....	9,525,000
Pusey & Jones, Gloucester.....	2,470,000
Bethlehem Shipbuilding Co. and Pusey Jones, Wilmington.....	3,000,000
Bethlehem Shipbuilding Co., Sparrows Point.....	4,500,000
Chester Shipbuilding Co., Chester.....	3,250,000
Texas Shipbuilding Co., Bath.....	750,000
Merchants Shipbuilding Co., Bristol.....	5,380,000
American International Shipbuilding Co., Philadelphia.....	10,031,000
Sun Shipbuilding Co., Chester.....	3,560,000
J. M. Standifer Construction Co., Vancouver.....	350,000
Bayles Shipbuilding Co., Port Jefferson.....	300,000
American Shipbuilding Co., Lorain.....	1,260,000
Merrill Stevens Co., Jacksonville.....	650,000
Westinghouse Electric Co., Essington, Pa.....	1,200,000
Terry Shipbuilding Co., Savannah.....	750,000
Traylor Shipbuilding Co., Cornwells Heights (for tents).....	5,000
Pensacola Shipbuilding Co., Pensacola.....	660,000
Pacific Coast Shipbuilding Co., Suisun Bay, Cal.....	750,000
Detroit Shipbuilding Co., Wyandotte, Mich.....	385,000
Manitowoc Shipbuilding Co., Manitowoc, Wis.....	560,000
Groton Iron Works, Groton, Conn.....	1,200,000
Newburgh Ship Co., Newburgh.....	900,000
Louisiana Shipbuilding Co., Slidell, La.....	50,000
	58,266,500
Reserve 15 per cent.....	8,739,975
Expenses.....	1,000,000
	9,739,975
Total.....	68,006,475

(3) *Transportation contracts and commitments.*

Texas Shipbuilding Co., Bath, Me.....	\$170,500
Bethlehem Shipbuilding Co., Fore River.....	164,000
Staten Island Shipyards, Staten Island.....	645,000
Foundation Co., Kearny, N. J.....	39,586
Submarine Boat Co., Newark, N. J.....	821,739
New York Shipbuilding Co., Camden, N. J.....	1,240,680
Pusey & Jones Co., Gloucester.....	215,947
American International Corporation, Hog Island.....	3,105,000
Chester and Essington plants.....	1,225,360
Baltimore Shipyards, Sparrows Point.....	989,638
Newport News Shipbuilding & Dry Dock Co., Newport News.....	300,000
Terry Shipyards, Savannah, Ga.....	4,416
Tacoma Shipyards.....	232,400
Portland Railway & Light Co., Portland, Oreg.....	171,000
Moore Shipbuilding Co., Oakland, Cal.....	9,675
Bethlehem Shipbuilding Co., Oakland, Cal.....	465,600
Mobile Light & Railway Co., Mobile.....	60,000
Duluth Street Railway, Duluth.....	100,000

114 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

Lone Star Shipbuilding Co., Ferry equipment	\$3,250
Tidewater Power Co., Wilmington, N. C.....	350,000
Lake Shore & Michigan Southern R. R. Co.....	6,000
Municipal Railway System, Seattle, Wash.....	377,000
Arthur W. Horton, Portsmouth, N. H.....	4,000
Total.....	<u>10,700,791</u>

J. DRY DOCKS AND MARINE RAILWAYS.

(1) *Authorizations and appropriations and commitments, dry docks and marine railways.*

Authorizations and appropriations:

Transferred from plant and property.....	<u>\$25,000,000</u>
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Commitments:

Marine railways.....	878,500
Dry docks.....	6,324,000
	<u>7,202,500</u>

Balance available.....	<u>17,797,500</u>
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(2) *Dry docks.*

Bethlehem Shipbuilding Corporation.....	\$1,250,000
Alabama Dry Dock Co.....	560,000
Terry & Britain, Savannah.....	577,000
Terry & Britain, Jacksonville.....	572,000
Beaumont Shipbuilding & Dry Dock Co.....	350,000
Galveston Dry Dock & Construction Co.....	675,000
Jahncke Shipbuilding Co.....	700,000
Services Wm. T. Donnelly.....	275,000
Geo. Leary Construction Co.....	1,365,000
Total.....	<u>6,324,000</u>

(3) *Marine railways.*

Cumberland Shipbuilding Co.....	\$100,000
Crowinshield Shipbuilding Co.....	100,000
Newcomb Lifeboat Co.....	100,000
R. S. Salas.....	100,000
Terry & Britain.....	100,000
Tampa Dock Co.....	100,000
Henderson Shipbuilding Co.....	100,000
Barnes & Tibbetts.....	110,000
Crandell Services.....	68,500
Total.....	<u>878,500</u>

LEGAL PROBLEMS.

The Emergency Fleet Corporation is a new departure in the machinery of government. It is in form, and in many respects in effect, a private corporation, and yet the ownership of its stock by the United States and the delegation to it by the President of great duties and powers, have made it in many respects a Government

agency. This dual character has raised many novel questions of law and procedure, resulting in unusual demands upon the Legal Division.

It has been necessary for the Legal Division to grow rapidly to keep pace with the enormous increase in the work of the Emergency Fleet Corporation. During the last year it has grown from a staff of 7 attorneys located in Washington to a staff of 32 scattered throughout the country. Of these, 23 are located at the home office in Philadelphia, 1 each in Washington, Boston, New York, Cleveland, Seattle and Portland, Oreg., and 3 in San Francisco. While the chief activities of the division are at the home office, it has been found necessary to have assistant counsel at the principal shipbuilding centers. In addition to this, local counsel have been selected at certain points to advise the representatives of the Corporation when necessary.

The legal services for the Corporation include the drafting of contracts not only for ships, but for practically everything that goes with them, and for the extension of shipyards and other facilities necessary for the production of ships in the quantity and with the speed required by the present emergency. Legal advice and assistance have been given the various other divisions of the Corporation in construing the contracts and meeting the innumerable questions that arise in the prosecution of the work, including those incident to the dual character of private corporation and Government agency.

One of the most important tasks which the division has encountered is making settlement with the shipbuilders, and also with the owners of hulls and materials in shipyards which were requisitioned in various stages of incompleteness, the amounts involved in some cases reaching many millions of dollars.

Another task which has demanded much of the time and attention of the division is the housing of shipyard workers. It soon became evident that the Corporation would have to aid to a greater or less extent in housing the workers at many of the shipyards, and no law was found which gave it authority to do so properly. Adequate power was conferred by an act of Congress authorizing the acquisition of property, the making of loans, and expenditure of money for this purpose, at the same time giving the Corporation power to requisition property or its temporary use for shipyard workers. Under the plan adopted, the housing facilities are secured through loans to the shipbuilders or subsidiary companies. The appropriate methods of legal procedure for exercising these powers had to be formulated; proper housing had to be provided for the shipyard workers with due regard to the rights of the public; whole villages have been built, involving questions of municipal government, and

many claims for just compensation for property taken have been presented. As indicating the success with which this problem has been handled, practically all claims and matters of difference have been settled by negotiation in a friendly spirit, and no litigation has resulted. In a number of cases the means for transporting workers to and from the yards proved inadequate, and it has become necessary to assist the transportation companies in meeting the extraordinary demands upon them in order to avoid retarding ship production.

Congress has been asked for legislation giving the Corporation power to prosecute criminally those attempting to defraud the Corporation on the ground that such action is in effect an attempt to defraud the United States. In a number of instances efforts by the Corporation to purchase property of prime necessity for the production of ships have been met not in a spirit of patriotism but in a spirit of profiteering. An extension of the requisitioning power has been asked so that such property may be acquired promptly and at a fair price. The enactment of these laws and the granting of the appropriation which has been asked are deemed of vital importance to the success of the Corporation's undertaking and the proper safeguarding of the Government's interests. Bills embodying the legislation desired are now pending.

COMMANDEERING OF VESSELS IN COURSE OF CONSTRUCTION.

On August 3, 1917, the Corporation, acting under the urgent deficiencies act, commandeered all hulls and material in American shipyards to be used for the construction of steel cargo-carrying vessels of over 2,500 dead-weight tons capacity. The purposes of this commandeering order were to secure to the United States a tonnage which otherwise would have gone very largely into foreign ownership; to expedite construction by simplifying the designs of many of these ships; to prevent interference by these ships with others which the Corporation proposed to construct; to acquire control over the American shipbuilding industry, which could not be acquired except by our having direct relations with the shipbuilders; and to be in a position at all times to allocate material and equipment between these ships and others. At the time of the commandeering order practically all of the available shipbuilding capacity of the country was taken up either in the building of ships for the Navy or in building these commandeered ships. These ships were in various stages of incompleteness, and in some cases only a few materials had been acquired by the builder.

The shipowners, particularly the foreigners who controlled over half of the commandeered tonnage, were loath to surrender their

ships and to settle on a money basis because of their very pressing needs for ships, until after it was very persuasively pointed out to them that the United States really had no other course. Over two-thirds of all of these foreign claims are settled and negotiations are pending for the settlement of many others. The American claims in some instances have been settled by retransfers of the ships, repayment of our investment in them, and a charter securing the use of the ships to the United States during the war.

The construction problems were more important. The Corporation soon after the commandeering sent experts to consider what changes could be made in these ships, so as to simplify them and hasten their completion. These changes were made, together with others, to adapt the vessels for immediate service in the war zone; they have been dealt with precisely as other ships building under direct contract.

The results of this commandeering order have been far more satisfactory than was at first believed possible. All except a very few of the earliest ships have been retained either by the Shipping Board or by the American citizens who immediately chartered the ships to the Shipping Board. Out of a total of 414 ships of 2,895,848 tons covered by the commandeering order, excluding canceled and released tonnage, 255 ships of 1,596,831 tons have been completed up to October 1, 1918. The case of the New York Shipbuilding Corporation may be cited as an instance of the acceleration of production as a result of the Corporation's control. Only 5 ships of a total tonnage of 38,424 tons were completed and delivered in their plant during 1917. During the first nine months of 1918, 13 ships of 97,400 tons have already been delivered, and there is a very strong probability that 3 more ships of 26,200 tons will be completed and delivered before the end of the calendar year 1918. This is an unusual case, but there are many others where production has increased very rapidly after the commandeering order.

The Corporation feels that all things considered the commandeering order of August 3, 1917, has abundantly justified itself.

CONTRACTS FOR SHIP CONSTRUCTION.

Originally it was supposed that the main function of the Emergency Fleet Corporation would be that of developing designs and placing contracts for ship construction. With the expansion of the war program and with the increased demands for quantity production it gradually developed that, in order to cope successfully with the situation, it was essential for the Corporation to assume more positive control of some of the managerial functions of the shipyards. An important part, however, of the work of the Corporation centers around the consideration, preparation and execution of contracts to

build ships, and also contracts for dry docks, for marine railways and for the installation of machinery and equipment.

On the basis of the construction program, as approved by the Shipping Board, shipbuilders are notified as to the numbers, types and tonnage of vessels for which the Corporation will consider bids, and they submit detailed proposals accordingly, with full data as to their producing capacity, labor supply, availability of material, financial standing, etc. This data is carefully sifted by the appropriate divisions of the Corporation and by district representatives before contracts are entered upon. In general, the Emergency Fleet Corporation has preferred to utilize and expand existing plants rather than to encourage the creation of new plants, which compete with the established plants for labor and disrupt their organization.

The number of contracts granted to a certain yard is limited to the ways available, other contracts being made as facilities for building are completed. In the case of new yards, approved by the Emergency Fleet Corporation, contracts are considered up to two and rarely three vessels per way. The Corporation, however, reserves the right to cancel contracts for vessels not yet begun, reimbursing the owners of the plant for expenditures made in getting the plant ready.

After the Contract Division of the Corporation has made all the necessary investigations and agreed upon the terms of contract, the advances to be made to contractor for improvements and extensions, etc., the proposed agreement is submitted to the vice president in charge for his approval. If approved, the Legal Division of the Emergency Fleet Corporation prepares an agreement, which it approves as to form, and which the Contract Division approves as to substance.

In the case of wood vessels, there are two general types of contracts—(1) for the completed vessels and (2) for hull only. In the latter case the Emergency Fleet Corporation furnishes and installs the engines and equipment. Even in the case of contracts for completed vessels, the Corporation reserves the right to furnish such parts of the equipment as it can supply more cheaply and certain standard equipment is regularly furnished by the Corporation for all vessels constructed by it.

Contracts in the earlier period of the Corporation were made on either (1) a lump-sum basis, by which the shipbuilder submitted a certain definite figure for which he would build a certain type of ship, or (2) a fee basis, by which the builder submitted a proposal to build for a sum not to exceed a certain figure, and to take a certain fee in return for his services, with provision for bonus, shared between builder and Corporation, in case actual cost fell below the estimated cost. Except in the contracts to agency yards, built from Corporation funds, and in the case of new or special types of vessels, all con-

tracts are now made on a lump-sum basis. In such contracts the builders are protected by the Corporation against increases in the cost of constructional material, and against increase in labor cost due to changes in wages made by the Shipbuilding Labor Adjustment Board. Terms are also agreed upon as to alteration, delays, cancellation of contract, loss of vessels before completion, and terms of payment.

From the time of its organization up to August 31, 1918, the Corporation had negotiated 495 contracts, aggregating 2,298 vessels, with a total of 14,119,130 dead-weight tons, involving an estimated cost of \$2,319,216,204.

MANAGEMENT OF SHIPBUILDING DISTRICTS.

The functions of the original organization of the Emergency Fleet Corporation centered largely around placing of contracts and the development of proper standardized designs for ships. It became apparent very early in the life of the Corporation, however, that owing to the peculiar conditions growing out of the prosecution of the war shipyard owners were in large degree unable to control either the material or the labor supply of their yards, and it therefore devolved upon the Corporation to build up an organization which would supplement the functions usually served by the yard managements and would in many cases in fact supersede them. This change in the functions of the Emergency Fleet Corporation threw a tremendous load on the central management, and it became apparent that if success were to be achieved a scheme of decentralization had to be developed.

For the purposes of administration the country had been divided into 11 districts, and there was placed in each district a representative of each one of the operative and administrative divisions of the Corporation. These representatives reported directly to the division head at the home office and acted, therefore, merely as transmitting agents for difficulties in question that arose in the field.

As a first step in the decentralization, it was determined to develop in each district an organization which to all intents and purposes was a cross section of the organization of the home office, control of all matters affecting the district being placed in the hands of the district manager who reports directly to the vice president and general manager.

The actual change from the old to the new district organization was a matter of comparatively slow growth, because the district officers were given time to develop experience before they were charged with the full responsibility of the new scheme. The districts were rearranged, several of the old ones being consolidated, and the number was reduced from 11 to 8.

EXTENSION OF SHIPBUILDING YARDS AND FACILITIES.

When the United States entered the war there were 37 shipyards building steel vessels and 24 shipyards building wooden vessels of over 3,000 tons in the United States. There were 142 ways in the steel yards and 73 shipways in the wooden yards. About 70 per cent of the ways in the steel yards were constructing vessels for the Navy and many of the wooden yards were unfit for modern shipbuilding purposes. In order to procure ships, it was therefore necessary to expand the existing yards and to build new ones.

The means to accomplish this expansion of shipyard facilities consisted in advancing funds on the contract with permission to apply them to plant construction. The encouragement thus lent induced many contractors for wood hulls to provide facilities out of keeping with the number of hulls ordered or the prospects ahead. While the ways in steel shipyards made available for Emergency Fleet Corporation work were increased from 142 to 398 by November 1, 1918, those in wood yards were increased for a much smaller tonnage, from 73 to 418. The number of steel yards taking part in the war program has been approximately trebled and wood yards quintupled since the United States entered the war.

The Emergency Fleet Corporation has provided for the building of four large fabricating steel yards, at which standardized steel vessels are assembled, a large part of the work being done in the manufacturing establishments that furnish the steel.

These "agency yards," as they are called, are the American International Shipbuilding Corporation at Hog Island, Pa.; the Merchant Shipbuilding Corporation at Bristol, Pa.; the Submarine Boat Corporation at Newark, N. J.; and the Carolina Shipbuilding Co. at Wilmington, N. C. These four yards, now practically complete, will have a total of 94 ways, and when in full operation are expected to produce in a year more tonnage than the largest annual production of any country prior to 1918.

There are five Government-owned yards for building concrete vessels. These yards are located at San Diego, Cal.; Oakland, Cal.; Wilmington, N. C.; Mobile, Ala.; and Jacksonville, Fla. Each yard has four ways and is capable of considerable expansion should the necessity arise.

There were on November 1, 1918, 198 yards which had contracts for the construction of vessels for the Emergency Fleet Corporation. These yards have a total of 1,083 ways completed or being constructed, of which 939 are for Emergency Fleet Corporation work and 144 for the Navy or private work.

For convenience in administration, the shipyards building vessels for the Emergency Fleet Corporation can be divided into four groups as follows:

1. *Government agency plants.*—These, as stated before, include four yards building fabricated steel vessels and five yards building concrete vessels. These plants were built with Emergency Fleet Corporation funds by agents who contracted to build the yards at cost. With the exception of the Submarine Boat Corporation, which builds vessels on the lump-sum basis, these yards build vessels for the Emergency Fleet Corporation on the cost-plus-fee basis. Ships are contracted for at a certain figure estimated to cover the cost of the vessels, and the contractor receives a fee from 3 to 7½ per cent of the estimated cost, with a bonus in case the vessels are built at a cost less than the estimated figure, or in case of delivery before the scheduled dates.

The Emergency Fleet Corporation has an option to purchase the real estate from the contracting company in the contracts with the Merchant Shipbuilding Corporation and the American International Shipbuilding Corporation. In case the Corporation does not exercise its option to purchase, the contractor may purchase the improvements at an appraised valuation.

The Emergency Fleet Corporation owns the land upon which the Carolina Shipbuilding Co.'s plant is located. The contractor has the option to purchase the land and the plants. In case of the Submarine Boat Corporation, the Emergency Fleet Corporation is the lessee of the land, and is renting the plant at a fixed sum to the Submarine Boat Corporation.

2. *Investment plants.*—The Emergency Fleet Corporation furnishes the major part of all of the funds needed for plant construction for most of these, and retains title to the property paid for by it.

The contractor, as a general rule, has an option to purchase the plant and the Fleet Corporation in some instances has the right to purchase the real estate of the owner.

3. *Contract yards.*—These are yards operated by private shipbuilding companies which receive contracts to build vessels for the Emergency Fleet Corporation. The majority of the shipyards belong to this class. Contracts have been let to these yards on the lump-sum basis, the cost plus fee basis, the cost plus fee and partial saving basis and the per dead weight ton basis. In a number of cases, advance payments on account of the vessels have been made to assist in plant expansion. Repayment as a rule is secured by a bond and mortgage and the Emergency Fleet Corporation is further given the right to retain the amount advanced out of the amount due the contractor on the purchase price of the vessels. Contributions have also been made by the Emergency Fleet Corporation to increase the plant facilities of the contractor in some cases, on condition that the contractor expend a certain stated amount of his own funds for the same purpose.

4. *Requisition yards.*—These are yards whose output has been requisitioned by the Emergency Fleet Corporation. Such yards may

secure contracts to build additional vessels if satisfactory terms can be arranged when they finish the construction of the requisitioned vessels. Most of these yards have been receiving contracts from time to time as the requisitioned vessels are completed and accordingly may also be classed as contract yards.

Shipyards Plants Division.

The work of the Division of Shipyards Plants is primarily engineering and technical. The engineers of the division examine and pass on all plans for plant work and supervise the construction of shipyards, industrial plants, dry docks, and marine railways, storage yards, and other similar plants including grounds, buildings, waterfronts, dredging, shipbuilding ways, handling and yard equipment, railroad tracks and equipment, street and roads, water-supply and drainage systems, fire-protection systems, power plants and distribution systems, installations of tools, and all other parts of plant and equipment necessary for the building of ships, in which the Emergency Fleet Corporation is financially interested.

They examine shipyards and other establishments at which contracts are proposed to be placed with reference to their existing facilities and capacity to carry out proposed contracts and proposed possible extensions, and in some cases, also investigate estimates of cost. They also inventory at the various plants all property in which the Emergency Fleet Corporation is financially interested and see that it is properly marked.

District plant engineers, having jurisdiction over certain defined districts, are appointed to represent the Division of Shipyards Plants, in their respective districts. Resident engineers are assigned to supervise particularly plants in which the Emergency Fleet Corporation is financially interested, or when it is deemed advisable to assign an engineer in such plant. Supervising or resident engineers are stationed at agency yards to represent the division at such yards.

The home office maintains a consulting force of experts on dredging, fire protection, power supply, and on various other phases of shipyard construction.

To September 1, 1918, the Emergency Fleet Corporation had invested or contracted to invest in shipyard plants approximately \$150,000,000. Of these investments the largest were at the Hog Island plant (estimated cost to complete, \$63,000,000); and at the plants of the Submarine Boat Corporation (estimated cost \$17,000,000), the Merchant Shipbuilding Corporation (estimated cost \$11,000,000), the New York Shipbuilding Corporation (estimated cost \$16,825,000), and the Carolina Shipbuilding Co. (estimated cost \$3,000,000). The Emergency Fleet Corporation had investment interests, made or

authorized, in 41 shipbuilding plants, the majority of these in connection with contracts to build vessels, the usual proceeding being to authorize the contractor to use a certain proportion of advance payments for improvement or expansion of his yard facilities.

The expenditure of approximately \$10,500,000 for Scotch boiler plants and for steel fabricating plants was also authorized.

In the two following tables will be found (1) a summary tabulation of shipyards engaged in constructing vessels for the Emergency Fleet Corporation, showing grouping by districts, and (2) a list of the shipyards of each district, indicating the location of each yard and the type of vessel building therein.

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 125

List of shipyards engaged in construction for the Emergency Fleet Corporation October 31, 1918.

NORTH ATLANTIC DISTRICT (DISTRICT NO. 1).

Name.	Location.
<i>Steel shipyards (over 3,000 tons).</i>	
Groton Iron Works.....	Groton, Conn.
Atlantic Corporation.....	Portsmouth, N. H.
Bethlehem Shipbuilding Corporation (Ltd.).....	Quincy, Mass.
Texas Shipbuilding Co.....	Bath, Me.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Russell Shipbuilding Co.....	Portland, Me.
Geo. A. Gilchrist.....	Thomaston, Me.
Cumberland Shipbuilding Co.....	Portland, Me.
L. H. Shattuck (Inc.).....	Newington, N. H.
Freeport Shipbuilding Co.....	South Freeport, Me.
The Kelley Spear Co.....	Bath, Me.
The Sandy Point Shipbuilding Corporation.....	Sandy Point, Me.
<i>Wood tugs and barges.</i>	
Newcastle Shipbuilding Co.....	Damariscotta, Me.
Crosby Navigation Co.....	Richmond, Me.
Crownshield Shipbuilding Co.....	South Somerset, Mass.
R. T. Green Co.....	Chelsea, Mass.
Machias Shipbuilding Co.....	Machias, Me.
Francis Cobb Shipbuilding Co.....	Rockland, Me.

NORTH ATLANTIC DISTRICT (DISTRICT NO. 2).

<i>Steel shipyards (over 3,000 tons).</i>	
Downey Shipbuilding Corporation.....	Arlington, N. Y.
Newburgh Shipyard (Inc.).....	Newburgh, N. Y. (lower yard).
Federal Shipbuilding Co.....	Kearney, N. J.
Bayles Shipyard (Inc.).....	Port Jefferson, L. I., N. Y.
Standard Shipbuilding Co.....	Shooters Island, N. Y.
Staten Island Shipbuilding Co.....	Mariners Harbor, N. Y.
Submarine Boat Corporation.....	Newark, N. J.
<i>Steel tugs.</i>	
Newburgh Shipyard (Inc.).....	Newburgh, N. Y. (upper yard).
Bethlehem Shipbuilding Corporation (Ltd.).....	Elizabethport, N. J.
Providence Engineering Corporation.....	City Island, N. Y.
New Jersey Dry Dock & Transportation Co.....	Elizabethport, N. J.
W. H. Gahagan (Inc.).....	Arverne, L. I., N. Y.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
The Foundation Co.....	Newark, N. J.
Groton Iron Works.....	Noank, Conn.
Ship Construction & Trading Co.....	Stonington, Conn.
Traylor Shipbuilding Corporation.....	Cornwells, Pa.
Gildersleeve Shipbuilding Co.....	Gildersleeve, Conn.
Kingston Shipbuilding Co.....	Kingston, N. Y.
Johnson Shipyard Corporation.....	Mariners Harbor, N. Y.
Housatonic Shipbuilding Co. (Inc.).....	Stratford, Conn.
Continental Shipbuilding Corporation.....	Yonkers, N. Y.
Fougnier American S. C. Shipbuilding Co.....	North Beach, L. I., N. Y.
<i>Wood tugs and barges.</i>	
International Shipbuilding & Marine Engineering Corporation.....	Nyack, N. Y.
Gas Engine & Power Co. & C. L. Seabury (Inc.).....	Morris Heights, New York City.
J. H. Mathis Co.....	Camden, N. J.
John W. Sullivan Co.....	Staten Island, N. Y.
A. C. Brown & Sons.....	Tottenville, N. Y.

DELAWARE RIVER DISTRICT (DISTRICT NO. 14).

<i>Steel shipyards (over 3,000 tons).</i>	
Bethlehem Shipbuilding Corporation (Ltd.).....	Wilmington, Del.
Pusey & Jones.....	Do.
Sun Shipbuilding Co.....	Chester, Pa.
New York Shipbuilding Corporation.....	Camden, N. J.
Do.....	Camden, N. J. (south yard).

126 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

List of shipyards engaged in construction for the Emergency Fleet Corporation October 31, 1918—Continued.

DELAWARE RIVER DISTRICT (DISTRICT NO. 10)—Continued.

Name.	Location.
<i>Steel shipyards (over 3,000 tons)—Continued.</i>	
Chester Shipbuilding Co.....	Chester, Pa.
W. Cramp & Sons Ship & Engine Building Co.....	Philadelphia, Pa.
New Jersey Shipbuilding Co.....	Gloucester, N. J.
Pennsylvania Shipbuilding Co.....	Do.
<i>Government-owned fabricating plants.</i>	
American International Shipbuilding Corporation.....	Hog Island, Pa.
Merchant Shipbuilding Corporation.....	Bristol, Pa.

MIDDLE ATLANTIC DISTRICT (DISTRICT NO. 3).

<i>Steel shipyards (over 3,000 tons).</i>	
Baltimore Dry Dock & Shipbuilding Co.....	Baltimore, Md. (south yard).
Do.....	Baltimore, Md. (lower yard).
Virginia Shipbuilding Corporation.....	Alexandria, Va.
Bethlehem Shipbuilding Corporation (Ltd.).....	Sparrows Point, Md.
Newport News Shipbuilding & Dry Dock Co.....	Newport News, Va.
Carolina Shipbuilding Corporation.....	Wilmington, N. C.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Maryland Shipbuilding Co.....	Sollers Point, Md.
C. H. Teeney & Co.....	Hampton, Va.
Henry Smith & Sons Co.....	Baltimore, Md.
Missouri Valley Bridge & Iron Co.....	Quantico, Va.
York River Shipbuilding Corporation.....	West Point, Va.
Liberty Shipbuilding Co.....	Wilmington, N. C.
North Carolina Shipbuilding Co.....	Morehead City, N. C.
<i>Wood tugs and barges.</i>	
M. M. Davis & Sons (Inc.).....	Solomons, Md.
Creswell Shipbuilding Co.....	Baltimore, Md.
Whitehaven Shipbuilding Co.....	Whitehaven, Md.
Eastern Shore Shipbuilding Co.....	Sharptown, Md.
Chance Marine Construction Co.....	Annapolis, Md.
H. E. Groole Co.....	Baltimore, Md.
Davis Shipbuilding Co.....	Cambridge, Md.
Vinyard Shipbuilding Co.....	Milford, Del.
Smith & Williams Co.....	Salisbury, Md.

DISTRICT NO. 4.

<i>Steel shipyards (over 3,000 tons).</i>	
Merrill-Stevens Shipbuilding Corporation.....	Jacksonville, Fla.
Terry Shipbuilding Corporation.....	Savannah, Ga.
Oscar Daniels Co.....	Tampa, Fla.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
St. Johns River Shipyard Co.....	Jacksonville, Fla.
American Shipbuilding Co.....	Brunswick, Ga.
Tampa Dock Co.....	Tampa, Fla.
J. M. Murdock.....	Jacksonville, Fla.
U. S. Maritime Corporation.....	Brunswick, Ga.
Morcy & Thomas.....	Jacksonville, Fla.
National Shipbuilding & Dry Dock Co.....	Savannah, Ga.
Liberty Shipbuilding Co.....	Brunswick, Ga.
A. Bentley & Sons Co.....	Jacksonville, Fla.
<i>Wood tugs and barges.</i>	
Southland Steamship Co.....	Savannah, Ga.
Gibbs Gas Engine Co.....	South Jacksonville, Fla.
G. J. Pilkington.....	Miami, Fla.
Ward & Pride.....	South Jacksonville, Fla.

List of shipyards engaged in construction for the Emergency Fleet Corporation October 31, 1913—Continued.

DISTRICT No. 5.

Name.	Location.
<i>Steel shipyards (over 3,000 tons).</i>	
Alabama Dry Dock & Shipbuilding Co.....	Pinto Island, Ala.
Pensacola Shipbuilding Co.....	Pensacola, Fla.
Doulut & Williams Shipbuilding Co.....	New Orleans, La.
Mobile Shipbuilding Co.....	Mobile, Ala.
<i>Steel tugs.</i>	
Johnson Iron Works (Ltd.).....	New Orleans, La.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Merrill-Stevens Shipbuilding Corporation.....	Slidell, La.
Dierks-Blodgett Shipbuilding Co.....	Pascagoula, Miss.
Murnan Shipbuilding Corporation.....	Pinto Island, Ala.
Hodge Ship Co. (Inc.).....	Moss Point, Miss.
Dantzer Shipbuilding & Dry Dock Co.....	Do.
Jahncke Shipbuilding Co. (Inc.).....	Madisonville, La.
Alabama Dry Dock & Shipbuilding Co.....	Mobile, Ala.
F. T. Ley Co. (Inc.).....	Do.
<i>Wood tugs and barges.</i>	
American Lumber Co.....	Millville, Fla.
Nashville Bridge Co.....	Nashville, Tenn.

GULF DISTRICT (FORMERLY DISTRICT No. 6).

<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Universal Shipbuilding Co.....	Houston Ship Channel, Tex.
McBride & Law.....	Beaumont, Tex.
Union Bridge & Construction Co.....	Morgan City, La.
National Shipbuilding Co.....	Orange, Tex.
Lone Star Shipbuilding Co.....	Beaumont, Tex.
J. M. McCammon.....	Orange, Tex.
Southern Dry Dock & Shipbuilding Co.....	Do.
Midland Bridge Co.....	Houston, Tex.
Beaumont Shipbuilding & Dry Dock Co.....	Beaumont, Tex.
Heidenfels Bros.....	Rockport, Tex.

SOUTHERN PACIFIC DISTRICT (DISTRICT No. 7).

<i>Steel shipyards (over 3,000 tons)</i>	
Los Angeles Shipbuilding & Dry Dock Co.....	Los Angeles Harbor, Cal.
Moore Shipbuilding Co.....	Oakland, Cal.
Western Pipe & Steel Co.....	South San Francisco, Cal.
Southwestern Shipbuilding Co.....	San Pedro, Cal.
Long Beach Shipbuilding Co.....	Long Beach, Cal.
Pacific Coast Shipbuilding Co.....	Suisun Bay, San Francisco, Cal.
Hanton Dry Dock & Shipbuilding Co.....	Oakland, Cal.
Bethlehem Shipbuilding Corporation (Ltd.).....	Alameda, Cal.
Do.....	San Francisco, Cal.
Union Construction Co.....	Oakland, Cal.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Hammond Lumber Co.....	Humboldt Bay, Cal.
Krusc & Banks Shipbuilding Co.....	North Bend, Ore.
Fulton Shipbuilding Co.....	Wilmington, Cal.
Coos Bay Shipbuilding Co.....	Marshfield, Ore.
Ralph J. Chandler (Inc.).....	Wilmington, Cal.
Benicia Shipbuilding Corporation.....	Benicia, Cal.
Rolph Shipbuilding Co.....	Humboldt Bay, Cal.
San Francisco Shipbuilding Co.....	San Francisco Bay, Cal.
Scotfield Engineering Co.....	San Diego, Cal.
<i>Wood tugs and barges.</i>	
Main Iron Works.....	Oakland, Cal.

List of shipyards engaged in construction for the Emergency Fleet Corporation October 31, 1918—Continued.

NORTHERN PACIFIC DISTRICT (DISTRICT NO. 8).

Name.	Location.
<i>Steel shipyards (over 3,000 tons).</i>	
Skinner & Eddy Corporation (yard No. 1).....	Seattle, Wash.
Skinner & Eddy Corporation (yard No. 2).....	Do.
Todd Dry Dock & Construction Corporation.....	Tacoma, Wash.
Seattle North Pacific Shipbuilding Co.....	Seattle, Wash.
J. F. Duthie Co.....	Do.
G. M. Standifer Construction Corporation.....	Vancouver, Wash.
Northwest Steel Co.....	Portland, Oreg.
Columbia River Shipbuilding Corporation.....	Do.
Albina Engine & Machine Works (Inc.).....	Do.
Ames Shipbuilding & Dry Dock Co.....	Seattle, Wash.
<i>Wood and concrete shipyards (over 3,000 tons).</i>	
Sloan Shipyards Corporation.....	Anacortes, Wash.
Do.....	Olympia, Wash.
Grays Harbor M. S. Corporation.....	Aberdeen, Wash.
Sanderson & Porter.....	Raymond, Wash.
Grant Smith-Porter Ship Co.....	Aberdeen, Wash.
Nilson & Kelez Shipbuilding Corporation.....	Seattle, Wash.
Seaborn Shipyards Co.....	Tacoma, Wash.
Barbare Bros.....	Do.
Wright Shipyards (Inc.).....	Do.
Puget Sound Bridge & Dock Co.....	Seattle, Wash.
Pacific American Fisheries.....	South Bellingham, Wash.
Allen Shipbuilding Co.....	Seattle, Wash.
Tacoma Shipbuilding Co.....	Tacoma, Wash.
Meacham & Babcock.....	Seattle, Wash.
Patterson McDonald Shipbuilding Co.....	Do.

DISTRICT NO. 11.

<i>Wood and concrete shipyards (over 3,000 tons).</i>	
G. M. Standifer Construction Corporation.....	Portland, Oreg.
Do.....	Vancouver, Wash.
Peninsula Shipbuilding Co.....	Portland, Oreg.
Coast Shipbuilding Co.....	Do.
Sommarsstrom Shipbuilding Co.....	Columbia City, Oreg.
Wilson Shipbuilding Co.....	Astoria, Oreg.
Geo. F. Rodgers Co.....	Do.
St. Helens Shipbuilding Co.....	St. Helens, Oreg.
Feeny & Bremer Co.....	Tillamook, Oreg.
McEachern Shipbuilding Co.....	Astoria, Oreg.
Grant Smith-Porter Ship Co.....	St. Johns, Portland, Oreg.
Supple & Ballin.....	Portland, Oreg.
Kiernan & Kern.....	Do.

GREAT LAKES DISTRICT (DISTRICT NO. 9).

<i>Steel shipyards (over 3,000 tons).</i>	
Saginaw Shipbuilding Co.....	Saginaw, Mich.
American Shipbuilding Co.....	Buffalo, N. Y.
Do.....	Chicago, Ill.
Do.....	Cleveland, Ohio.
Do.....	Wyandotte, Mich.
Do.....	Superior, Wis.
Do.....	Lorain, Ohio.
Do.....	Toledo, Ohio.
Toledo Shipbuilding Co.....	Superior, Wis.
Globe Shipbuilding Co.....	Ashtabula, Ohio.
Great Lakes Engineering Works.....	Ecorse, Mich.
Do.....	Duluth, Minn.
McDougall-Duluth Co.....	Manitowoc, Wis.
Manitowoc Shipbuilding Co.....	
<i>Steel tugs.</i>	
Northwest Engineering Works.....	Green Bay, Wis.
Whitney Bros. Co.....	Superior, Wis.
Lake & Ocean Shipbuilding Co.....	Cleveland, Ohio.
Foundation Co. (Port Huron shipyards).....	Port Huron, Mich.
<i>Wood tugs and barges.</i>	
S. C. McLouth.....	Marine City, Mich.
Burger Boat Co.....	Manitowoc, Wis.
Universal Shipbuilding Co.....	Sturgeon Bay, Wis.
Leatham & Smith T. & W. Co.....	Do.
Dachel-Carter Boat Co.....	Benton Harbor, Mich.

THE "FABRICATED" SHIPYARD.

When the magnitude of the emergency construction task of providing tonnage to move the millions of fighting men to Europe and to replace the enormous war losses was appreciated, it was realized that all existing expedients for securing ships were wholly inadequate. A capacity of from 6,000,000 to 10,000,000 dead-weight tons a year was needed in order to allow a safe margin, whereas our best ship-building year, 1916, had produced less than 300,000 dead-weight tons of new ships. A wholly new plan of ship construction was therefore necessary in order to supply the enormous number of ships required in the limited time available.

The limited capacity of existing shipyards offered little promise of sufficient expansion, if the old plan of manufacturing all the parts of the ship in the yard was to be followed. Many steel shops for structural and bridge work were idle because of the cutting off of their material and hence the idea developed of utilizing their enormous capacity for the preparation of parts which would be sent to the shipyards for erection into the completed ship. After preliminary consultations and investigations the plan of the fabricated ship was designed; i. e., a ship whose parts are prepared in steel-fabricating shops and assembled in the shipbuilding yards.

This involved standardization of design and a ship was designed with simple lines, flat decks, and few curves so that many steel mills could be preparing plates on the same pattern.

New assembling yards had to be planned to be built fully equipped for assembling and outfitting a large number of ships whose parts were prepared outside. The necessary capital for such an undertaking had to be enlisted and for this task private enterprise was inadequate. Moreover, this was the country's business and it was found that direct governmental ownership and operation of the yards was the only satisfactory course to follow.

After fully canvassing the possibilities, it was decided to construct with governmental funds three great shipyards—one at Hog Island, on the Delaware River just below Philadelphia; one at Bristol, Pa., on the Delaware River near Trenton, N. J.; and one on Newark Bay, N. J. These yards when completed were to be operated by the contractors, also with Government funds, for the assembling and outfitting of ships the parts for which were to be fabricated or manufactured in hundreds of existing shops throughout the country. For planning, constructing, and operating these yards, the contractors, who had the status of agents of the Government, were to be paid a fee based upon the estimated cost of the ships actually built in the yard, with no fee for their services in planning and building the yards. As the fee becomes payable on the completion of each individual ship, the contractors get no revenue for at least a year after beginning

work. The estimated fee is 5 per cent of the cost of the ships but may be increased to about 6 per cent or reduced to about 4 per cent in case the ships actually cost less or more than the amount originally estimated. The Government assumes the risk of increased cost through authorized advances in wage rates or material prices.

The yard at Bristol is that of the Merchant Shipbuilding Corporation, an organization which is associated under practically identical ownership with the Chester Shipbuilding Co., of Chester, Pa., and the designing and engineering work of both companies is handled by the same organization. On September 7, 1917, this corporation entered into a contract with the Emergency Fleet Corporation for the construction and operation of a yard at Bristol, Pa., having 12 shipways for 9,000-ton ships, with fitting-out piers and sufficient shop capacity to fabricate about 15 per cent of the steel required in the ships. The cost of yard, piers, and shops is approximately \$12,000,000. The yard was ready for the laying of its first keel February 16, 1918, about five months after the beginning of the contract.

The largest of the yards is that of the American International Shipbuilding Corporation at Hog Island. This corporation is a subsidiary of a great banking and promoting concern, the American International Corporation, which also controls the New York Shipbuilding Corporation at Camden, N. J. The engineering experience of this long-established concern has been available for the guidance and development of the new organization. Though dismal and swampy in its original state, Hog Island was chosen as an appropriate site for an enormous shipyard because of its inland protected location on deep water near a large industrial city, with suitable railroad connections, and in close proximity to the steel mills and fabricating shops.

The contract between the American International Shipbuilding Corporation and the Emergency Fleet Corporation, dated September 13, 1917, called for the construction and operation of a yard having 20 ways for 7,500 ton ships, and 30 ways for 8,000-ton ships, with fitting-out piers and shops for corrections and replacement work and for a very small portion of direct ship steel fabrication.

During a winter of unusual rigor the work was pressed forward against the severest difficulties, and on February 12, 1918, the yard was 50 per cent completed and the first keel was laid.

The cost of constructing the yard, with its piers and shops, is approximately \$65,000,000. It covers 846 acres, with 250 buildings, includes 80 miles of standard railroad track, contains 3,000,000 feet of underground wiring, and uses 20 locomotives with 165 automobile trucks. The 50 ways extend about a mile and a quarter along the river front, and altogether there is a water frontage of 20,000 feet. Fifty ships can be built on the ways while 28 are being outfitted at

the piers, making a total of 78 ships on which work may be in progress at one time.

For the comfort, safety, and health of the workers, the yard is supplied with a hospital, a Y. M. C. A., a hotel, a cafeteria, and trade school; and special attention has been given to the housing and transportation of the 30,000 men employed. The first ship produced at Hog Island, the *Quistconck*, was launched on August 5, 1918.

The construction and operation of a yard at Newark, N. J., was provided for in a contract dated September 14, 1917, with the Submarine Boat Corporation, which was engaged in the building of submarine chasers before taking up its present work and which draws largely upon the engineering experience of men who have been identified with bridge and structural work. Twenty-eight ways for 5,000-ton ships were provided for in this contract, and the yard was also to be supplied with outfitting piers and with shops for fabrication of about 6 per cent of the steel required in the ships. The cost of construction of the completed yard is estimated at \$17,000,000. The first keel was laid December 20, 1917, a little over three months from date of contract. In this case a great deal of construction work had been done by the contractors before the execution of the contract.

All of the yards are fully equipped with machine shops, sheet-metal shops, mold lofts, and template shops, administration and engineering buildings, railroad tracks and roads, barracks, boarding houses, mess halls, and other social service buildings. A great deal of work has also been done in improving transportation facilities and construction of permanent houses outside the yards.

Shipbuilding contracts have been made with the three yards just described as follows:

Date of contract.	Character of ship.	Number.	Capacity.	Dead-weight tonnage.	Cost.
<i>American International Shipbuilding Corporation.</i>					
Sept. 13, 1917	Cargo ship.....	50	<i>Tons.</i> 7,500	375,000	} \$267,825,000
Oct. 23, 1917	Cargo and troop ship.....	70	8,000	560,000	
May 7, 1918	Cargo ship.....	60	7,500	450,000	
	Total.....	180		1,385,000	
<i>Merchant Shipbuilding Corporation.</i>					
Sept. 7, 1917	Cargo ship.....	40	9,000	360,000	} 82,165,000
Dec. 23, 1917	do.....	20	9,000	180,000	
	Total.....	60		540,000	
<i>Submarine Boat Corporation.¹</i>					
Sept. 14, 1917	Cargo ship.....	50	5,000	250,000	} 144,900,000
Nov. 16, 1917	do.....	100	5,000	500,000	
	Total.....	150		750,000	

¹ The contract with this company was changed on May 18, 1918, to a lump-sum basis.

The grand total of ships and tonnage contracted for by these three yards, all for delivery by the end of December, 1919, and most of them by October 1 of that year, is 390 ships of 2,675,000 dead-weight tons. The total estimated cost involved is \$494,890,000.

These yards when in full operation will give work to about 65,000 men, who can turn out about 40 ships with a total dead-weight tonnage of 270,000 each month. This will use 110,000 tons of steel in the hulls, into which must be driven 17,500,000 rivets.

Contracts have been made with other yards for the building of ships which are in whole or in part fabricated in shops outside the shipyard. Notable among these is the yard of the Federal Shipbuilding Corporation, a subsidiary of the United States Steel Corporation, at Newark, N. J. This yard has 12 ways and is building thirty 9,600-ton cargo ships, a total of 288,000 dead-weight tons. Altogether there are 9 yards with a total of 50 ways in addition to the 3 big Government projects which are building "fabricated" ships. They have under contract 144 vessels for delivery before the end of 1919. These vessels will add 1,270,000 dead-weight tons to the American merchant fleet.

Summarizing the facts in connection with the fabricated ship, we find that the development of the structural steel ship and the enlistment for the task of shipbuilding of the engineering experience, the organizing ability, and the mechanical skill of the trades which had built our bridges, our great office buildings and other commercial structures, may be counted upon to add from 3,500,000 to 4,000,000 tons of ships each year to our total.

Three very significant facts should be noted with reference to this plan: First, if the yards had depended on their own fabricating shops and facilities it would have been impossible to have developed an equal amount of new shipyard capacity for the manufacture of machinery and equipment in two or three times the number of months required under the plan adopted. Second, without the ship fabrication work and the ship equipment orders, hundreds of shops throughout the country must have been closed down with immense losses to owners and employees. Third, the expense of new shop installations at the yards if they had been built under the old system would have run into hundreds of millions, and the further concentration of the additional workers in the already overcrowded shipyard districts would have required many additional millions for housing.

STEEL SHIP CONSTRUCTION.

The efforts of the Steel Ship Construction Division during the past year have been devoted to the following objects: (1) To accelerate the construction of ships; (2) to obtain ships suitable for our war pur-

poses; (3) to improve the quality of ships building to our order; (4) to obtain ships at reasonable prices.

In accelerating the construction of ships, such progress has been made that, in spite of the addition of many new yards, the average time consumed from laying keel to delivery was reduced from 235.45 days in January to 203.7 days in August. Our policy has been to assist the builders to construct duplicate ships of those they had built, after selecting the most useful types in all yards building exclusively for the Emergency Fleet Corporation. This has practically resulted in one class of ship being built in each yard, a condition which is obviously conducive to maximum production. New yards have likewise concentrated upon a single type so that upon completion of the first ship a substantial saving is effected in the following ships. Serious consideration is now being given to the reduction of the number of types of ships, which, if adopted, will materially facilitate production and simplify some of the problems of operation though involving a slight initial delay.

During the year ending August 31, 1918, 566 keels have been laid, 358 ships launched, 287 ships of 1,800,000 dead-weight tons have been completed and placed in service, and 9,113,880 dead-weight tons of ships have been contracted for.

A materially better accomplishment is confidently expected during the coming year as the conditions in the yards up to the spring of this year were not very favorable, owing to difficulties experienced in obtaining and keeping the necessary labor. Many of the yards were in process of construction and those on the Lakes and east coast worked under very adverse weather conditions during the winter.

At present the labor conditions have been bettered to a great extent though there is still room for improvement; the yards have been completed and the rate of production of ships is almost equal to anticipations. One of the present troubles is the difficulty in securing delivery of our raw materials, notably steel, in proper sequence.

A perplexing problem at the beginning of last year grew out of the administration of the commandeering order of August 3, 1917, treated in an earlier part of this report. This has in the main been satisfactorily solved both in our relations with the builders and with the former owners, there being but one case in which settlement has not been made with the builders.

The experience of the various yards during the past year in matters of management, labor, and material, has demonstrated that the general policy of the Corporation in discouraging the establishment of new yards was correct, as was likewise the policy of extending the building facilities of those yards which have demonstrated their efficiency in ship production, inasmuch as the establishment of a new

yard requires the formation of an organization which could only be obtained by robbing the established yards, already undermanned, whereas the extension of building facilities permits the retention and expansion of an existing organization.

Gratifying progress along technical lines has been made during the past year, particularly in the simplification and improvement of our ships, and the standardization of the many fittings required. Designs of proposed new ships have been closely scrutinized, and several new designs have been developed, one of which is known as straight-line ship. In this type there is curve in the outer shell in but one direction, the other lines being straight. The design was prepared with a view to the utilization of existing wood shipyards for steel ship construction on the fabricating plan, with a very small increased plant equipment. To this end, complete details and structural plans, shop bills, mill orders, purchase schedules, and specifications have been prepared so that either the Corporation or the ship-builder can purchase and obtain every article used in the construction of these vessels. This design provides for a twin screw installation of Diesel motors, but the compartments and other features have been so arranged that our standard twin screw of 700-horsepower unit reciprocating steam engines with water-tube boilers can be installed by providing suitable foundations. Contracts have been made by the Emergency Fleet Corporation for sufficient Diesel motors to equip 36 of these straight-line vessels, but owing to administrative reasons, contracts for the hulls have not been placed.

The Great Lakes have been successful in producing a ship of about 4,200 tons dead-weight which could be passed through the Welland Canal. During the winter the builders on the Lakes developed the design of the largest ship that could, in their opinion, be built upon the Lakes and brought through the canal in sections. This design contemplated a vessel of about 6,500 tons dead-weight, the two sections to be joined in the St. Lawrence without the necessity of dry docking, by the use of cofferdams. After careful examination and consultation with the Lake builders, it was ascertained that a greater tonnage could be produced by continuing with their standard design of 4,200-ton size than by building the new design of larger size. As the Operating Division now has sufficient ships of this smaller size for their present needs, the future construction of 6,500-ton vessels on the Lakes is being considered.

In order to eliminate so far as possible the laborious process of riveting, the possibilities of electric welding have been carefully studied by a committee of experts, and this work has been so far developed that it is now possible to weld many of the steel parts of a ship. A notable saving in the weight of the ship is thus made possible, as well as the cheapening and hastening of production.

Besides ordinary cargo ships, the Corporation has been called upon to produce transports, tankers, refrigerator ships, tugs, and oil barges in large quantity. After a survey had been made in consultation with the War Department and the Shipping Control Committee, plans were prepared for the conversion of some of the cargo vessels into transports. In addition, designs have been prepared for cargo-troop ships, and it is believed that when completed they will be eminently suitable for the purpose intended, and capable, after having served that purpose, of being converted into useful vessels of the cargo-passenger type. Contracts for the construction of these troopers have been entered into with the Newport News Shipbuilding & Dry Dock Co., the New York Shipbuilding Co., and the Bethlehem Shipbuilding Corporation. Seventy of the vessels to be built at Hog Island will, when completed, also be fitted out as cargo-troopers.

To supply the demand for refrigerator ships, especially to carry beef cargoes to France, refrigerating machinery has been installed in cargo vessels, and cargo spaces have been insulated. Besides this conversion of existing ships, a new design of a refrigerator ship is in consideration, and it is proposed to place contracts during the coming year for the construction of this class of vessels, which will be so designed that after the completion of the contemplated service they will be economically suitable for commercial use.

During the year the Engineering Section has also designed a 4,700-ton wood ship of the Daugherty type and a 5,000-ton wood ship. Specifications as well as complete construction plans in exhaustive detail have been prepared for the 5,000-ton wood ship, and these are ready for issue whenever it may be decided that this type of ship should be constructed. The Engineering Section has also had prepared under its direction plans of a steel ice breaker and towboat, which are ready for issue whenever it is decided that contracts for this construction should be placed. The Steel Ship Construction Division has also obtained during the year plans and specifications for wood towing barges, ocean and harbor tugs, both of wood and steel, and has contracted for large numbers of each. Designs of a steam trawler and a cargo and passenger liner are now being considered.

To hasten construction, the manufacturing facilities of the country had to be taken into consideration in determining the propulsive machinery and boilers necessary to secure sufficient horsepower within the time required. In many instances it was advisable to specify geared turbines and water-tube boilers. Operating conditions have revealed that the geared turbine is not, at its present stage of development and with the present operating personnel, so well suited for cargo ships as the reciprocating engines. The installation of electric propelling machinery has been considered, and while this is

perhaps not an ideal mechanism for cargo ships, yet it is evidently worthy of consideration. This conclusion is reached not because of the large number of successful electrically driven ships in service, but because of confidence in the ability of American electrical engineers to obtain a satisfactory installation, and further operating personnel for this installation can be obtained from the engineers of power plants operating almost identical installations on land.

The water-tube boiler with a trained crew and proper supervision is a very satisfactory steam unit, but the conditions operating to prevent complete success for the geared turbines apply to the water-tube boilers. Arrangements are being made to provide Scotch boilers in our ships whenever practicable.

The necessary steps have been taken to secure adequate camouflage painting for vessels as protection against submarine attack, and to this end the best artistic talent available has been secured, and thorough instruction and equipment for camoufleurs has been provided.

Owing to the urgent need of tonnage, ships have in some instances been accepted when incomplete as regards certain details or without thorough trial. Some of these ships have experienced some difficulty in service, which has been principally due to trouble with the propelling machinery or its auxiliaries, which necessarily had been manufactured and installed in haste.

Steps have been taken to prevent the acceptance of incomplete vessels and to provide that vessels have a suitable trial to demonstrate their suitability. A performance branch has been organized to cooperate with the district executives and advise them as to ways and means to be employed so that mistakes on previous ships can be avoided and successful installation of propelling machinery obtained. This branch has established cooperative liaison with both the Division of Operations and the Navy Department, so that all operating difficulties arising on our ships can be brought to their attention, the matter studied, and corrective methods determined and promulgated. One of the principal problems connected with this branch has been the determination of the reason for the troubles with turbine installation. It is believed that the reasons have been ascertained and helpful corrective advice supplied.

The closest cooperation exists between the Contract Division and the Steel Ship Construction Division, and a complete agreement as to the details of the ships to be provided is brought about between the builder and the Corporation before the final determination of price. This enables the Corporation to require of the builder those features which experience and operation have shown to be essential for the purposes for which the ships are used after completion, and materially

lightens and facilitates the work of the Engineering Section when passing upon the contract plans and specifications.

Valuable assistance has been furnished by the American Bureau of Shipping and Lloyd's Register of Shipping, and their cooperation has been very stimulating. There should be established by law a load line for American ships to correspond to those determined by the rules of the British Board of Trade.

The necessity of providing more dry-dock facilities in the ports of the United States is urgent if our ships are to be run efficiently and preserved from deterioration, as it is necessary they be docked at comparatively frequent intervals for cleaning and painting. There must also be considered the necessity for repairs to the under-water portion of the hull for which dry docking is essential.

Summary of Activities and Results in Steel-ship Production.

On September 1, 1917, there were 46 shipyards actually building ships for the Emergency Fleet Corporation, and there were 125 ships on the ways of a total dead-weight tonnage of 881,072, and 27 ships in the water with a tonnage of 192,790, making a total of 152 ships and 1,073,862 dead-weight tons under construction.

On November 1, 1918, there were 76 shipyards in which keels for steel vessels had been laid, and there were 374 vessels of 2,575,004 dead-weight tons on the ways and 119 in the water, of 798,622 dead-weight tons, making a total of 493 vessels and 3,374,616 dead-weight tons actually under construction. In other words, there has been an increase of 30 shipyards engaged in building steel ships and the amount of ship construction being carried on has increased by about 1,850,107 dead-weight tons.

The number of shipways assigned to the use of the Emergency Fleet Corporation for steel-ship production as of November 1, 1918, amounted to 480, of which 399 were available, while the others were vacant for various reasons or not quite complete.

The following tables show (1) a summary of all contracts for steel-ship construction as of November 1, 1918; (2) construction activities and deliveries during the fourteen month period ending October 31, arranged according to districts; and (3) a recapitulation of activities in steel-ship construction during that period.

138 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

Summary of all contracts for steel-ship construction placed and outstanding Oct. 31, 1918.

	Number.	Dead-weight tonnage.	Total.	
			Number.	Dead-weight tonnage.
REQUISITIONED VESSELS.				
Total requisitioned ships Aug. 3, 1917.....			431	3,056,008
Less:				
Canceled.....	13	64,600		
Transferred from requisition to contract.....	12	109,600		
Released from requisition.....	13	140,560	38	314,760
Requisition list as revised Sept. 1, 1918.....			393	2,741,248
Due to changes made in specifications the dead-weight tonnage on requisitioned ships was increased.....				4,044
Correct dead-weight tonnage to this date.....			393	2,715,292
Less:				
Delivered previous to Sept. 1, 1917.....	1	2,930		
Delivered Sept. 1, 1917, to Nov. 1, 1918.....	271	1,728,701	272	1,731,631
Requisitioned vessels to be delivered.....			121	1,013,661
CONTRACT VESSELS.				
Total ships contracted for.....	1,460	10,434,030		
Less: Contract ships delivered.....	106	612,200	1,354	9,821,830
Remaining steel ships to be delivered Nov. 1, 1918.....			1,475	10,835,491

1 Does not include the 103 tugs as contracted for.

Construction activities and deliveries, by districts, to Oct. 31, 1918.

District No.	Location of office.	Number of ship-yards.	Number of ways assigned to Emergency Fleet Corporation.	Deliveries during period.		Under construction.		Undelivered.	
				Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
1	Boston, Mass.....	4	13	10	112,250	18	137,100	41	369,600
2	New York City.....	9	47	13	78,200	85	592,925	270	1,354,580
3	Baltimore, Md.....	5	26	20	164,885	25	216,275	94	733,305
4	Jacksonville, Fla.....	3	17			11	75,500	50	397,700
5	New Orleans, La.....	7	36			6	46,000	56	355,800
7	San Francisco, Cal.....	11	57	42	396,000	61	554,030	179	1,707,300
8	Seattle, Wash.....	9	50	89	736,394	57	481,160	194	1,680,200
9	Cleveland, Ohio.....	17	97	159	539,470	95	368,300	279	1,116,550
10	Philadelphia, Pa.....	8	42	44	325,602	51	417,711	81	700,706
	Total.....	73	390	377	2,352,831	409	2,888,460	1,244	8,415,741

Note.—This is exclusive of the agency yards.

Activities in steel ship construction to Oct. 31, 1918.

	Keels laid.		Hulls launched.		Ships completed.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Contract.....	517	3,331,199	192	1,166,325	196	612,200
Requisition.....	353	2,384,218	304	1,973,198	271	1,728,701
Total.....	870	5,715,417	496	3,139,523	377	2,340,901

WOOD AND COMPOSITE SHIPS.

General supervision of the production of wood and composite ships is in the hands of the Division of Wood and Composite Ship Construction, which was separated from steel ship construction and made a separate organization in December, 1917. Several weeks were required to create a complete home office and field organization, collect and analyze the data which had been intermingled with that bearing upon the steel program, determine what had been done up to that time, and put the work on a satisfactory basis. It has been necessary to build and install, complete, some 130 yards before ship construction could be begun, and, in addition, to build and install, with all shop facilities, some 30 installation plants. Marked progress during the year has been made in these respects and also in the installation of machinery in the wood ships.

An important step forward was taken by establishing a working understanding with the American Bureau of Shipping and the cooperation of this Bureau has restored the confidence of the shipbuilders, quickened production, and yielded results in increased launchings.

Beginning August 1, 1918, the Emergency Fleet Corporation in its wood ship production has averaged at least one complete ready-for-service wood steamship per calendar day, and will increase this average and in addition will shortly produce for sea service both barges and tugs.

The progress during the year may be further shown by the fact that, while there were 51 shipyards operating under the Wood Ship Division on November 1, 1917, this number had been increased to 130 by September 1, 1918. Of these, 78 were building cargo-carrying wood ships, 4 were building cargo-carrying composite vessels, 28 were devoted to the building of barges, and 20 to tugs.

The first authorization for the construction of ocean-going tugs was made early in the spring of 1918, and some of these will be delivered for service on or before January 1. Authorization for harbor tugs and additional ocean-going tugs was made in July. Contracts for these tugs have been let and construction is now beginning to proceed.

The following types of wood ships are now being constructed, as follows:

Ferris (single-screw, single-deck, three-island type), 3,500 dead-weight tons.

Hough (twin-screw, two-deck, three-island type), 3,500 dead-weight tons.

Dougherty (single-screw, two-deck, with poop and forecastle), 4,900 dead-weight tons.

Pacific American (twin-screw, single-deck, three-island type), 3,500 dead-weight tons.

Grays Harbor type (twin-screw, single-deck, three-island type), 4,000 dead-weight tons.

Seattle or Geary (single-screw, flush-deck type), 5,000 dead-weight tons.

McClelland (composite) type (single-screw, two-deck, three-island type), 3,500 dead-weight tons.

Allen (single-screw, single-deck, three-island type), 3,500 dead-weight tons.

Supple & Ballin (single-screw, two-deck, three-island type), 4,000 dead-weight tons.

Peninsula (single-screw, two-deck, three-island type), 4,000 dead-weight tons.

The tables which follow indicate succinctly the Corporation's activities in wood ship construction during the past year.

Number of keels laid.

	By Nov. 1, 1917.		Between Nov. 1, 1917, and Oct. 31, 1918.		By Oct. 31, 1918.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Wood.....	124	444,200	384	1,371,450	508	1,815,650
Composite.....	10	36,000	21	76,500	31	112,500
Barges.....			29	69,000	29	69,000
Tugs.....			39		39	
Total.....	134	480,200	473	1,516,950	607	1,997,150

Number of launchings.

	By Nov. 1, 1917.		Between Nov. 1, 1917, and Oct. 31, 1918.		By Oct. 31, 1918.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Wood hulls.....	None.....		227	809,550	227	809,550
Composite.....	do.....		16	59,000	16	59,000
Barges.....	do.....					
Tugs.....	do.....		7		7	
Total.....			250	868,550	250	868,550

Number of deliveries.

	By Nov. 1, 1917.		Between Nov. 1, 1917, and Oct. 31, 1918.		By Oct. 31, 1918.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Wood hulls.....	None.....		84	298,200	84	298,200
Composite.....	do.....		8	30,000	8	30,000
Barges.....	do.....					
Tugs.....	do.....					
Total.....			92	328,200	92	328,200

Number of hulls contracted for.

	By Nov. 1, 1917.		Between Nov. 1, 1917, and Aug. 31, 1918.		By Aug. 31, 1918.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Wood hulls.....	314	1,101,000	155	560,200	469	1,661,200
Wood, complete.....	61	229,900	102	400,200	163	630,100
Composite, complete.....	58	207,000	126	191,000	32	116,000
Wood barges.....			121	311,500	121	311,500
Wood tugs.....			287		87	
Total.....	433	1,537,900	499	1,180,900	872	2,718,800

¹ Composite canceled.

² Reduced since by cancellations.

Number of men employed in various wood and composite shipyards.

By Nov. 1, 1917.....	11,476
By Aug. 31, 1918.....	63,076
Increase.....	52,600

Comparative statement of work completed on hulls between October 31, 1917, and September 1, 1918.

The increase in the total amount of work performed on wood and composite hulls under construction in all yards during the period from October 31, 1917, to September 1, 1918 (estimated on the basis of stage of completion of every hull on which work had been done, and expressed in terms of completed hulls), is as follows:

- By October 31, 1917, 14.22 hulls.
- By September 1, 1918, 299.59 hulls.
- Increase, 285.37 hulls.

The Wood Ship Construction Division has recognized that more attention should be given to ships of larger size, and after careful investigation decided to recommend that efforts be concentrated upon the construction of a 5,000-ton flush-deck wood ship which would be as strong as the 3,500-ton type now being built and which could be produced at a saving of approximately \$20 per ton.

The soundness of wood ships has been demonstrated in operation, for all of the troubles which have developed have been due to secondary causes such as green lumber which was not sufficiently calked, and in certain cases lack of rudder power. This has been borne out in reports received from masters and chiefs of ships now in operation.

As to composite ships, the number under contract has been reduced from 58 to 32, of which 3 have been delivered for actual service. Further comment can not be made upon their performances until results are known.

DEVELOPMENT OF THE CONCRETE SHIP.

The practicability of the concrete ship as an emergency agency having been established by investigation and experimentation, the Emergency Fleet Corporation has entered upon a limited program of concrete ship construction. As a carrier the concrete ship is admittedly less efficient than the steel ship, but because the cost of construction is estimated to be less than for wood or steel ships, and because the labor required is more easily obtained, many have thought that large numbers of concrete ships should be constructed. The program has necessarily been limited, however, because the present hull-producing capacity of the country in steel and wood ships is in excess of what may be termed the power and equipment producing capacity for fitting out these ships and also because the labor connected with the installation of equipment is the most highly skilled and most difficult to secure.

As a result of the combined efforts of concrete experts of the Bureau of Standards and other agencies a concrete aggregate has been developed which is so light that it floats on water and yet has strength and toughness greater than that of gravel or stone which is ordinarily used. The carrying capacity of the concrete ship as now designed is approximately 8 per cent greater than wood ships of equal size and only 5 per cent less than steel ships. The present estimated cost of the concrete hull is \$70 per dead-weight ton and the ship complete \$150 per dead-weight ton. The site for a concrete shipyard requires the same preparation as for any other type of shipyard, but the plant equipment is simpler in character.

Contracts for the construction of five Government-owned shipyards were signed in May and June, 1918, and the completion of the first way in each yard is scheduled as follows:

Wilmington, September 25; Mobile, September 25; Jacksonville, October 1; San Francisco, October 1; San Diego, October 15.

The construction of ships starts immediately upon the completion of the ways. The yards are all scheduled for completion before February, 1919.

The Government agency yards have four ways each and those at Mobile and San Diego also have outfitting plants. The difference in time of completion is due largely to the difference in amount of development work necessary.

The present construction program provides for 38 tankers and cargo ships of 7,500 tons dead-weight, 3 cargo ships of 3,500 tons dead-weight, 1 cargo ship of 3,000 tons dead-weight.

Of these the 38 large ships and two of the 3,500-ton ships are being built in the Government yards at Wilmington, N. C., Jacksonville, Fla., Mobile, Ala., San Francisco, and San Diego, Cal. The first of these will be launched in December and all before September,

1919. The date of delivery of these ships is scheduled for 10 weeks subsequent to time of launching.

The 3,000-ton cargo ship is under construction at Brunswick, Ga., and scheduled for launching in the latter part of October. One 3,500-ton ship is under construction at Flushing Bay, N. Y., and scheduled for launching in December.

In addition to the above ships which are being built for the Emergency Fleet Corporation, plans and specifications have been made for, and the Emergency Fleet Corporation is supervising, the construction of 21 barges of 500 tons dead-weight for the Committee on Inland Waterways. The first of these barges will be delivered about October 20, and all are scheduled to be delivered before December 1. The War Transport Branch, United States War Department, has contracted for the following concrete ships: Fourteen 130-foot river boats, five 100-foot water tankers, and twelve 225-foot car floats.

Plans and specifications have been prepared for a 2,500-ton dead-weight concrete schooner coal barge and bids have been requested. Twenty-four additional barges are needed by the Corporation and it is anticipated that some or all of these will be constructed of concrete. Plans and specifications have also been prepared for a concrete harbor tug for the office of the Director General of Military Railways, to be constructed and used in European waters. Plans and specifications have also been prepared for a concrete derrick barge for the Director of Storage, War Department, and a river barge for the Lower Mississippi for the Committee on Inland Waterways.

EXPANSION OF HOUSING FACILITIES.

Confronted with the serious housing congestion which inevitably attended the emergency program of ship construction, Congress, by act of March 1, 1918, conferred on the Emergency Fleet Corporation broad powers to render effectual its plans for meeting the housing necessities of the shipyards, including authority to secure lands and houses by requisition, purchase, lease, condemnation, or otherwise, to construct buildings and other improvements and to make loans to persons, firms, or corporations for a period not to exceed 10 years. An expenditure of \$50,000,000 was authorized for this purpose on June 1, 1918, and later increased to \$75,000,000.

Of these amounts, on October 1, 1918, commitments to the amount of \$64,802,845 had been made to provide at 25 shipyards and one turbine plant, housing for approximately 28,190 shipworkers and in most cases their families, a total of 9,443 houses, 60 dormitories, 95 apartment buildings, 11 cafeterias and mess halls, 27 boarding houses, and 300 tents. Of the amount thus appropriated, municipi-

palities and public-utilities companies have arranged to repay approximately \$3,000,000 to the Fleet Corporation, to which interest-bearing loans have been authorized to provide the public improvements, schools, and utilities at the various projects.

In some cases the Corporation's power to requisition houses has been used to prevent profiteering and insure continued occupancy by ship workers.

Since Government funds are involved on a large scale, the housing problem of the Corporation is not analogous to private corporate development of industrial housing. The problem was *sui generis*, and in order to avoid paternalism and the placing of the Government in the rôle of landlord, the Emergency Fleet Corporation assumed the position of mortgagee or banker lending Government funds on safe security, the main consideration being the forwarding of the construction program.

Except at Hog Island and St. Helena, the land has been secured without cost to the Government, either by (a) purchase for the account of and with the funds of the shipbuilder; or (b) purchase from a fund contributed by citizens to the corporation formed for the purpose, as at Wilmington, Del. Local governments and public utility companies have in many instances financed such improvements as schools, gas, electricity, and water.

These requirements designed to safeguard the investment having been met, the Emergency Fleet Corporation has loaned on mortgage an amount sufficient to construct housing facilities to meet in part the immediate needs of the yard with provision for a limited write-off of excess cost due to war time conditions. But its interest being broader than that of a mere mortgagee or banker, the Fleet Corporation has under its mortgage reserved the power to exercise control over the rentals, sales, and management of the project, for at least the period of the war.

These general policies have been developed against a background of conserving, after the war, both the Government investment and the community itself from the disastrous results of overbuilding. To this end, wherever possible, an enlargement or improvement of transportation facilities have been resorted to and the Transportation Department has endeavored to link up the yards with existing housing facilities in neighboring communities, and for this purpose loans have been made to finance extension by transportation companies, steamers have been placed under charter, and special train service arranged for, by the Transportation Department.

Toward the same end, the structural design of houses and the planning of the project, have, even at a somewhat greater cost than would otherwise have been required, constantly carried into effect the idea that the houses would, after the war, as well as at present, find a market for rental or sale in competition with existing dwellings

and be a permanent benefit to the community upon the restoration of normal conditions and the natural reduction of the existing demands.

Before any project is inaugurated an elaborate field investigation is made regarding the class of workers to be housed, the construction contracts and financial standing of the yard, the existing buildings, accommodations in the neighboring communities, facilities for transportation, etc. The site for the housing project is then carefully selected. Negotiations are made for installing needed utilities. Suitable arrangements with municipalities are made, and the legal details are completed. Where necessary, loans are made to public utilities companies on a 5 per cent basis, payable not later than five years after the war and secured by retention of title to the extension until such payment is made.

One of the most pressing problems was to make provision for a large number of men employed at Hog Island. In the autumn of 1917, plans were developed for a housing operation west of the Schuylkill between the shipyard and the city, but owing to the expense involved and the inadequate sewer and drainage facilities, this was abandoned in April, 1918, and the Corporation purchased 436 houses in process of construction in West Philadelphia which are now all occupied and show a gross income in excess of 10 per cent. This was done at a cost of about \$855,405.

Two sites were selected for 953 new houses on Elmwood Avenue and construction was begun in May. This operation is 75 per cent complete and practically all of the houses are rented, about 100 being now occupied. A contract has just been made for the construction of 600 additional houses on a tract adjoining the present development and provides for the completion of the houses in February, 1919. When these developments are completed they will provide 1,989 houses for employees at Hog Island, which will have cost about \$6,800,000, an average of \$3,407 per house.

Up to October 1, 1918, buildings, houses, and dormitories have been completed and occupied at the following places: Hog Island, Philadelphia, Bristol, and Chester, Pa.; Newport News, Va.; Sparrows Point, Md.; Portsmouth, N. H.; Camden, N. J.; Tacoma and Vancouver, Wash. In addition, 2,483 buildings, including 27 dormitories, apartments, and boarding houses were under roof at Hog Island, Philadelphia; Newport News, Va.; Sparrows Point, Md.; Portsmouth, N. H.; Camden and Gloucester, N. J.; Chester, Pa.; Lorain, Ohio; Wilmington, Del.; Essington, Pa.; Port Jefferson, L. I.; Bath, Me.

Most of the housing activities have been on the Atlantic Coast, for the restrictions in the matter of material, labor, and transportation were not so serious elsewhere.

In the appendix will be found details of housing contracts, a statement of the legal arrangements involved in the housing program as well as tables showing the municipalities which have cooperated, with their approximate commitments, the public utility projects for which loans have been made, and the dormitories and cafeterias which have been built or planned. (See *Appendix*, Tables XII to XVI.)

TRANSPORTATION OF SHIPYARD WORKERS.

A problem closely related to housing is that of securing adequate facilities for transporting shipyard workers. Where it has been found necessary to construct additional facilities, contracts have been made with the various transportation companies, under the terms of which the Emergency Fleet Corporation advances the money required to furnish the needed facilities. In general, the transportation companies perform all the work required, paying the Fleet Corporation 5 per cent interest on the full cost of the work during the period of the war and agree to pay the Corporation, after the termination of the war, the value of the particular item furnished, its amount of repayment being determined by a valuation which, in practically every case, is limited to a minimum of 75 per cent of the amount advanced. It is provided that repayment be made in equal annual installments, generally extending over a period of five years, with interest at 5 per cent on unpaid installments. As security for the money advanced, the Corporation retains title to all rolling stock and equipment until repayment in full has been made and is further secured by deposits of bonds, in collateral, or by other measures deemed necessary to fully protect the Corporation's interests.

Investigation of all shipyards having contracts with the Emergency Fleet Corporation demonstrated that additional facilities were required at yards having contracts for 73.7 per cent of the total dead weight tonnage under construction or under contract for the Emergency Fleet Corporation.

At all of these yards adequate transportation facilities have been provided to take care of the present situation and additional facilities contracted for to take care of the future transportation requirements.

At yards representing 26.3 per cent of the tonnage programme it was found that no additional transportation facilities were required.

Approximately 66,000 ship workers are already using facilities provided through the efforts of the Corporation, and, taking into view the present excess carrying capacity and the plans for further expansion, it is estimated that 184,000 workers will be benefited.

Transportation facilities have been installed and are in operation at Bath, Me.; Quincy, Mass.; Staten Island, N. Y.; Kearney, N. J.;

Newark Bay, N. J.; Camden, N. J.; Gloucester, N. J.; Hog Island, Pa.; Chester, Pa.; Essington, Pa.; Curtis Bay, Md.; Sparrows Point, Md.; Newport News, Va.; Wilmington, N. C.; Mobile, Ala.; Alameda, Cal.; Oakland, Cal.; Portland, Oreg.; Superior, Wis.; Duluth, Minn.; Jacksonville, Fla.; Groton, Conn.; Tacoma, Wash.; and Beaumont, Tex.

Of special interest are the transportation arrangements for the workers at Hog Island. During the winter and spring that plant was almost entirely dependent upon steam railway trains operated over temporary freight tracks for the transportation of workmen to the yards. In March contracts were made with the Philadelphia Rapid Transit Co. to provide additional cars and for the extension of its double-track street line to the shipyard. This extension of 3 miles and the terminal were completed in July and operations began on August 5. The cost of the extension, power house, and cars will be approximately \$2,475,500, of which \$900,000 were spent for the line and power-house additions. The railway company is to purchase the improvements at an appraisal after the war, and appropriate provisions are made for the disposal of the cars, with 15 additional cars which are being supplied at a cost of about \$175,500. This line transports from 28,000 to 30,000 passengers per day.

About the same time a contract was made with the Philadelphia Railways Co. to rehabilitate its line from Third and Jackson Streets to the Penrose Ferry Bridge and extend it thence to Hog Island and for an additional supply of cars at a total cost for construction, power house, and cars of \$693,000, under similar arrangements. This was completed in July and is now handling 10,000 to 12,000 passengers a day.

Tables illustrative of the work in connection with passenger transportation will be found in the Appendix (Tables XVII to XIX).

PROTECTION OF PLANTS AGAINST FIRE AND OTHER HAZARDS.

The Plant Protection Section, as its name implies, was organized for the purpose of furnishing protection to the various shipyards doing contract work for the United States Shipping Board Emergency Fleet Corporation. The work of this section covers plant guarding, fire protection, the Investigation Bureau, censorship of publications and periodicals containing articles referring to shipyard activities, and the issuance of shipyard and industrial passes throughout the country.

The guard protection of the various shipyards is represented by about 10,000 Federal and civilian guards, about 50 per cent of each class. The expense of providing barracks for the Federal troops is met by the Emergency Fleet Corporation, and upon completion of these barracks the troops are assigned and maintained by the War Department. The cost of operating the civilian guard system is

divided between the Corporation and contractors. Each district is provided with a district guard inspector and a plant guard inspector for each shipyard. The fire protection of the yards is under the direct supervision of the General Fire Marshal, attached to this office. There is also a District Fire Marshal for each district and a plant fire marshal for each yard. The guard officials report weekly and the fire officials bimonthly to the home office through their respective district managers, district officers, or district supervisors.

To the Bureau of Investigation is assigned the important work of investigating alleged cases of pro-German activities, grafting, slack-erism, etc., at the shipyards and home office. This Bureau has accomplished splendid results and is working in close harmony with the United States Secret Service Department and the Naval Intelligence and Military Intelligence Offices throughout the country.

DETERMINATION OF REQUIREMENTS FOR MATERIAL: CONTACT WITH WAR INDUSTRIES BOARD.

The Requirements Section of the Emergency Fleet Corporation, established on April 5, 1918, is charged with the responsibility of determining the requirements for material and equipment for the construction of ships, extensions to manufacturing plants, shipyards, and all other undertakings which come under contract with the Emergency Fleet Corporation either at their or its expense, and of maintaining liaison and cooperative relations with the War Industries Board, and other governmental and civilian agencies concerned with requirements in equipment and materials. Previous to the establishment of this arrangement, the Corporation was obtaining materials where it could, often competing with itself and other departments of the Government.

Since shortages in materials, equipment, labor, and fuel have become more and more acute, the Corporation through its Requirements Section has had to present to the War Industries Board for approval all proposals to build or expand plants, housing projects, marine railways, or construction of any kind in which the Emergency Fleet Corporation is interested before proceeding with the negotiations. It is likewise necessary to have all purchases cleared by the War Industries Board before negotiations to purchase are instituted.

The head of the Requirements Section is a member of the Requirements Division of the War Industries Board, and confers with other members representing the Army, Navy, Railroad Administration, Fuel and Food Administrations, Allied Purchasing Agencies, and similar governmental organizations, as well as with private manufacturers regarding the relative importance of requirements and sources of material, so as to get a broad picture of the needs and programs of all governmental departments and other purchasing agencies.

There is also maintained in Washington a branch office of the Requirements Section whose members attend all meetings of the various Divisions and Sections of the War Industries Board to represent the Emergency Fleet Corporation. Requirements for ships of all sizes and for other materials and projects have been determined and classified, and this information has been applied to the various contracts in order to get a comprehensive view of the total requirements of the Corporation. Information is being furnished as rapidly as it is developed, and in turn information received from the War Industries Board is being transmitted to the heads and department managers of the Emergency Fleet Corporation, as their functions and interests may indicate.

CENTRALIZED CONTROL OF SUPPLIES.

One of the essential tasks of the Corporation is that of the procurement, transportation, care, and housing of supplies. This involves problems in civil and mechanical engineering, frequent adjustment of financial and labor difficulties, educational work, problems in railway traffic, and knowledge of building construction and storage. A full list of the materials and equipment handled by the Supply Division would include thousands of things in addition to such familiar requirements as boilers, engines, and anchors. Everything that a ship needs—from 2,800-horsepower engines to the frying pans in the galley—must be procured, not once but over and over, to meet the requirements of approximately 150 shipyards scattered along our coasts from Maine to Oregon.

The centralized control of this important function is in the hands of the Supply Division, which is in close touch with manufacturers in every industrial center of the United States and some abroad. The Outfitting Department alone has dealings with more than 150 manufacturers of supplies and about the same number of shipbuilding plants. The Raw Materials Section deals with some 40 sources of supply and about 60 consumers of shipbuilding plants. The Lumber Department, through the Fir Production Board on the Pacific Coast and its yellow-pine headquarters on the Gulf, reaches out to every important sawmill in the great timber belts. But in the last analysis every phase of its work is made subordinate to a common purpose—

that of preventing any delay in the building or outfitting of ships through lack of raw materials or equipment.

Besides the home office force for handling supply problems, there is also an extensive field organization, the various district supply managers are stationed at important industrial centers for the purpose of following production in the various shops and expediting the delivery of material to the utmost. There is also a considerable staff of local purchasing agents who are emergency buyers. In case materials or products are damaged or lost in transit or unforeseen shortages occur it is their duty to supply the deficiency.

The manager of purchases and production is in charge of the departments or sections whose supervisors are engaged in directing the purchase and production of engines, boilers, turbines, electrical machinery, pipes and valves, deck equipment, auxiliary machinery, machine tools, and lumber.

The organization of the Supply Division also includes a distribution and warehouses department, and a considerable staff of special assistants and research men.

The important progress which has been made in the standardization of fabricated steel plates for hulls, ship machinery, and ship equipment has improved and increased the output while decreasing the cost. In the case of some plants and factories standardization has increased manufacturing facilities as much as 35 per cent. In all cases a more common basis of cost estimate is possible. The economy of standardization has been so apparent that it is the purpose of the Supply Division to effect it wherever possible.

SURVEY AND DEVELOPMENT OF POWER FACILITIES.

In carrying on its enormous construction program the Corporation has been confronted with the problem of continuously furnishing ample power to shipyard plants. The seriousness of the problem has been enhanced by various abnormal conditions, such as the difficulty of mining and transporting sufficient coal, but the whole situation has now been thoroughly examined, and policies are being matured for meeting all power shortages.

The Power Section of the Corporation, created in June, 1918, has been making an elaborate survey of the power situation, and all the yards of the Atlantic, Great Lakes, and Gulf districts have been investigated. Full data have been collected regarding the power needs of the yards, the capacity and condition of power stations and distribution systems, the class of industries or activities represented by present or prospective users, the availability of water power, the financial standing of power-producing companies, and the rates charged.

In many instances methods of relieving the situation have been found which have involved little or no expense to the Corporation. In some cases an overestimation of power demands on the part of the plants has been found, or a more effective utilization of existing facilities has sufficed. The installation of inexpensive devices has in some cases solved the problem, thus avoiding the construction of new plants, and in other instances power has been requisitioned from nonessential users.

Where necessary, however, arrangements have been made to construct new facilities. Such systems are already under way at Alexandria, Va., and at Newport News, and a new transmission line from the Public Service Electric Co. of New Jersey has been installed for the benefit of the Submarine Boat Corporation. Special care has been taken to scrutinize the cost of proposed extensions, and in this way a considerable amount of money has been saved to the Corporation.

Particular attention has been given to the power situation in and around Philadelphia, and very detailed studies have been made. By means of a questionnaire sent to isolated plants in the Philadelphia district a considerable amount of excess power was discovered. In order to make this available, however, transmission methods will still have to be worked out. An exhaustive study was made of all the customers taking power from the Philadelphia Electric Co., as well as those asking for more power, with a view to eliminating or limiting nonessential users, and giving the preference to war industries. Negotiations are pending for the provision of funds to be loaned by the Emergency Fleet Corporation on the basis of 40 per cent of the total cost of such additional facilities as may be fully demonstrated to be required to provide power to take care of the increased requirements for war industries.

The Corporation has cooperated with other governmental departments in introducing into Congress the Sims bill, giving to the President authority to give financial assistance to private power companies to make additions to existing power plants and to build new ones.

INDUSTRIAL RELATIONS.

Work in the field of industrial relations was begun by the Emergency Fleet Corporation in September, 1917, with special attention to the securing of labor. At that time there were approximately 60,000 men engaged in shipbuilding, and it was perfectly obvious that a tremendous expansion would be necessary to meet the emergency. The Industrial Service Section was a forerunner of the present Industrial Relations Division, and was principally concerned with securing labor and teaching the shipyards scientific employment methods, so as to reduce turnover and keep workers on the job.

Later there were added the Department of Health and Sanitation, the Education and Training Section, the Safety Engineering Section, and the Labor Section. These various sections are well defined by their respective names, except the Labor Section, which was primarily for the purpose of settling labor disputes. On May 17, 1918, all industrial relations work, with the exception of passenger transportation and housing, was combined under a unified direction. This step was considered necessary because it had been found that there was much duplication of effort and much friction as a result of overlapping functions on the part of the different sections.

The Industrial Relations Division of the Emergency Fleet Corporation is concerned with four main problems:

1. The working conditions of shipbuilding laborers, including medical supervision, supervision of sanitation in the yards, and safety engineering for the prevention of accidents. Shipbuilding is analogous to other heavy construction work and is classified among the more hazardous occupations which require that considerable attention be given to accident prevention. It was realized that the loss of considerable manpower could be overcome only by concerted safety effort, which led to the establishment of a Safety Engineering Section, composed of experienced safety engineers, whose duty it is to study the situation and render every possible assistance to the shipyards in organizing safety work and preventing injury to the workers.

2. The supply of labor for shipyards, which includes the recruiting of the existing supply, this being done largely through the United States Employment Service, and the creation of a new supply, by methods of industrial education and training. The question of deferred military service classification for shipbuilders and the creation of an available supply through the shipyard volunteers come under this head.

3. The administration of shipyard workers, which includes setting up an organization in each yard, under an employment manager, to hire the workers and assign them to proper jobs. It involves securing the proper man to undertake the work and inducing the yards to undertake the service.

4. The question of wage control and the settlement of wage disputes, which come within the province of the Shipbuilding Labor Adjustment Board are given to the Industrial Relations Division for administration. The Manager of the Division is also a member of the Shipbuilding Labor Adjustment Board, and this point of contact enables the Division to discharge this function properly.

The present administrative machinery for meeting the foregoing problems comprises a director, an assistant director, a field director, five staff branches, four sections, and a field organization of nine

district representatives, each of whom has a representative in each of the yards in his district. The five staff branches are as follows:

1. *Control*, which has the function of checking expenditures and exercising financial supervision over the activities of the division.

2. *Investigation*.—This staff assistant is charged with getting together material which may be of benefit and assistance to the division in the discharge of its work. Much of this material has been gleaned from English experience.

3. *Information and promotion*, which has to do with disseminating orders, bulletins and interpretations of various Government rulings to the shipbuilders, to the officials of the Emergency Fleet Corporation, to the home office and to the field representatives. This division is also charged with paving the way for the service of the division with those who may be somewhat prejudiced against this sort of work.

4. *Labor adjustment*, which has to do with adjustment of labor disputes arising in the auxiliary plants, or plants having contracts for necessary ship material and under contract with the Emergency Fleet Corporation.

5. *The Employment Management Branch*, which helps the shipyard managements in proper methods of hiring workers, fitting them to jobs and so administering labor problems that the turnover is kept within reason and there is the smallest possible dissatisfaction among the workers.

The activities of the various sections are as follows:

Labor Requirements Section.

The Labor Requirements Section is concerned with learning the labor requirements of the individual shipyards and with meeting those requirements through cooperation with the United States Employment Service.

There is a great deal of statistical work involved in the duties of this section, and a statistical department is part of its equipment.

An important feature of the Labor Requirements Section is the question of deferred service classification for men employed in shipyards and the transfer of men from Army cantonments who are skilled in shipyard work. The question of deciding which man should be exempted in order to help build ships has been a vexed one, and it has required a very considerable organization to handle this matter so that the greatest possible man power should be conserved and so that no injustice would be done.

Education and Training Section.

The plan of training shipyard workers by a systematic and rapid process, instead of depending upon the slow, haphazard, and wasteful methods of the apprentice system, was begun by the Emergency Fleet Corporation September 15, 1917. The plan as finally worked

out and submitted to the Atlantic Coast shipyards provided for the establishment of training centers, to which bright mechanics from yards could be sent and put through an intensive course of about six weeks, learning to teach their own particular trade. In this way, every shipyard embarrassed by a shortage of skilled labor could have a corps of practical mechanics trained to teach their trade to green men.

The Fleet Corporation asked the shipbuilding plants to send picked men to the training center and pay their wages while there. The Corporation in turn agreed to reimburse the plants to the extent of \$5 per day per man under training at the center. The first center was established in the shipyard of the Newport News Shipbuilding and Dry Dock Co., Newport News, Va., on November 15, 1917. Eighty-five men, representing 14 different trades from the yards in all parts of the country, attended the first sessions. February 27, 1918, a center was opened at Hog Island, and March 21, 1918, another was established at the Sun Shipbuilding Co.'s yard at Chester, Pa. At present, the Education and Training Section operates 22 centers in 9 of the 11 shipbuilding districts. Twenty-eight shipyards now have men giving instruction who have been trained at the centers. To September 1, 1918, 816 men had been sent to the centers by shipyards.

In order to secure a staff of instructors to carry on the work at the centers, the Education and Training Section has established an Instructor Training Branch, which selects and trains staff instructors, supervises instruction at the training centers, inspects and studies methods of training, and prepares text books and manuals. Men with technical training and practical experience have been selected as staff instructors and given intensive training in effective teaching methods. The section has established two staff instructor training schools—one at Philadelphia, which has completed its work, and the other at Long Beach, Cal., which is now training staff instructors for the Pacific Coast centers. At present, the section has 33 staff instructors.

The Education and Training Section encourages every shipyard which sends men to training centers to establish a definitely organized training department, directly responsible to the yard manager, so that when instructors complete their work at the training center, they become members of the teaching staff of the yard's training department. To every yard which establishes a training department, meeting certain definite standards, the Fleet Corporation pays a bonus of \$1 per day for each man in training.

A supplementary instruction branch develops special courses for groups of men to make them more valuable by giving them the knowledge of allied branches of their work. This auxiliary knowledge is

taught "off the job" outside of working hours, and includes blueprint reading, ship construction, nomenclature, and foremanship. The Federal Board of Vocational Education created under the Smith-Hughes bill, cooperates in promoting instruction of this kind.

An electric welding branch is devoted to developing that process, carrying on experimental work, developing symbols and nomenclature, and spreading its knowledge through the yards. An electric welding committee containing various representatives of technical societies, and aided by English experts, who first used the process, has been established to further the work.

Field representatives keep the home office advised as to the effectiveness of the work of the section and the needs of the various districts. They are responsible for putting the education and training idea into effect and establishing working relations with the shipyard managements.

A technical education and production development branch secures technical men for the shipyards. This is done by special appeals among the colleges and universities, and by establishing intensive courses for marine engineers and naval architects. Special courses have been established at the University of California, the University of Southern California, Throop College of Technology, Lehigh University, and the Massachusetts Institute of Technology. It is also the function of this branch to study efficient methods of production and to spread such knowledge throughout the shipyards.

At first there was some doubt about the practicability of training skilled shipyard mechanics by short intensive instruction, but the results obtained so far have convinced not only the managers of shipyards, but the workers as well.

Health and Sanitation Section.

The Health and Sanitation Section was organized to exercise supervision over conditions of health and sanitation that might affect the physical welfare of the men in the yards. Starting with such basic elements as water supply; the jurisdiction of this section extends to sewage disposal, garbage disposal, mosquito elimination, elimination of flies, toilet facilities, washing and bathing facilities and a general supervision over the sanitation in housing projects and living quarters of the workers. On the purely medical side the division sees to it that proper facilities are provided for taking care of injuries, for prompt handling of epidemics and in many cases for a free dispensary where the men can have their minor ills diagnosed and proper treatment suggested. Through the field force of this division each of the shipyard plants in the United States has been visited on an average of once a month, and the suggestions arising from the reports of these investigators have been put before the shipyard management with request for action.

This section has been particularly active in cooperating with local health boards and with the Public Health Service in the matter of cleaning up the territory surrounding shipyards which might have become a menace to the health of the workers.

A sum of over \$600,000 has been appropriated by local communities at the instance of the Health and Sanitation Section, and the sanitary engineers of that section have been very setive in the matter of mosquito elimination over large territories in the neighborhood of Camden, Gloucester, Wilmington, Chester, and Hog Island.

On November 15 the Health and Sanitation Section was taken over by the Department of Public Health, which will continue the work in the future, as the officer detailed from the Army to establish that section and carry on its work was withdrawn in order to do reconstruction work abroad.

Sanitary engineering at Hog Island.—When it was determined to establish at Hog Island, Pa., a shipyard of unprecedented size, employing an army of thousands of workers, it was realized that one of the primary necessities was to carry out a project of sanitary engineering akin to that accomplished at Panama, without which no canal could have been built.

In the fall of 1917 the Hog Island site was a low malarial swamp, infested with mosquitoes, practically uninhabited. The first step in its reclamation was to organize a cooperative undertaking, involving various governmental and commercial agencies. The State of Pennsylvania was perhaps the chief factor, and the other agencies joining in the project were the Emergency Fleet Corporation, through the American International Shipbuilding Corporation, the city of Philadelphia, the Westinghouse Electric & Manufacturing Co., the railroads, which donated important services, the League Island management (under the Navy Department), and the State Rifle Range.

The fly nuisance was abolished, pigs were eliminated, and most important of all the mosquitoes were exterminated. This was accomplished by a process of oiling, ditching, and draining, together with the construction of dikes and the installation of an equipment for constant pumping.

The project covers an area of 10,000 acres and its cost in 1918 was \$270,000, of which the Emergency Fleet Corporation spent \$50,000, through the American International Shipbuilding Corporation. Fifty-five thousand gallons of oil have been used, draining pumps of a capacity of 180,000,000 gallons per day have been employed, and 120 miles of ditches and channels have been constructed. Vegetation was mowed over an area of 1,750,000 square feet to expose the surface of the water for inspection and oiling.

As a result the island, as well as southwestern Philadelphia, was maintained on a high sanitary level during the past summer and was practically free from mosquitoes.

A similar cooperative plan of mosquito extermination has been inaugurated along the Delaware River to a point south of Chester and in certain other shipbuilding centers.

Safety Engineering.

The Safety Engineering work of the United States Shipping Board Emergency Fleet Corporation was organized in January, 1918, as a branch of the Insurance Department. Later, with the establishment of the Safety Engineering Section, it was made a part of the activities of the Industrial Relations Group.

The aim of the Safety Engineering Section is to conserve the industrial man power by the creation and maintenance of better and safer plant working conditions, and every attention and assistance is given to the plant officials in establishing efficient safety organizations. Under the direction of the chief safety engineer there is stationed in each of the 11 shipbuilding districts an experienced safety engineer who directs the safety activities under the guidance of the district officials, and in many cases the larger yards have their own safety engineers. Safety committees have been established in most of the shipyard plants, which meet at intervals, make suggestions and recommendations, consider new safety devices, and promote in general the safety activities of the plant or department.

Considerable attention has been given to educational activities to gain the cooperation of all employees and instruct them in the principles governing accident prevention work. Safety rallies for employees have been held and safety literature has been distributed and posted on the bulletin boards, and the men have also been reached through the plant publications.

In the largest shipbuilding plant under the control of the Corporation, the annual accident rate has been reduced to about 6 per cent, as compared to average figures compiled by the Bureau of Labor Statistics before the war of about 22 per cent, for men employed in shipbuilding.

Field Organization.

In each shipbuilding district the Industrial Relations Division has a district representative, who represents jointly the Shipbuilding Labor Adjustment Board and the Industrial Relations Division. In his office are representatives of the four sections described above, and he also has representatives stationed at the yards which fall within his district. These yard representatives, being on the ground and in close contact with men and management are in a position to report conditions that need attention from the district representative, the Shipbuilding Labor Adjustment Board, or the central office of the Industrial Relations Division, thus bringing the various elements into the closest possible contact.

PUBLICATIONS AND EDUCATIONAL APPEALS.

In January 1918, plans were begun for publishing a weekly newspaper devoted to the interests of the Emergency Fleet Corporation. The first number of the *Emergency Fleet News* was published February 28, 1918, and this paper, gradually increasing in size and in range of its interests, has appeared regularly at weekly intervals, and now has a circulation of about 20,000.

The *Emergency Fleet News* has for its purpose the creation of a common aim in the 7,000 employeecs of the Corporation and the stimulation of ship production through encouraging rivalry and by acting as a medium for the dissemination of news of records, unusual performances and new methods and practices in shipbuilding. It goes to the personnel and officials of the Corporation and to the executives of the shipyards under its jurisdiction.

The Corporation also issues the *Shipyard Bulletin* for posting in the shipyards to be read by the shipworkers and the *Emergency Fleet Bulletin* for posting in manufacturing plants producing shipbuilding materials, the aim being to provide some connecting link between the workers in these plants and the shipyards.

A number of posters have been issued designed to arouse the shipworkers to greater effort and to stimulate public interest in the shipbuilding program. Others have been prepared for the purpose of impressing upon workers in industrial plants the importance of their work. In the preparation of these posters the Publications Section has had the assistance of the country's most eminent artists through the cooperation of the Division of Pictorial Publicity, Committee on Public Information.

Service flags for the shipworkers and flags for shipyards and fabricating plants have been designed and distributed. Special booklets have been prepared to assist several of the branches of the Corporation, among them the Industrial Relations Group, the Health and Sanitation Section and the Recruiting Service of the Shipping Board. Contests among shipyards and shipyard workers have been organized to speed production and to increase the efficiency of the plants.

For the allied war exhibit, held in San Francisco in July 1918, the Publications Section prepared an Emergency Fleet Corporation display. It has distributed to shipyard and other bands "*The Volunteers*," a shipworkers' march written by John Phillip Sousa at the suggestion of this section.

Its general aim is to inform and stimulate the public, especially the shipworkers, by means of the printed word and pictorial presentation. In this connection it carried on the campaign to enroll mechanics in the United States Shipyard Volunteers, a reserve force from which to draw shipyard workers.

The National Service Section of the Emergency Fleet Corporation was begun on February 4, 1918, and is engaged in stimulating patriotic spirit among the workers in American shipyards. The object is to speed up production in shipyards and industrial plants supplying material to ships by a program of education and inspiration among the management and men. The appeal is made through a series of meetings, addressed by a corps of experienced speakers, military and civilian, and by the distribution of printed matter. In addition, local newspapers and periodicals have cooperated to a remarkable degree in the creation of a wholesome public opinion. The field covered embraces the entire coast of the United States, including 172 shipyards besides many contributory industrial plants. Between February and October, 4,920 meetings were held with an attendance of 5,081,277, and the results show an awakening of the shipyard workers to a new ideal of citizenship, an improved morale among the men, and a gratifying increase in ship production.

FINANCIAL ADMINISTRATION.

Auditing.

The sundry civil appropriation bill for 1919 contained a paragraph directing the Secretary of the Treasury to cause an audit to be made of the financial transactions of the Corporation under such rulings and regulations as he may prescribe. An audit of accounts, is now in progress, and it is believed that this audit will be of value in reassuring those responsible for the expenditure of the moneys entrusted to the Corporation that the money is being properly expended and accounted for.

The extension in activities of the Auditor's Office has followed naturally from the expansion of the whole Corporation. On October 31, 1917, the construction of ships under contract, the completion of requisitioned ships, and the construction of shipyards embraced the scope of the auditing work of the Corporation. At present, relationship is maintained with the following classes of concerns:

Steel shipyards.....	76
Wood shipyards.....	79
Concrete shipyards.....	6
Tug and barge contractors.....	36
Housing projects.....	30
Hotels, boarding houses, etc.....	1
Lumber yards.....	7
Warehouses.....	5
Steel fabricating plants.....	6
Marine railways.....	12
Dry docks.....	10
Machinery and equipment plants.....	4
Shipyards under construction.....	41
Banks (Sept. 30, 1917).....	28

Banks (Sept. 30, 1918).....	315
Inventories of material at machinery plants	75
Passenger transportation contracts:	
Ferry operations.....	11
Railway extensions, rolling stock, and additional power	17
	— 23

In a great many industrial plants where no cost audit is necessary the Emergency Fleet Corporation has large inventories of various raw materials, which must be controlled and accounted for. The lumber yards and warehouses enumerated are operated directly by the Emergency Fleet Corporation and all operating and inventory accounts are handled by the Auditor's Office. The marine railways, dry docks, steel fabricating shops, shipyards, and housing and transportation construction projects, while operated for the most part by contractors or agents of the Emergency Fleet Corporation, are nevertheless under regular audit by members of the auditing staff. As a result of the problems introduced by the wage increases awarded by the Shipbuilding Labor Adjustment Board, and the necessity of changing a number of ship contracts from a lump sum to a cost plus fixed fee basis, the Auditor's Office now has a resident auditor in practically every shipyard in the United States.

Comptroller's office.

All financial transactions of the Corporation are conducted through the comptroller's office and the approved vouchers or requisitions forwarded to the Treasurer for his action. Contracts and requests for financial assistance are received in this department, from the Vice President's office, for information and comment before being finally signed. In addition, the Comptroller's office is charged with the preparation of estimates of financial requirements to carry out the shipbuilding program.

The Credit Department examines the financial responsibility of prospective contractors and is keeping a complete file on the standing of contractors with whom business is transacted. In addition, it invites the supplier of raw materials to report delinquency on the part of contractors in paying for materials. Without making itself a collection agency, the department is able to assist dealers in making collections, thereby creating a greater desire to do business and to make prompt deliveries to contractors.

Insurance section.

The establishment of the insurance fund will result in the saving of many millions of dollars, which otherwise would have been paid out in premiums. At the close of business August 31, 1918, hull insurance covering marine builders' risk amounting to \$503,372,757 was in force, and the saving of premiums amounted to \$4,253,878.93. The

losses sustained in connection with marine builders' risk insurance amounted to \$164,999.15. The saving of fire insurance premiums amounted to \$196,666 on insurance of \$30,496,688. The losses sustained in connection with this branch of insurance amounted to \$48,100.

On August 1 the Casualty Insurance Branch took over the insuring of employees at the Hog Island yards, and while the first month's operations are not taken as a criterion it is expected that the saving of premiums will amount to many thousands of dollars. The carrying of this insurance in its own fund gives the Fleet Corporation the benefit to be derived from the establishment of increased hospital facilities and installation of safety devices, which otherwise would accrue to the benefit of the insurance company. The casualty insurance at all other yards owned by the Emergency Fleet Corporation will be taken over as rapidly as this department can be expanded.

CENTRAL STAFF WORK—ORGANIZATION AND METHODS.

Duties of the most urgent importance in the performance of which time was the one great element have led naturally to the creation of specific agencies under the Emergency Fleet Corporation. These agencies were organized with the single purpose of getting the things done as quickly as possible and as well as possible. As they have been fitted into the other parts of the working machinery of the Corporation it has become clearly evident that there were within the operating scope of the Corporation duplications of work, inconsistencies and overlaps in jurisdiction, and other features of operation and administration which were a deterrent to the highest possible effectiveness.

It was decided to provide a central agency under the immediate supervision of the Vice President in Charge of Administration to advise and assist in the adjustment of these discrepancies and faults. This staff, which is known as the Organization and Methods Section, has made studies of the separate activities of the Corporation. It has made recommendations which have been the basis for administrative changes, and has assisted greatly in clarifying the duties and defining the responsibilities of operating units.

Executive action by the officers of the Corporation is promulgated by means of orders, general, special, and technical. To maintain consistency and harmony in the effect of these orders it has been arranged that they clear through the Organization and Methods Section, where they are studied in the light of previous orders and with regard to existing authorizations and conditions. This procedure alone has served to eliminate many duplications and overlaps of activity.

An extensive study has been made of the duties, responsibilities, and salaries of different positions with a view of developing a plan for uniformity in titles and salaries based upon the fundamental idea that duties performed must be the measure of value. A complete plan has been developed and is now in operation. This plan will bring about without hardship to the employees a well-balanced organization free from the confusion and irritation which inevitably arise from lack of uniformity in salary and wages.

The Organization and Methods Section has also acted in an advisory capacity to executive officers in the study and solution of various problems of administrative methods and procedure. Some of the more important studies include the following:

Development of accounting classifications for analysis of expenditures; establishment of schedules for personnel control and audit of pay roll; establishment of centralized control and decentralized physical location of home office service organizations, such as Stenographic, Clerical, Filing, and Messenger branches; development of definite contract procedure; preparation of regulations and procedure on reimbursement to shipbuilders on account of increased cost of labor; development of principles and needs of uniform cost accounting methods in the shipbuilding industry; development of plan of administration in Shipbuilding Districts; development of plan and procedure for inventory of plant property and equipment of the Emergency Fleet Corporation; development of principles and procedure for standardization of wages of labor engaged in war work; development of uses of mechanical equipment for accounting and cost accounting in shipyards.

That only the more urgent staff studies be undertaken and completed at the earliest time a definite program of staff studies and procedure has been set up by the Organization and Methods Section. Special staff work before being undertaken in any of the divisions of the Corporation is presented by the executive officers to the management for approval and cleared through the Organization and Methods Section. Through this method coordination of all staff studies is obtained and opportunity is furnished for the exchange of the experiences on all staff work in the Corporation.

Respectfully submitted,

EDWARD N. HURLEY, *Chairman.*
 RAYMOND B. STEVENS, *Vice Chairman.*
 JOHN A. DONALD, *Commissioner.*
 BAINBRIDGE COLBY, *Commissioner.*
 CHARLES R. PAGE, *Commissioner.*

APPENDIX.

TABLE		Page.
	I. (a) Compensation of employees of United States Shipping Board in service prior to September 30, 1918.....	164
	(b) Names and compensation of employees of the United States Shipping Board in service for same period within the year ending September 30, 1918, who have resigned prior to that date.....	169
	II. Statement of disbursements from the appropriation "Salaries and expenses of United States Shipping Board," for the fiscal year ending June 30, 1918.....	171
	III. United States Shipping Board and United States Shipping Board Emergency Fleet Corporation consolidated balance sheet, as at June 30, 1918.....	172
	IV. Statement showing number of persons, grade or character of positions, the original rates of compensation, and the increased rates of compensation as required by section 2, sundry civil act, June 12, 1917 (United States Shipping Board).....	174
	V. Memorandum for the adjustment of wages, hours, and conditions of labor in shipbuilding plants December 8, 1917....	176
	VI. Table of delivered ships constructed by the United States Shipping Board Emergency Fleet Corporation.....	177
	VII. (a) Monthly summary of keels laid, hulls launched, and ships delivered up to November 1, 1918.....	178
	(b) Condensed summary of results in ship production as of November 15, 1918.....	179
	VIII. Summary chart showing monthly progress in ship production..	180
	IX. Condensed comparative balance sheet of the United States Shipping Board Emergency Fleet Corporation as of August 31, 1918, and August 31, 1917.....	181
	X. United States Shipping Board Emergency Fleet Corporation, treasurer's report, August 31, 1918.....	181
	XI. Personnel table of the United States Shipping Board Emergency Fleet Corporation as of September 30, 1918, showing compensation of employees.....	182
	XII. Details of housing contracts of the United States Shipping Board Emergency Fleet Corporation.....	184
	XIII. Legal arrangements involved in connection with the Emergency Fleet Corporation housing projects for shipyard employees.....	190
	XIV. List of municipalities which have furnished facilities in connection with housing projects of the Emergency Fleet Corporation with their approximate commitments.....	191
	XV. Loans made by the Emergency Fleet Corporation to utility companies in connection with housing projects.....	191
	XVI. Dormitories and cafeterias constructed or planned for the Emergency Fleet Corporation.....	191
	XVII. List of contracts with the Emergency Fleet Corporation for the construction of transportation facilities.....	193
	XVIII. Special steam train service arranged for shipyard workers.....	193
	XIX. Arrangements for ferryboat transportation of shipyard workers.	194
	XX. Disbursements and liabilities of the Emergency Fleet Corporation at the Government agency plants at Hogs Island, Pa., and Bristol, Pa.....	194

164 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE I (a).—*Compensation of employees of United States Shipping Board in service on Sept. 30, 1918.*

Name.	Designation.	Legal residence.	Rate per annum.
Edward B. Burling.....	Chief counsel.....	Illinois.....	\$10,000
Edwin F. Gay.....	Special expert.....	Massachusetts.....	10,000
Ira A. Campbell.....	Admiralty counsel.....	California.....	7,500
Henry S. Dennison.....	Special expert.....	New York.....	6,000
Monte M. Lemann.....	Attorney.....	Louisiana.....	6,000
W. Murray Sanders.....	Special expert.....	Pennsylvania.....	6,000
William Penniman.....	do.....	Maryland.....	6,000
Sherman Whipple.....	General counsel.....	Massachusetts.....	5,000
John W. Griffin.....	Admiralty counsel.....	New York.....	5,000
Amos S. Hebble.....	Special expert.....	New Jersey.....	5,000
Paul T. Cherington.....	do.....	Massachusetts.....	5,000
Harold V. Amberg.....	Attorney.....	Illinois.....	5,000
John E. Barber.....	Examiner.....	New York.....	5,000
James H. Collins.....	do.....	do.....	5,000
Frank B. Lord.....	do.....	Washington, D. C.....	5,000
Arthur J. Mason.....	Chief advisory engineer.....	Illinois.....	5,000
Henry Van R. Scheel.....	Special expert.....	New Jersey.....	5,000
John W. Riedell.....	Office manager.....	New York.....	5,000
William C. Ewing.....	Special expert.....	Massachusetts.....	4,800
Bradford Boardman.....	do.....	New York.....	4,500
Edwin H. Abbot, jr.....	Attorney.....	Washington, D. C.....	4,500
Carson S. Duneau.....	Special expert.....	Illinois.....	4,500
Horace S. Secrist.....	do.....	do.....	4,500
C. E. Schreiber.....	do.....	Wisconsin.....	4,000
W. L. Soleau.....	Disbursing officer.....	Washington, D. C.....	4,000
Walter S. Tower.....	Special expert.....	Massachusetts.....	4,000
Gerard C. Henderson.....	Attorney.....	Washington, D. C.....	4,000
Donald Scott.....	Special expert.....	New York.....	4,000
Chester M. Greenough.....	do.....	Massachusetts.....	4,000
Warren M. Persons.....	do.....	Colorado.....	4,000
Lewis Meriam.....	do.....	Maryland.....	3,800
Miles M. Dawson.....	Special examiner.....	New York.....	3,750
Francis W. Buxton.....	Special expert.....	Massachusetts.....	3,600
Charles C. Colby.....	do.....	Illinois.....	3,600
Walter W. Stewart.....	do.....	Massachusetts.....	3,600
Louis C. Walker.....	do.....	Michigan.....	3,600
Walter S. Meriwether.....	Examiner.....	New York.....	3,600
William C. Ward.....	Special expert.....	do.....	3,600
Whitefield L. Mercer.....	Examiner.....	Washington, D. C.....	3,600
Edmund E. Day.....	Special expert.....	Massachusetts.....	3,600
Wesley C. Mitchell.....	do.....	New York.....	3,600
V. C. Finch.....	do.....	Wisconsin.....	3,600
Willis D. Benson.....	do.....	Washington, D. C.....	3,600
Albert D. Brokaw.....	do.....	Illinois.....	3,600
C. O. Rugles.....	do.....	Ohio.....	3,600
Sigourney Mellor.....	Examiner.....	New York.....	3,600
J. G. Randall.....	Special expert.....	Virginia.....	3,600
George B. Roorbach.....	do.....	Washington, D. C.....	3,600
John H. Palmer.....	do.....	Pennsylvania.....	3,500
Arthur N. Young.....	do.....	New Jersey.....	3,500
Everett W. Hawkins.....	Examiner.....	Pennsylvania.....	3,200
Paul W. Garrett.....	Special expert.....	New York.....	3,000
Henry F. Grady.....	do.....	do.....	3,000
Frank F. Grout.....	do.....	Minnesota.....	3,000
R. A. Dean.....	Attorney.....	Massachusetts.....	3,000
Edward T. Krach.....	Special expert.....	Illinois.....	3,000
Herman Lane.....	Examiner.....	Washington, D. C.....	3,000
William Barber.....	Special expert.....	New Jersey.....	3,000
Edward P. Burket.....	Special agent.....	Washington, D. C.....	3,000
Francis W. Palne.....	Special expert.....	Michigan.....	3,000
Blaire Hoover.....	do.....	Illinois.....	3,000
William O. Scroggs.....	do.....	Louisiana.....	2,900
Richard Bailey, jr.....	Confidential clerk.....	Washington, D. C.....	2,800
John E. Kirshman.....	Special expert.....	Massachusetts.....	2,750
David B. Gray.....	do.....	New Jersey.....	2,700
David M. Watkins.....	Examiner.....	Pennsylvania.....	2,600
Thomas O. Monk.....	do.....	Washington, D. C.....	2,600
Samuel S. Hickox.....	Special expert.....	Wisconsin.....	2,500
Walter T. Fischer.....	do.....	Illinois.....	2,500
Barbara W. Lyndon.....	do.....	New York.....	2,500
William B. Fitch.....	Examiner.....	Washington, D. C.....	2,500
Henry E. Manchum.....	do.....	Oregon.....	2,500
William H. Dean.....	do.....	New York.....	2,400
Louis Levy.....	Confidential clerk.....	New Hampshire.....	2,400
Roy H. Morrill.....	do.....	Massachusetts.....	2,400
M. J. McCrisaken.....	Examiner.....	New York.....	2,400
Mary C. Underwood.....	do.....	Massachusetts.....	2,400
Joseph A. Scannell.....	Senior clerk.....	do.....	2,400
Mary Louise Smith.....	Special expert.....	do.....	2,400
Bessie C. Stern.....	do.....	New York.....	2,400

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 165

TABLE I (a).—*Compensation of employees of United States Shipping Board in service on Sept. 30, 1918—Continued.*

Nome.	Designation.	Legal residence.	Rate per annum.
Fred H. Stern.....	Special expert.....	Massachusetts.....	\$2, 400
C. E. Griffin.....	do.....	Michigan.....	2, 400
W. H. Haas.....	do.....	Illinois.....	2, 400
Paul L. Dildine.....	do.....	Ohio.....	2, 400
George C. Payne.....	do.....	New York.....	2, 400
Edward D. Hunton.....	do.....	Wyoming.....	2, 400
George Nichols.....	do.....	Massachusetts.....	2, 400
Oscar B. Ryder.....	do.....	Kentucky.....	2, 400
William F. Camp.....	do.....	New York.....	2, 400
John J. Flaherty.....	Senior clerk.....	do.....	2, 400
Fred L. Ham.....	Special expert.....	Massachusetts.....	2, 400
Emory R. Johnson.....	do.....	Pennsylvania.....	2, 400
H. Stewart Jackson.....	do.....	Maryland.....	2, 400
Kathleen Lawler.....	Confidential clerk.....	Michigan.....	2, 400
Ulric J. Gendron.....	Senior clerk.....	Massachusetts.....	2, 400
Charles S. Brock.....	do.....	Florida.....	2, 300
Emory B. Wood.....	do.....	Virginia.....	2, 220
William Robertson.....	Special expert.....	Washington, D. C.....	2, 200
Jacob Viner.....	do.....	do.....	2, 200
James A. Preston.....	do.....	Missouri.....	2, 160
Harold D. Leslie.....	Examiner.....	Utah.....	2, 100
Edith F. Jones.....	Special expert.....	Wisconsin.....	2, 100
Robert G. Richards.....	Examiner.....	Massachusetts.....	2, 000
Benjamin V. Cohen.....	Attorney.....	do.....	2, 000
A. R. Mehafeey.....	Special expert.....	Connecticut.....	2, 000
Adelma H. Burd.....	do.....	New York.....	2, 000
Frank H. Towsley.....	Attorney.....	do.....	2, 000
William H. Connelly.....	Special expert.....	Massachusetts.....	2, 000
Jessamine S. Whitney.....	Statistician.....	New York.....	2, 000
Leon S. Gibson.....	Senior clerk.....	Maryland.....	1, 980
Lloyd G. Roberts.....	do.....	Iowa.....	1, 920
Clarence C. Clark.....	Stenographer.....	New Jersey.....	1, 900
Gordon Miller.....	Assistant attorney.....	South Carolina.....	1, 900
Adolph Amendé.....	Senior clerk.....	Alabama.....	1, 890
Alvord C. Devoe.....	do.....	New York.....	1, 850
Elizabeth Criswell.....	Special expert.....	Wyoming.....	1, 800
Jerry C. Massey.....	Examiner.....	Oklahoma.....	1, 800
Coral H. Hunt.....	Clerk.....	Ohio.....	1, 800
Albert F. Borg.....	Special expert.....	Connecticut.....	1, 800
Charles T. Rippey.....	Stenographer.....	Tennessee.....	1, 800
Albert McKee.....	Examiner.....	New York.....	1, 800
Julius Segall.....	Special expert.....	Minnesota.....	1, 800
I. P. Henderson.....	Deputy disbursing officer.....	Georgia.....	1, 740
Valentine F. Bretzer.....	Clerk.....	New York.....	1, 740
Charles W. Brett.....	do.....	New Hampshire.....	1, 680
E. J. Siddmore.....	do.....	Michigan.....	1, 680
Frederick H. Flinn.....	do.....	New Jersey.....	1, 620
Helen Naumann.....	Stenographer.....	Illinois.....	1, 600
Maurice J. Pierce.....	Clerk.....	Tennessee.....	1, 600
Charles H. Howell.....	Accountant.....	Washington.....	1, 600
William M. Woods.....	Clerk.....	Massachusetts.....	1, 600
Mary M. Mahoney.....	Stenographer.....	Connecticut.....	1, 600
Fred. A. Quinn.....	do.....	Pennsylvania.....	1, 600
Katharine Southerland.....	do.....	New York.....	1, 600
Annie Des. Lovejoy.....	Clerk.....	Washington, D. C.....	1, 520
Robert Le Fevre.....	do.....	Ohio.....	1, 520
John A. Russell.....	Stenographer.....	Michigan.....	1, 500
Frank H. Renaud.....	do.....	Illinois.....	1, 500
Jeanette E. Kane.....	Special expert.....	West Virginia.....	1, 500
C. K. Myers.....	Stenographer.....	North Carolina.....	1, 500
A. G. Miller.....	Clerk.....	Louisiana.....	1, 500
Gertrude Ford.....	Special expert.....	Massachusetts.....	1, 500
L. L. Smith.....	do.....	Mississippi.....	1, 500
Katherine Woerdorfer.....	Stenographer.....	Indiana.....	1, 500
Mary M. May.....	do.....	Pennsylvania.....	1, 500
Hart B. Pigman.....	Clerk.....	Indiana.....	1, 575
Clare R. Hughes.....	do.....	Washington, D. C.....	1, 575
Mary F. Torrence.....	Special expert.....	Ohio.....	1, 500
Darhula Walker.....	do.....	Tennessee.....	1, 500
Katherine A. Hodge.....	do.....	New York.....	1, 500
Libbie A. Pexa.....	Stenographer.....	Florida.....	1, 500
George A. Prescott.....	Clerk.....	Massachusetts.....	1, 479
Porter S. Kidwell.....	do.....	Oklahoma.....	1, 470
Ruth N. Feller.....	Stenographer.....	Indiana.....	1, 400
Paula J. Schlager.....	do.....	Wisconsin.....	1, 400
Nettie J. Hipple.....	do.....	Pennsylvania.....	1, 400
Margaret Jarvis.....	do.....	Wisconsin.....	1, 400
Minnie Munk.....	do.....	Michigan.....	1, 400
Florence M. King.....	do.....	do.....	1, 400
Marian E. Weaver.....	do.....	Pennsylvania.....	1, 400

166 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE I (a).—*Compensation of employees of United States Shipping Board in service on Sept. 30, 1918—Continued.*

Name.	Designation.	Legal residence.	Rate per annum.
Frances M. Davidson	Stenographer	Oklahoma	\$1,400
Mrs. Marguerite Swartz	do	Ohio	1,400
Helen M. Cook	do	Pennsylvania	1,400
Mildred Leary	do	Iowa	1,400
C. H. Willingham	do	Washington, D. C.	1,400
Albert D. Davis	Carpenter	Virginia	1,400
Emma von Toerne	Stenographer	Wisconsin	1,400
Maude J. Corey	do	New York	1,400
Cecil M. Brown	do	Texas	1,400
Caroline D. Flanner	Editorial clerk	New York	1,320
Clara Luber	Stenographer	Washington, D. C.	1,320
Alice M. Brooks	do	New Jersey	1,320
Margaret M. Connors	do	Massachusetts	1,320
Ernest E. Briscoe	Clerk	Montana	1,386
John G. Reckert	do	Washington, D. C.	1,320
Winifred C. Creney	Stenographer	Massachusetts	1,320
Mary I. O'Hara	do	Indiana	1,320
Ruth A. Parkhurst	Dictaphone operator	Washington, D. C.	1,320
Amella S. Korn	Typewriter	do	1,320
Marguerite Solomon	Stenographer	Michigan	1,300
Nellie F. Friel	do	Washington, D. C.	1,300
Mrs. Elsa Potter	do	New York	1,300
W. E. Sadler	Clerk	Illinois	1,320
Clara L. Opper	Statistical clerk	Wisconsin	1,320
B. N. Hinwood	Stenographer	Washington, D. C.	1,300
Isabelle M. Jones	Telephone operator	New York	1,300
Mrs. Lora S. Cass	Stenographer	Oklahoma	1,300
Annie Richards	do	Alabama	1,300
Mrs. Kate Butler	Clerk	Washington, D. C.	1,260
Mabel P. Frickey	do	do	1,260
Jay Goux	do	New York	1,260
Abbie S. Irons	Stenographer	West Virginia	1,200
Florence Johns	Schedule clerk	Indiana	1,200
Elizabeth L. Jones	Statistical clerk	New York	1,200
Marion Kalousdian	Stenographer	Washington, D. C.	1,200
Murray A. Fowler	Addressograph operator	Missouri	1,200
Adelia J. Burdine	Clerk	Washington, D. C.	1,200
Edwin E. Richey	Stenographer	do	1,200
Katherine J. Byrne	do	Pennsylvania	1,200
Peter V. Lomonte	do	Texas	1,200
Katheryn F. McLaughlin	do	Massachusetts	1,200
E. Ledoror	do	Indiana	1,206
E. I. Fismar	Statistical clerk	New Jersey	1,200
Hope C. Norman	Typewriter	Illinois	1,200
A. M. Richardson	Statistical clerk	Washington, D. C.	1,200
Olive D. Lange	Stenographer	Wisconsin	1,200
L. H. Fergusson	Draftswoman	New Mexico	1,200
L. K. Sproul	Special expert	Massachusetts	1,200
D. P. Bonner	Draftswoman	Washington, D. C.	1,200
L. Wagner	Stenographer	Minnesota	1,200
O. G. Slagel	do	New York	1,200
M. W. Richards	Statistical clerk	Illinois	1,200
Elizabeth Gunning	Stenographer	Washington, D. C.	1,200
Emma Welsh	Schedule clerk	Nevada	1,200
Eva E. Slack	Clerk	Wisconsin	1,200
Leon A. Le Buffe	Typewriter	South Carolina	1,200
Mrs. Dorothy Bartlett	Statistical clerk	New York	1,200
Marie C. Boland	Dictaphone operator	Washington, D. C.	1,200
Eloy B. Bradley	Stenographer	do	1,200
M. A. Youngston	Statistical clerk	Nebraska	1,200
Sarah L. McQueen	Assistant librarian	Maryland	1,200
Marwell M. Mincosky	Typewriter	Washington, D. C.	1,200
Beulah Black	Dictaphone operator	do	1,200
Sarah Wilson	Typewriter	Tennessee	1,200
Mattie V. Cary	Statistical clerk	Kentucky	1,200
Lois B. Cooper	do	Ohio	1,200
Dorothy Hewitt	do	Massachusetts	1,200
Louise F. Hodse	do	do	1,200
Donald V. Hops	do	Washington, D. C.	1,200
Ethel L. Hoult	do	West Virginia	1,200
Mary J. Baldwin	Stenographer	Pennsylvania	1,200
Mrs. Harriet L. Thomas	Schedule clerk	New York	1,200
Ethel M. Tignor	Typewriter	Virginia	1,200
Myrtle Peterson	Stenographer	Iowa	1,200
Mrs. Amy Redford	do	Ohio	1,200
Lucy Robertson	Statistical clerk	Washington, D. C.	1,200
Ethel L. Kieke	Schedule clerk	New Mexico	1,200
Marguerite Kraus	Statistical clerk	Wisconsin	1,200
Erma L. Kuhn	Stenographer	Florida	1,200
Lucile Loeb	Statistical clerk	Missouri	1,200

TABLE I (a).—Compensation of employees of United States Shipping Board in service on Sept. 30, 1918—Continued.

Name.	Designation.	Legal residence.	Rate per annum.
Mrs. Rutah G. Groves	Stenographer	Minnesota	\$1,200
Rilla M. Hauke	Cataloguer and indexer	Washington, D. C.	1,300
Mildred Draney	Typewriter	do	1,200
Mary W. Ferabee	Statistical clerk	North Carolina	1,200
Mrs. Rebecca C. Fiske	do	Maryland	1,200
Mercedes D. Gilson	do	Utah	1,200
Thomas A. Baldwin	Stenographer	Maryland	1,200
Katherine E. Wood	do	Ohio	1,200
Mrs. Emily F. Lee	File clerk	Washington, D. C.	1,200
Harlan C. Miller	Statistical clerk	Texas	1,200
Mrs. Cecil R. Nussbaum	do	Illinois	1,200
Mary Agnes O'Hare	Stenographer	Missouri	1,200
Thomas W. Slocum	Special expert	New York	1,200
Susie J. Frazier	Statistical clerk	Maryland	1,200
Hope C. Norman	Typewriter	Illinois	1,200
Mrs. Orlena Gattens	Stenographer	Maryland	1,200
Rose McGuigan	do	Maine	1,200
Mrs. Blanche B. McCord	Catalogue clerk	New Jersey	1,100
Ruth Mason	Stenographer	North Carolina	1,100
Esther Wilson	Typewriter	Florida	1,100
Dorothy von Tocrne	do	Wisconsin	1,100
Blanche Bell	Stenographer	Washington, D. C.	1,100
L. M. Vaughn	Statistical clerk	Alabama	1,100
Elsa R. Schwarz	Typewriter	Washington, D. C.	1,100
Lillian Briscoe	do	Maryland	1,100
Blanche Curry	do	Washington, D. C.	1,100
E. L. Martin	do	do	1,100
Gertrude Hyman	do	do	1,100
Alice Arnaud	do	Massachusetts	1,100
Mary Cantu	do	Ari ona	1,100
Freeman Paulson	do	Iowa	1,100
Albert D. Whitworth	Blue printer	Washington, D. C.	1,020
Mary S. Schaff	Typewriter	Pennsylv ania	1,000
Kenneth C. Marshall	Mimeograph operator	Ohio	1,000
Rebekah Fleming	Typewriter	Tennessee	1,000
F. B. Wadley	do	New York	1,000
Mary C. Moran	do	do	1,000
M. G. Fort	do	North Carolina	1,000
Penninah Foster	do	Missouri	1,000
Mabel L. Strachen	do	California	1,000
E. O. Kefauver	do	Maryland	1,000
G. S. Beck	do	Indiana	1,000
Sarita G. Clark	do	Washington, D. C.	1,000
Ruth Nemon	do	Pennsylv ania	1,000
Mrs. Harriet W. Bangs	do	Washington, D. C.	1,000
Anna West	do	do	1,000
Louise B. Pugh	Statistical clerk	do	1,000
Amy C. Ridgway	Typewriter	Michigan	1,000
Mary Latshaw	do	Pennsylv ania	1,000
Georgia Leonard	do	Washington, D. C.	1,000
Bess Hamlin	do	North Carolina	1,000
Catherine D. McKaig	do	Washington, D. C.	1,000
Mrs. Fthel M. Anderson	Clerk	Iowa	1,000
Miriam Stevens	Typewriter	New York	1,000
Aubrey Sutt	do	Kansas	1,000
Beatrice Holliday	do	Washington, D. C.	1,000
Bessie M. Paul	do	do	1,000
Mrs. Florence Wilcox	do	Maryland	1,000
Mary C. Holland	Hollerith machine operator	Washington, D. C.	900
Charles N. Prvor	Elevator operator	do	900
Mrs. Maud S. Parker	Draftswoman	do	900
Emma D. Zahn	Typewriter	Maryland	900
Wanner L. Wilkerson	Watchman	Washington, D. C.	900
L. Patterson	Typewriter	do	900
Edward Carter	Watchman	do	900
Charles H. Brown	do	do	900
Henry Glew	do	do	900
William T. Wayson	do	do	900
John L. Robinson	do	do	900
Daniel Coughlin	do	do	900
Richard H. Coven	do	do	900
Thomas Homiller	do	do	900
Edward C. Lawson	do	do	900
Walter F. Carter	do	do	900
Edward S. Taft	do	do	900
Thomas Godfrey	do	do	900
Daniel W. Eskridge	Unskilled laborer	do	900
James Jackson	do	do	900
Walter C. Blount	Skilled laborer	do	792
Richard Washington	Unskilled laborer	do	790

TABLE I (a).—Compensation of employees of United States Shipping Board in service on Sept. 30, 1918—Continued.

Name.	Designation.	Legal residence.	Rate per annum.
Thomas A. Ellis.....	Unskilled laborer.....	Washington, D. C.....	\$780
Fred B. Panton.....	do.....	do.....	780
Joseph Rhoads.....	do.....	do.....	780
Albert Goo Irwin.....	do.....	do.....	780
James Wright.....	do.....	do.....	780
Albert Barnes.....	do.....	do.....	780
Oliver Cooper.....	do.....	do.....	780
Robert Boyd.....	do.....	do.....	780
Benjamin Carter.....	do.....	do.....	780
Lloyd Chase.....	do.....	New York.....	780
Geta Scott.....	do.....	Washington, D. C.....	780
George Rodney.....	do.....	do.....	780
James E. Hurley.....	do.....	do.....	780
Walter Jones.....	do.....	do.....	780
Nehemiah Lomax.....	do.....	do.....	780
Julius Manns.....	do.....	do.....	780
Albert M. Mays.....	do.....	do.....	780
John Cousins.....	Typewriter.....	Virginia.....	720
Fred D. Mohler.....	Messenger.....	Washington, D. C.....	720
James Fletcher.....	do.....	Virginia.....	600
John Shugrue.....	do.....	Washington, D. C.....	600
Edward J. Cobb.....	do.....	do.....	600
Julian Courtenay.....	do.....	do.....	600
Robert Timberlake.....	do.....	do.....	600
E. V. Walters.....	Messenger.....	Maryland.....	600
John Edwards.....	do.....	Washington, D. C.....	600
Margaret Mattindly.....	do.....	do.....	600
John A. Johnson.....	do.....	do.....	600
Mrs. Essie Wheeler.....	Matron.....	do.....	600
Samuel E. Entriken.....	Messenger.....	do.....	600
Bella Marsh.....	do.....	do.....	540
J. Elliott.....	do.....	do.....	540
James A. Carroll.....	do.....	do.....	540
Bernard C. Garrison.....	do.....	do.....	540
Mrs. Frances Guernsey.....	Matron.....	do.....	540
Helen Barnes.....	Messenger.....	do.....	480
Maybell Carlson.....	do.....	do.....	480
Monieta Collins.....	do.....	do.....	480
Rose Dorsey.....	do.....	do.....	480
Lenick I. Pearce.....	do.....	do.....	480
John A. Smith.....	do.....	do.....	480
Marion Brent.....	Elevator operator.....	do.....	480
Rachel Catzva.....	Messenger.....	do.....	480
T. H. Nugent.....	do.....	do.....	480
Clara Moore.....	do.....	Maryland.....	480
Bertha V. Harry.....	Charwoman.....	Washington, D. C.....	420
Mrs. Mary E. Davis.....	do.....	do.....	330
Susie S. Wise.....	do.....	do.....	330
Annie E. Wrenn.....	do.....	do.....	330
Nannie N. Hammett.....	do.....	do.....	330
Mrs. Lizzie Hitner.....	do.....	do.....	330
Martha Mitchell.....	do.....	do.....	330
Mrs. Virginia Moran.....	do.....	do.....	330
Mary E. Mulloy.....	do.....	do.....	330
Mrs. Lillie Ollershaw.....	do.....	do.....	330
Minnie A. Osborn.....	do.....	do.....	330
Clara V. Toombs.....	do.....	do.....	330
Dora Pettis.....	do.....	do.....	330
Annie Moran.....	do.....	do.....	330
Mrs. Laura Simpson.....	do.....	do.....	330
Annie Streeks.....	do.....	do.....	330
Bessie C. Weekley.....	do.....	do.....	330
Floyd G. Randolph.....	Elevator conductor.....	do.....	120
Thomas T. Parker.....	do.....	do.....	120
Edward B. Passano.....	Special expert.....	New York.....	1
Joseph E. Spurr.....	do.....	Washington, D. C.....	1
Karl De Laitre.....	do.....	Minnesota.....	1
Henry H. Porter.....	do.....	Illinois.....	1
Joseph H. Schaffer.....	do.....	do.....	1
Harry Fowler.....	do.....	New York.....	1
F. A. Eustis.....	Special agent.....	Massachusetts.....	1
George F. Porter.....	Special expert.....	Illinois.....	1

TABLE I (b).—Names and compensation of employees of the United States Shipping Board in service for some period within the year ending Sept. 30, 1918, who have resigned prior to that date.

Name.	Designation.	Legal residence.	Rate per annum.
Dean G. Acheson	Assistant attorney	Connecticut	\$2,000
Walter R. Alexander	Attorney	Missouri	2,500
Smyth G. Allen	Stenographer	Tennessee	1,200
Julia Baggott	Charwoman	Washington, D. C.	330
Lena Bakersmith	Typewriter	do	1,800
T. Tupper Barrett	do	Virginia	1,000
Dorothy Struss Bartlett	Statistical clerk	New York	1,200
James E. Bragg, sr	Clerk	Indiana	2,400
Edgar D. Branlenburg	Examiner	New York	2,400
Lewis T. Bremner	Special expert	do	2,400
Raymond H. Brown	Stenographer and typewriter	Washington, D. C.	1,200
James Arthur Carroll	Typewriter	do	1,100
Alton B. Carty	Special expert	do	1,600
Cecil Campbell	Messenger	do	480
Wallace Clark	Special expert	New York	4,000
Edgar S. Coffey	Attorney examiner	North Carolina	2,400
Gladys H. Cole	Typewriter	Nebraska	1,000
Clifton S. Corbett	Special expert	do	3,000
Thomas M. Curran	Stenographer	Rhode Island	1,200
Annie M. Davis	Charwoman	Washington, D. C.	300
T. Henry Deckelman	Assistant messenger	Maryland	900
Raymond E. Deery	Messenger	Washington, D. C.	600
Joseph Dibiasi	do	do	480
Charles A. Dice	Special expert	do	2,400
Herman H. Diers	Electrician	do	1,200
Rose Mary Louise Dorsey	Messenger	do	480
Bess East	Statistical clerk	do	1,200
Mrs. Frances P. Ebert	Charwoman	do	330
William Elliott	Messenger	do	540
Mildred Ellis	Typewriter	do	1,000
Henry H. Farquhar	Special expert	Massachusetts	4,000
Rosetta V. Fingleton	Stenographer	do	1,200
Mrs. Gwendolyn P. Foley	Typewriter	New York	900
Margaret Fox	Charwoman	Washington, D. C.	300
Olga M. Galbreath	Typewriter	do	1,100
Howard Gans	Attorney	do	4,000
Morgan S. Gassman	Messenger	do	600
Mrs. Orlena Gattens	Stenographer	Maryland	1,200
Elbert C. Gearhart	Information clerk	Washington, D. C.	1,500
Raymond G. Gettell	Special expert	New Hampshire	4,000
Mercedes B. Gilson	Statistical clerk	Utah	1,200
Benjamin Goldbloom	Special expert	New York	1,800
Joseph A. Granahan	File clerk	Pennsylvania	1,200
Charles B. Gray	Clerk	do	1,500
George Greene	Unskilled laborer	Washington, D. C.	660
Mrs. Virginia Gross	Charwoman	do	330
John Harrison	Unskilled laborer	do	600
Ford Harvey	Elevator operator	do	780
Louise Henderson	Typewriter	do	1,000
Mary L. Hineslv	Stenographer	Ohio	1,200
Ernest H. Hobbs	do	Pennsylvania	1,260
Clifton J. Hicks	Clerk	Missouri	1,400
William W. Housenrecht	Cashier and clerk	do	2,750
Stanley Edwin Howard	Special expert	New Jersey	2,500
George Irving Hubbard	do	Massachusetts	2,200
Alfred Huger	Admiralty counsel	South Carolina	5,000
Cornelia Irwin	Charwoman	Washington, D. C.	330
William K. Jones	Watchman	do	720
Josephine I. Kellogg	Telephone operator	New York	840
Beulah Kelly	Messenger girl	Missouri	600
Otis Beall Kent	Attorney examiner	do	4,000
Emily A. Kronquist	Special expert	do	2,100
Hannah Lanahan	Charwoman	Washington, D. C.	300
Olive D. Lange	Stenographer	Wisconsin	1,200
Charles Layback	Watchman	Washington, D. C.	720
C. K. Leith	Special expert	do	4,000
Jonas Lesser	Messenger	Washington, D. C.	480
Pauline F. Lewis	Typewriter	do	900
Thomas G. Lindner	Electrician	Washington, D. C.	1,200
Mrs. Estella C. Littlefield	Stenographer	Texas	1,200
James P. Loftus	Watchman	Washington, D. C.	790
Charlotte Luber	Messenger girl	do	480
Louis D. McCauley	Watchman	do	660
Dora E. McGlothlin	Stenographer and typewriter	Michigan	1,200
Frank E. Maguire	Stenographer	do	1,000
Elmer Martin	Messenger	Washington, D. C.	480
Rosaloe Mikeska	Typewriter	Texas	1,000
Mrs. Ada Miller	Charwoman	Washington, D. C.	1,500
Albert G. Miller	Clerk	do	300

170 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE I (b).—Names and compensation of employees of the United States Shipping Board in service for some period within the year ending Sept. 30, 1918, who have resigned prior to that date—Continued.

Name.	Designation.	Legal residence.	Rate per annum.
Lavton H. Miner.....	Typewriter.....	.....	\$900
William C. Murphy.....	Assistant attorney.....	.....	1,400
Gustavus Myers.....	Special expert.....	New York.....	3,000
Elizabeth E. O'Conner.....	Stenographer.....	Massachusetts.....	1,200
William H. Odriek.....	Unskilled laborer.....	Washington, D. C.....	600
Minnie A. Osborn.....	Charwoman.....	do.....	330
Julia Farham.....	Typewriter.....	.....	1,000
Dorothy L. Patterson.....	do.....	New York.....	900
James J. Payne.....	Unskilled laborer.....	Washington, D. C.....	600
Charles Henry Peacock.....	Messenger.....	do.....	540
Grant Pierre.....	do.....	do.....	480
Georgia Proctor.....	File clerk.....	Kentucky.....	1,200
Mrs. Katherine S. Randall.....	Charwoman.....	Washington, D. C.....	330
Lilly Bud Randall.....	Typewriter.....	Oklahoma.....	1,000
Mrs. Carrie A. Reynolds.....	Charwoman.....	Washington, D. C.....	330
James R. A. Robinson.....	Elevator conductor.....	do.....	120
Harrison V. Rouse.....	Clerk.....	Virginia.....	1,800
Wilda E. Sadler.....	Statistical clerk.....	.....	1,300
Horace S. Schwartz.....	Stenographer.....	North Carolina.....	1,500
Randolph Codman Shaw.....	Assistant examiner.....	Massachusetts.....	2,400
Wilfred B. Shaw.....	Special expert.....	.....	3,600
Whitney H. Shepardson.....	Attorney.....	New York.....	3,000
Richard Shorter.....	Unskilled laborer.....	Washington, D. C.....	600
Irving A. Slutsky.....	Messenger.....	do.....	480
Mrs. Mary D. Smith.....	Typewriter.....	Colorado.....	1,000
William R. Snapp.....	Messenger.....	Washington, D. C.....	480
Anna R. Sparks.....	Typewriter.....	.....	900
Edward Sutton.....	do.....	Illinois.....	1,200
Arthur E. Swanson.....	Special expert.....	do.....	4,000
Alexander W. Tait.....	Clerk.....	.....	2,400
Rose M. Taylor.....	Charwoman.....	Washington, D. C.....	300
Henry C. Thomas.....	do.....	do.....	720
James H. Thomas.....	do.....	do.....	660
Fred R. Thumann.....	Unskilled laborer.....	.....	1,800
Richard T. Tracy.....	Special expert.....	Ohio.....	540
Mary F. Tyler.....	Messenger.....	Washington, D. C.....	600
Gertrude Washington.....	do.....	do.....	300
Estella T. Weeks.....	Charwoman.....	.....	2,000
William D. Weist, Jr.....	Special expert.....	Maryland.....	1,500
Joseph N. Welch.....	Stenographer.....	Ohio.....	2,500
Alicia M. Wertenbaker.....	Attorney.....	Iowa.....	1,000
Frank L. Williams.....	Typewriter.....	.....	480
John Wilt.....	Typewriter mechanic.....	Washington, D. C.....	1,200
William B. Wright.....	Stenographer.....	New Jersey.....	1,200
	do.....	Delaware.....	1,200

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 171

TABLE II.—Statement of disbursements from the appropriation "Salaries and expenses, United States Shipping Board," for the fiscal year ending June 30, 1918.

Salaries:	
Commissioners and Secretary.....	\$42, 500. 00
Employees and expenses.....	300, 000. 00
Investigation of foreign discrimination.....	175, 000. 00

Total appropriation.....	\$517, 500. 00

DISBURSEMENTS.

Pay rolls, etc.....	220, 416. 63	
Temporary employment.....	279. 79	
Subsistence.....	2, 568. 90	
Transportation.....	4, 752. 62	
Communication.....	42, 515. 74	
Printing and binding.....	5, 155. 72	
Stenographic reporting.....	201. 25	
Miscellaneous services.....	3, 047. 78	
Stationery.....	1, 444. 25	
Expendable equipment.....	4, 408. 18	
Furniture.....	12, 058. 60	
Mechanical.....	8, 053. 29	
Books.....	1, 490. 85	
Miscellaneous office equipment.....	5, 599. 21	
Rent, office rooms.....	28, 083. 25	
Periodicals.....	215. 80	
Clippings.....	437. 27	
Ice.....	523. 24	
	_____	341, 252. 37
Balance.....		176, 247. 63
Less investigation of foreign discrimination.....		175, 000. 00

Available unexpended balance.....		1, 247. 63

TABLE III.—United States Shipping Board and United States Shipping Board Emergency Fleet Corporation consolidated balance sheet, as at June 30, 1918.

ASSETS.		
Vessels owned:		
Purchased.....		\$25, 419, 866. 64
Requisitioned on ways and completed by Emergency Fleet Corporation.....		147, 237, 884. 25
Constructed by Emergency Fleet Corporation.....		22, 879, 764. 60
Miscellaneous expenditures on vessels, not yet distributed.....		6, 882, 542. 03
		202, 420, 057. 52
Plant and equipment.....	\$81, 996, 538. 06	
Furniture and fixtures, automobiles, etc.....	907, 966. 26	
		82, 904, 504. 32
Vessels under construction.....	431, 655, 457. 87	
Machinery under construction.....	27, 574, 242. 87	
Charges by home office to districts, not yet distributed.....	13, 776, 602. 25	
Advances to contractors.....	12, 145, 979. 22	
		485, 152, 282. 21
Materials, supplies, ships' stores, etc.....		50, 119, 059. 21
Expenditures on ships requisitioned on ways reconveyed to former owners (see contra).....		22, 123, 210. 52
Repairs to German interned vessels.....		8, 181, 159. 05
Cash in United States Treasury, in banks, and on hand.....		107, 456, 027. 97
Notes and accounts receivable:		
United States War Department.....	\$29, 869, 172. 72	
United States Navy Department.....	2, 871, 891. 22	
Insurance Department—claims on account of accidents.....	359, 495. 06	
Other notes and accounts receivable.....	18, 287, 534. 84	
		51, 388, 093. 84
Investments.....		25, 000. 00
Incomplete voyages:		
Operating expenses and depreciation.....	57, 459, 442. 52	
Charter hire.....	56, 326, 721. 63	
Maintenance repairs, not yet applied to voyages.....	842, 873. 10	
		114, 629, 037. 25
Advances on account of wages and other expenses..	704, 627. 65	
Cash accounts at agencies.....	26, 031. 34	
Advances by consuls and others for expenses.....	1, 669, 165. 47	
Charter hire prepaid.....	300, 856. 01	
Expenses of tugs and barges deferred.....	24, 753. 10	
Expenses of Construction Division, not yet distributed.....	2, 842, 721. 51	
		5, 568, 155. 08
Sundry suspense items.....		10, 304. 32
Expenses and losses of Shipping Board:		
Expenses of Chartering Committee, Board of Survey, etc., less amounts charged to repair accounts.....	57, 593. 41	
Salaries and expenses of United States Shipping Board.....	415, 722. 57	
Increase of compensation.....	4, 884. 30	
Dutch vessels' expenses and repatriation of crews	283, 725. 01	
Lake boats sunk or stranded, not insured.....	888, 860. 54	
		1, 650, 785. 83
Total.....		1, 131, 627, 677. 12

LIABILITIES.

Appropriations from United States Government:

	Amount of Appropriation.	Unexpended Balance.	Disbursed.
Permanent fund for purchase of capital stock of Emergency Fleet Corporation.....	\$50,000,000.00	.....	\$50,000,000.00
Emergency shipping fund. 1,040,000,000.00	.....	\$233,095,154.33	306,904,845.62
National security and defense fund.....	19,561,211.07	1,047,304.98	18,513,906.09
Salaries and expenses, 1917-18.....	617,500.00	179,903.30	437,596.70
Increase of compensations.....	4,940.26	.....	4,940.26
	1,110,183,651.33	234,322,362.66	875,861,288.67
Refunds from former owners for requisitioned ships reconveyed to them (see contra).....			24,425,711.34
Accounts payable:			
Charter hire.....		\$65,482,849.58	
Marine and war risk losses, estimated.....		11,123,383.00	
Other accounts payable.....		65,673,177.69	
			142,284,410.27
In completed voyage revenue.....		50,989,573.19	
Charter hire revenue earned but unapplied to voyages.....		2,087,908.52	
			53,077,481.71
Reserve for depreciation and amortization of vessels, furniture, autos, etc. (exclusive of vessels in service of Army and Navy Departments).....			9,274,005.84
Operating revenue of German interned vessels.....			8,305,431.69
Sundry suspense items.....			20,630.70
Net income of Division of Operations.....			1,201,054.79
Marine Insurance Department—reserve for future losses, being excess of earned premiums over total estimated losses.....			14,847,651.64
Fire Insurance Department—reserve for losses, being total premiums written, less losses paid.....			2,330,010.47
Total.....			1,131,627,677.12

TABLE IV.—United States Shipping Board—Statement showing the number of persons, the grades or character of positions, the original rates of compensation, and the increased rates of compensation, as required by section 2 of the act of Congress approved June 12, 1917.

Designation.	Number.	Original rate of compensation.	First increased rate of compensation.	Second rate of compensation.	Second increased rate of compensation.	Third rate of compensation.	Third increased rate of compensation.	Fourth rate of compensation.	Fourth increased rate of compensation.	Basic compensation.	Increase.	Total.
Special expert.....	3	\$1,800.00	\$1,800.00							\$950.00	\$47.50	\$997.50
Do.....	1	500.00	575.00							383.33	19.17	402.50
Do.....	2	200.00	200.00							120.00	6.00	126.00
Assistant examiner.....	4	500.00	575.00							3,704.67	188.34	3,955.01
Do.....	1	200.00	200.00							36.67	1.83	38.50
Attorney.....	1	1,200.00	1,200.00	\$1,500.00	\$1,575.00	\$1,800.00	\$1,890.00			1,875.50	79.37	1,666.87
Assistant attorney.....	1	800.00	800.00							217.78	10.89	228.67
Do.....	1	400.00	470.00							220.00	11.00	231.00
Do.....	1	320.00	396.00							1,550.00	77.50	1,627.50
Cost accountant.....	3	1,800.00	1,800.00							2,660.00	133.00	2,793.00
Do.....	1	740.00	827.00	1,800.00	1,890.00					722.50	43.50	813.60
Do.....	1	620.00	701.00	1,800.00	1,890.00					391.50	19.57	411.07
Do.....	1	600.00	680.00	1,600.00	1,701.00					3,555.55	177.78	3,733.33
Do.....	4	500.00	575.00	1,600.00	1,701.00					1,560.00	78.00	1,638.00
Do.....	1	500.00	575.00	1,600.00	1,701.00					3,020.70	151.02	3,171.72
Do.....	5	500.00	575.00	1,600.00	1,701.00	1,800.00	1,890.00			1,691.67	84.58	1,776.25
Do.....	1	400.00	470.00	1,600.00	1,701.00	1,800.00	1,890.00			2,119.44	105.97	2,225.41
Do.....	3	1,400.00	1,470.00	1,600.00	1,675.00					1,590.50	57.97	1,648.47
Do.....	1	320.00	386.00	1,500.00	1,575.00					500.95	28.05	529.00
Do.....	1	320.00	386.00	1,500.00	1,575.00					2,613.33	130.67	2,744.00
Do.....	2	200.00	200.00	1,400.00	1,470.00	1,600.00	1,675.00			1,526.83	61.04	1,617.87
Do.....	1	200.00	200.00	1,320.00	1,386.00	1,500.00	1,575.00			2,574.00	127.80	2,701.80
Do.....	5	200.00	200.00	1,200.00	1,200.00	1,400.00	1,470.00			1,150.00	74.00	1,224.00
Do.....	1	1,000.00	1,000.00	1,000.00	1,000.00	1,400.00	1,470.00	\$1,575.00		1,000.00	68.83	1,068.83
Do.....	1	900.00	900.00	1,000.00	1,000.00	1,100.00	1,210.00			783.33	76.33	859.66
Do.....	1	900.00	900.00	1,000.00	1,000.00	1,100.00	1,210.00			160.00	16.00	176.00
Do.....	1	575.00	575.00	1,500.00	1,575.00					20.83	1.04	21.87
Do.....	1	470.00	470.00	1,500.00	1,575.00					454.17	22.71	476.88
Do.....	1	400.00	400.00	1,500.00	1,575.00					950.00	47.50	997.50
Do.....	1	200.00	200.00	1,500.00	1,575.00					567.00	28.35	595.35
Do.....	1	200.00	200.00	1,800.00	1,800.00					1,450.00	72.50	1,522.50
Do.....	1	200.00	200.00	1,500.00	1,575.00					1,153.33	57.67	1,211.00
Do.....	2	200.00	200.00	1,400.00	1,470.00					1,891.17	94.17	1,985.34
Do.....	2	200.00	200.00	1,400.00	1,470.00					9,116.68	455.52	9,572.20
Do.....	2	1,000.00	1,000.00	1,200.00	1,260.00					1,008.96	65.72	1,074.68
Do.....	2	1,000.00	1,000.00	1,200.00	1,260.00					1,821.94	82.19	1,904.13
Do.....	1	1,000.00	1,000.00	1,200.00	1,260.00	1,500.00	1,575.00			1,208.33	64.58	1,272.91

Stenographer and typist.

TABLE V.

MEMORANDUM FOR THE ADJUSTMENT OF WAGES, HOURS, AND CONDITIONS OF LABOR
IN SHIPBUILDING PLANTS.

[Dec. 8, 1917.]

When disputes arise concerning wages, hours, and conditions of labor in the construction or repair of shipbuilding plants, or of ships in shipyards, under the United States Shipping Board Emergency Fleet Corporation, or under said Shipping Board, or under contract with said Corporation, or with said Board, or if questions coming under the jurisdiction of the Board arise with reference to such construction in a private plant in which construction is also being carried on for the Navy Department, and attempts at mediation or conciliation between employers and employees have failed, the adjustment of such disputes shall be referred to an adjustment board of three persons, hereinafter called the "Board," one to be appointed jointly by the said Corporation and the Navy Department, one to represent the public and to be appointed by the President of the United States, and one to represent labor, to be appointed by Samuel Gompers, President of the American Federation of Labor. It is understood, however, that this memorandum shall in no wise serve as a precedent for procedure in Government plants under the War or Navy Departments, except as may be authorized by such departments.

The plants where such construction is being carried on shall be geographically districted by the Board. In each district, the contractors in whose plants such construction is being carried on, and the representatives of such international labor organizations as have members engaged in such production or construction in such plants, and as are selected for the purpose, by the labor member of the Board, shall be called upon, under conditions to be laid down by it, to agree upon a person or persons who shall act under the direction of the Board as Examiner or Examiners in such district. If the Board deems it advisable itself to name an Examiner or Examiners, or if the representatives of the contractors and of the labor organization do not agree, then the Board shall by unanimous action select a person or persons for such position. The Examiner shall be subject to removal by the Board at any time by majority vote. It shall be the duty of the District Officer of the United States Shipping Board Emergency Fleet Corporation to report promptly to the Board, and to the Examiner of the district, if such Examiner shall have been appointed, any dispute with reference to wages, hours, or conditions of labor which he is unable to adjust satisfactorily to the principals concerned.

As basic standards where such construction is being carried on, the Board shall use the wage rate prevailing in the district in which such plant or plants are located, provided such wage rates have been established through agreements between employer and employees and are admitted to be equitable. Consideration shall be given by the Board to any circumstances arising after such wages, hours, or conditions were established, and which may seem to call for changes in wages, hours, or conditions. Where no such agreements exist, and where, as in the case of new industrial districts, a proper basis of wages and conditions is difficult to determine, the Board shall have the right to put into effect the rates which were awarded after due investigation and determination in other districts in which living conditions and cost of living are substantially the same. The Board shall keep itself fully informed as to the relation between living costs in the several districts and their comparison between progressive periods of time. The decisions of the Board shall, under proper conditions, be retroactive, and it shall be the duty of the Board to make the decision effective. At any time after six months have elapsed following such ratified agreement or any such final decision by the Adjustment Board on any question as to wages, hours, or conditions in any plant or district, such questions may be reopened by the Adjustment Board for adjustment upon request of the majority of the craft or crafts at such plant affected by such agreement or decision, provided it can be shown that there has been a general and material increase in the cost of living. The decisions of the Board will, in so far as this memorandum may be capable of achieving such result, be final and binding on all parties: *Provided, however*, That either the employers or employees in any district may have the right to appeal from the decision rendered by the Adjustment Board to a Board of Review and Appeal to be made up as follows: Three members to be named jointly by the United States Shipping Board Emergency Fleet Corporation and the United States Navy Department, and three to be named by the President of the American Federation of Labor.

It is hereby stipulated and agreed that this memorandum shall supersede and stand in place of the "Memorandum for the adjustment of wages, hours, and conditions of labor in shipbuilding plants," signed August 20, 1917, and that it shall become effective this 8th day of December, 1917.

Franklin D. Roosevelt, Acting Secretary of the Navy; Charles Piez, Vice President and General Manager United States Shipping Board Emergency Fleet Corporation; William Blackman, Assistant to General Manager; James O'Connell, President, Metal Trades Department; John I. Nolan, International Molders' Union of North America; J. A. Franklin, International President of Boilermakers', Iron Shipbuilders of America; John Wilson, President, Pattern Makers' League of North America; Milton Snellings, General President, International Union of Steam and Operating Engineers; G. C. Van Dornes, General Vice President, International Brotherhood of Blacksmiths and Helpers; F. J. McNulty, by J. P., International Brotherhood of Electrical Workers; John J. Hines, President, Amalgamated Sheet Metal Workers of America; William H. Johnston, International Association of Machinists, per P. Flaherty.

TABLE VI.—Table of delivered ships constructed by the United States Shipping Board Emergency Fleet Corporation up to Nov. 1, 1918.

	Requisitioned.		Contract—steel.		Contract—wood and composite.		Total.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
1917.								
August.....								
September.....	8	43,424					8	43,424
October.....	12	81,985					12	81,985
November.....	18	79,410					18	79,410
December.....	11	96,990					11	96,990
1918.								
January.....	10	82,641	1	8,800			11	91,441
February.....	15	115,850	1	8,800			16	124,650
March.....	19	153,400	1	8,800			20	162,200
April.....	29	154,005	1	8,800			30	162,805
May.....	36	218,491	6	37,050	1	3,500	43	259,041
June.....	32	181,835	11	79,287	5	18,000	48	279,122
July.....	19	102,465	21	134,969	5	18,000	45	255,365
August.....	22	129,095	22	132,550	22	78,500	66	340,145
September.....	23	150,000	23	117,645	27	96,000	73	363,645
October.....	17	134,800	30	166,408	32	114,700	79	415,908
Grand total.	271	1,724,331	117	703,100	92	323,700	480	2,756,131

178 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE VII (a).—*Monthly summary of keels laid, hulls launched, and ships delivered up to Nov. 1, 1918.*

KEELS LAID.

Month.	Steel.		Wood.		Composite.		Total.	
	Num-ber.	Dead-weight tons.	Num-ber.	Dead-weight tons.	Num-ber.	Dead-weight tons.	Num-ber.	Dead-weight tons.
1916.								
April.....	1	8,130					1	8,130
May.....	1	7,500					1	7,500
June.....	2	18,530					2	18,530
July.....	4	42,900					4	42,900
August.....	2	17,800					2	17,800
September.....	1	7,000					1	7,000
October.....	6	36,300					6	36,300
November.....	9	54,230					9	54,230
December.....	4	32,800					4	32,800
1917.								
January.....	10	101,600					10	101,600
February.....	7	53,986					7	53,986
March.....	13	111,316					13	111,316
April.....	23	155,724					23	155,724
May.....	25	159,985	4	15,000			29	174,985
June.....	17	89,730	3	11,500			20	101,230
July.....	11	67,975	10	35,000			21	102,975
August.....	18	123,080	30	105,000	2	8,000	50	236,080
September.....	21	109,905	39	144,700	2	7,000	62	261,605
October.....	19	109,160	39	138,500	6	21,000	64	266,660
November.....	37	255,250	55	191,000	3	10,500	95	456,750
December.....	30	214,805	39	135,000	4	14,500	73	364,305
1918.								
January.....	33	204,850	23	98,500	5	18,000	66	321,350
February.....	46	280,425	23	83,000	1	4,000	70	367,425
March.....	62	410,605	21	74,650	4	14,500	87	499,755
April.....	58	392,225	28	87,900	2	7,500	88	477,625
May.....	62	398,700	32	84,500	2	7,500	96	490,700
June.....	53	343,745	32	110,850			85	454,595
July.....	83	680,775	54	176,700			137	757,475
August.....	62	390,808	50	163,700			111	554,508
September.....	71	418,850	41	113,650			110	532,500
October.....	80	543,191	51	130,700			132	673,891
Total.....	871	5,731,880	579	1,897,850	31	112,500	1,479	7,742,230

HULLS LAUNCHED.

1917.								
April.....	2	12,500					2	12,500
May.....	3	20,330					3	20,330
June.....	4	24,400					4	24,400
July.....	7	39,835					7	39,835
August.....	16	126,949					16	126,949
September.....	12	63,480					12	63,480
October.....	17	116,376					17	116,376
November.....	20	144,605					20	144,605
December.....	23	152,330	2	7,500			25	159,830
1918.								
January.....	16	112,500					16	112,500
February.....	26	153,350	4	14,500	1	4,000	31	171,850
March.....	33	218,918	10	36,000	1	4,000	44	258,918
April.....	29	165,730	18	55,500	1	4,000	46	225,230
May.....	42	249,555	30	108,200	2	7,500	74	365,255
June.....	26	151,350	22	78,700	1	3,500	49	233,550
July.....	68	436,050	53	187,700	3	11,000	124	634,750
August.....	46	293,780	33	107,850	4	14,500	83	416,130
September.....	59	361,750	31	110,200	3	10,500	93	482,450
October.....	47	296,775	34	107,200			81	403,975
Total.....	496	3,140,561	235	813,350	16	59,000	747	4,012,911

TABLE VII (a).—*Monthly summary of keels laid, hulls launched, and ships delivered up to Nov. 1, 1918—Continued.*

SHIPS COMPLETED.

Month.	Steel.		Wood.		Composite.		Total.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
1917.								
September.....	8	43,424					8	43,424
October.....	12	81,985					12	81,985
November.....	18	79,410					18	79,410
December.....	11	96,990					11	96,990
1918.								
January.....	11	91,441					11	91,441
February.....	16	124,650					16	124,650
March.....	20	162,200					20	162,200
April.....	30	162,805					30	162,805
May.....	42	255,541	1	3,590			43	259,041
June.....	43	261,122	3	18,000			46	279,122
July.....	40	237,365	5	18,000			45	255,365
August.....	44	261,645	19	67,500	3	11,000	66	340,145
September.....	46	267,645	24	84,500	3	11,500	73	363,645
October.....	47	301,208	30	107,200	2	7,500	79	415,908
Total.....	338	2,427,431	84	298,700	8	30,000	480	2,756,131

TABLE VII (b).—*Condensed summary of results in ship production as of Nov. 1, 1918.*

Type.	Keels laid.		Hulls launched.		Ships delivered.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Requisitioned steel.....	355	2,401,181	310	2,021,586	272	1,731,631
Contract steel.....	537	3,431,432	205	1,253,775	127	750,950
Wood.....	600	1,934,350	248	856,350	89	316,200
Composite.....	32	115,500	18	66,500	8	30,000
Total.....	1,524	7,942,463	781	4,198,211	496	2,828,781

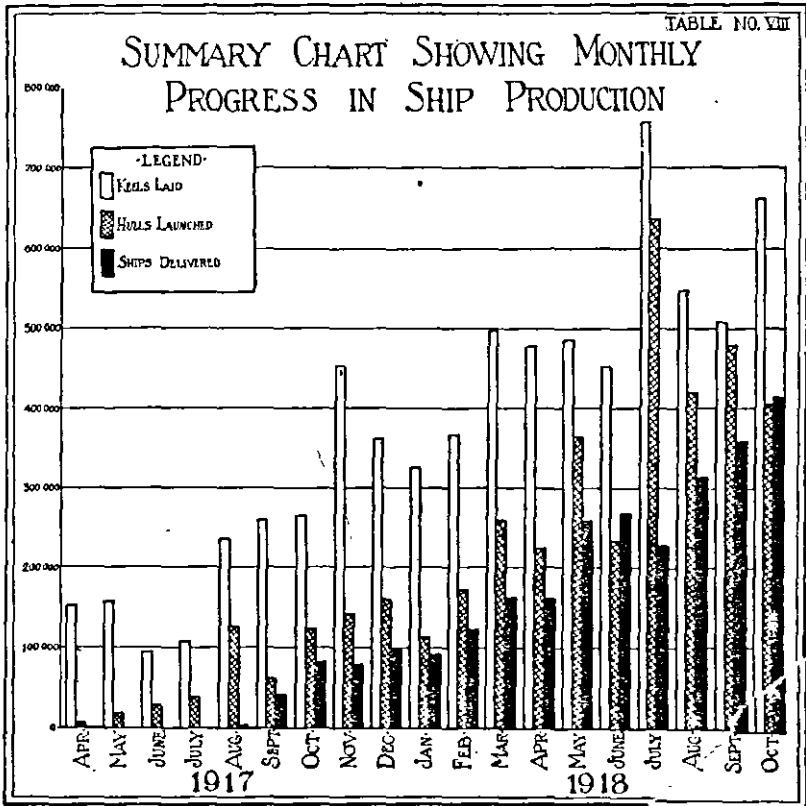


TABLE VII (a).—*Monthly summary of keels laid, hulls launched, and ships delivered up to Nov. 1, 1918—Continued.*

SHIPS COMPLETED.

Month.	Steel.		Wood.		Composite.		Total.	
	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.
1917.								
September.....	8	43,424	.....	.....	.....	.....	8	43,424
October.....	12	81,985	.....	.....	.....	.....	12	81,985
November.....	13	79,410	.....	.....	.....	.....	13	79,410
December.....	11	96,990	.....	.....	.....	.....	11	96,990
1918.								
January.....	11	91,441	.....	.....	.....	.....	11	91,441
February.....	16	124,650	.....	.....	.....	.....	16	124,650
March.....	20	162,200	.....	.....	.....	.....	20	162,200
April.....	30	162,805	.....	.....	.....	.....	30	162,805
May.....	42	255,541	1	3,500	.....	.....	43	259,041
June.....	43	261,122	5	18,000	.....	.....	48	279,122
July.....	40	237,365	5	18,000	.....	.....	45	255,365
August.....	44	261,645	19	67,500	3	11,000	66	340,145
September.....	46	267,645	24	84,500	3	11,500	73	363,645
October.....	47	301,208	30	107,200	2	7,500	79	415,908
Total.....	338	2,427,431	84	298,700	8	30,000	430	2,756,131

TABLE VII (b).—*Condensed summary of results in ship production as of Nov. 1, 1918.*

Type.	Keels laid.		Hulls launched.		Ships delivered.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Requestioned steel.....	355	2,401,181	310	2,021,586	272	1,731,631
Contract steel.....	537	3,491,432	205	1,253,775	127	750,950
Wood.....	600	1,934,350	248	856,350	89	316,200
Composite.....	32	115,500	18	66,500	8	30,000
Total.....	1,524	7,942,463	781	4,198,211	496	2,828,781

182 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE XI.—Personnel table of the United States Shipping Board Emergency Fleet Corporation as of Sept. 30, 1918, showing compensation of employees.

Division and department.	Employees.	Total annual salaries.
Director General.....	3	\$9,020.00
Vice President and General Manager.....	19	59,300.00
Publications.....	18	30,960.00
Plant Protection.....	11	26,580.00
Press Information.....	3	5,480.00
Requirements.....	9	35,640.00
National Service.....	86	215,020.00
Vice President of Administration.....	22	66,180.00
Statistical.....	107	191,570.00
GENERAL OFFICE.		
Office Manager's Office.....	24	46,260.00
Automobile Branch.....	21	21,900.00
Building Operation Branch.....	312	256,120.00
Information and Files.....	304	334,360.00
Mailing Branch.....	68	76,920.00
Messenger.....	271	155,220.00
Office Supply Branch.....	102	143,840.00
Personnel Records Branch.....	51	55,100.00
Photo prints.....	56	67,100.00
Repair Branch.....	10	17,320.00
Stenographic Branch.....	217	292,231.00
Telephone Branch.....	26	22,860.00
Typing Branch.....	179	155,909.00
Cleaning (Washington).....	23	13,440.00
Personnel Housing.....	3	4,600.00
Total.....	1,667	1,663,180.00
DIVISION OF STEEL SHIP CONSTRUCTION AND ENGINEERING.		
Office of Manager.....	18	69,900.00
Inspection and Production.....	102	220,768.00
Engineering.....	159	400,010.00
Camouffleur.....	125	277,480.00
Concrete.....	142	316,310.00
Total.....	546	1,284,468.00
Division of Wood Ship Construction.....	61	149,700.00
Division of Shipyard Plants.....	107	156,880.00
Legal Division.....	73	173,700.00
Contract Division.....	12	30,620.00
AUDITING DIVISION.		
Executive.....	5	21,500.00
Home Office.....	147	216,970.00
Field.....	42	102,700.00
Housing.....	104	165,820.00
Total.....	298	506,990.00
SUPPLY DIVISION.		
Administrative.....	6	19,156.00
Aud. Hull Cards.....	5	9,040.00
Aux. & Deck Mach.....	14	30,320.00
Boiler & Fittings.....	11	24,060.00
Distribution.....	7	18,420.00
Dist. Aux. & Deck Mach.....	16	27,460.00
Dist. Boiler & Fittings.....	20	33,530.00
Dist. Elec. Equ. & Turb.....	11	19,920.00
Dist. Eng. & Prop. Mach.....	11	18,000.00
Dist. Life Boats & Chains.....	18	27,220.00
Dist. Outfitting & Fuel.....	32	45,879.00
Dist. Pipe & Valve.....	19	31,240.00
Dist. Supply Off.....	15	40,840.00
Elect. Equip. & Turbines.....	11	23,280.00
Eng. & Prop. Mch.....	18	46,920.00
Group Ch. & Clearance.....	14	17,320.00
Hull Records.....	33	39,040.00
Inq. P. D. & Inv.....	34	45,430.00
Inspection.....	28	56,240.00
Life Boat & Chains.....	12	28,780.00
Lumber.....	67	123,400.00
Machines, Tools & Prior.....	12	25,740.00
Mail.....	5	6,160.00
Material Records.....	2	3,100.00
Off. Supervision.....	12	24,280.00

TABLE IX.—United States Shipping Board Emergency Fleet Corporation condensed comparative balance sheet as of Aug. 31, 1918, and Aug. 31, 1917.¹

Assets.	1918	1917	Increase.
Cash funds.....	\$94,548,251.79	\$3,867,408.92	\$90,680,842.87
Requisitioned ships under construction.....	121,330,796.09	2,387,843.76	118,942,952.33
Steel ships under construction.....	290,476,034.08	8,883,099.58	281,592,934.50
Wood ships under construction.....	135,721,985.27	8,153,286.79	127,568,698.48
Tugs and barges under construction.....	4,612,683.31	.....	4,612,683.31
Concrete ships under construction.....	366,185.20	.....	366,185.20
Machinery under construction.....	39,272,430.81	160,994.16	38,111,436.65
Delivered requisitioned ships.....	191,365,373.22	.....	191,365,373.22
Delivered steel ships.....	58,763,450.93	.....	58,763,450.93
Delivered wood ships.....	11,596,923.16	.....	11,596,923.16
Completed machinery.....	1,362,367.86	38,627.33	1,323,740.53
Total ships, construction.....	854,868,229.93	19,629,851.62	835,239,378.31
Inventory of materials.....	89,481,097.40	754,568.23	88,726,529.17
Housing under construction.....	16,373,274.41	.....	16,373,274.41
Plants and property.....	99,219,531.12	798,565.04	98,420,966.08
Dry docks and marine railways.....	1,278,483.31	.....	1,278,483.31
Furniture, fixtures, and apparatus.....	756,984.12	30,222.31	726,761.81
Automobiles and launches.....	79,161.47	.....	79,161.47
Equipment of lumber yards, etc.....	203,164.19	.....	203,164.19
Accounts receivable.....	4,961,137.23	.....	4,961,137.23
Investments (Ancortec Co. stock).....	25,000.00	.....	25,000.00
Deferred charges.....	3,843,326.05	222,218.19	3,621,107.86
Total assets.....	1,165,617,641.02	25,301,834.31	1,140,315,806.71
Liabilities			
Cash received from sale of capital stock.....	50,000,000.00	23,500,000.00	26,500,000.00
Cash received from appropriations.....	1,086,294,041.64	.....	1,086,294,041.64
Audited vouchers payable.....	24,370,457.28	1,801,834.31	22,568,622.97
Reserves (insurance and payments former owners).....	4,953,142.10	.....	4,953,142.10
Total liabilities.....	1,165,617,641.02	23,301,834.31	1,140,315,806.71

¹ This statement does not include any transactions of the Division of Operations.

TABLE X.—United States Shipping Board Emergency Fleet Corporation, treasurer's report, August 31, 1918.

Cash receipts:	
United States Treasurer—	
Capital stock.....	\$50,000,000.00
Funds for construction.....	1,086,294,041.64
	<u>\$1,136,294,041.64</u>
Reconveyed requisitioned ships.....	25,806,711.34
Interest on bank deposits.....	638,708.96
Interest on notes payable.....	6,467.19
Waste paper and other sales.....	1,855.37
Total.....	\$1,162,747,784.50
Cash disbursements:	
Requisitioned ships and requisition ship construction.....	334,513,466.02
Ship construction.....	472,301,745.00
Machinery construction.....	39,803,542.38
Housing construction.....	16,353,274.41
Plant, property, and equipment.....	100,498,014.43
Furniture, fixtures, and automobiles.....	1,039,309.78
Inventories.....	89,481,097.40
Advance to contractors.....	7,855,237.46
Accounts receivable, deferred charges.....	5,313,048.10
Investments.....	25,000.00
Total.....	1,067,183,734.98
Balance on hand.....	95,564,049.52

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 183

TABLE XI.—Personnel table of the United States Shipping Board Emergency Fleet Corporation as of Sept. 30, 1918, showing compensation of employees—Continued.

Division and department.	Employees.	Total annual salaries.
SUPPLY DIVISION—continued.		
Outfitting & Fuel.....	19	\$38,840.00
Paymaster.....	5	8,760.00
Pipe & Valve.....	14	27,380.00
Purch. & Prod.....	8	29,760.00
R. R. Claims.....	12	19,540.00
Raw Material.....	65	118,190.00
Research.....	11	26,606.00
Schedules.....	46	70,820.00
S. I. Issuance.....	39	40,250.00
Stenographic.....	7	6,860.00
Storage & Dist.....	6	17,320.00
Transportation.....	64	122,620.00
Total.....	729	1,319,692.00
PASSENGER TRANSPORTATION AND HOUSING.		
Passenger Transportation.....	35	112,920.00
Housing.....	250	729,220.00
Total.....	285	842,140.00
Labor Adjustment Board.....	7	7,920.00
American Chain Company.....	1	2,800.00
Ship Protection Gen'l Com.....	6	12,260.00
INDUSTRIAL RELATIONS GROUP.		
Central Office.....	37	105,360.00
Industrial Service.....	140	229,700.00
Education & Training.....	81	217,250.00
Health & Sanitation.....	18	50,820.00
Labor.....	5	9,100.00
Safety Engineering.....	4	11,500.00
Total.....	285	623,730.00
Office of Secretary.....	5	12,540.00
Office of Treasurer.....	33	50,280.00
Finance Division.....	48	114,560.00
Total for Home Office.....	4,441	7,706,260.00
Submarine Boat Corporation.....	99	194,700.00
Merchants S. B. Corporation.....	65	135,150.00
American International S. B. Corp'n.....	118	218,812.00
Boston.....	283	512,755.00
New York.....	420	420,739.20
Baltimore.....	214	398,764.00
Jacksonville.....	336	560,070.00
New Orleans.....	151	286,332.00
Houston.....	314	502,105.00
San Francisco.....	327	701,930.00
Seattle.....	286	607,040.00
Cleveland.....	230	476,700.00
Portland.....	145	291,087.00
Philadelphia.....	180	384,330.00
Lumber Department.....	247	357,450.00
Carolina S. B. Company.....	7	17,280.00
Total for Field Offices.....	3,432	6,046,144.20
Total for Division of Operations.....	809	1,325,025.20
Total for Port and Harbor Facilities Commission.....	30	67,820.00
SUMMARY.		
Total for Home Office.....	4,441	7,706,260.00
Total for Field Offices.....	3,432	6,046,144.20
Total for Division of Operations.....	809	1,325,025.20
Total for Port and Harbor Facilities Commission.....	30	67,820.00
Grand total.....	8,712	15,145,249.40

TABLE XII.—*Details of housing contracts and expenditures.*

[Submitted in compliance with an act of Congress entitled "An act to authorize and empower the United States Shipping Board Emergency Fleet Corporation to purchase, lease, requisition, or otherwise acquire, and to sell or otherwise dispose of improved or unimproved land, houses, buildings, and for other purposes," approved Mar. 1, 1918.]

(A) LIST OF PERSONS OR CORPORATIONS WITH WHOM UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION HAS MADE CONTRACTS FOR HOUSING PROJECTS, WITH PARTICULARS AS TO EXPENDITURES, ETC.

HOG ISLAND.

Dormitories, Ninety-fourth and Tinicum Streets:

American International Shipbuilding Co.—

Land.....	\$104,469.33
Wm. Crawford (construction contract)..... fee..	50,000.00
W. G. Cornell & Co. (heating)..... do..	10,000.00
G. B. Bartlett (architect)..... do..	12,000.00
Albert Pick & Co (furnishings)..... lump sum..	82,600.00

953 houses, Sixty-first and Sixty-seventh Streets and Elmwood Avenue, Philadelphia, Pa.:

414 houses, H. P. Schneider—

Land.....	192,607.51
H. P. Schneider (construction contract)..... lump sum..	1,167,780.33

539 houses, Moss, Taylor & Crawford—

Land.....	219,362.56
Moss, Taylor & Crawford (construction contract) lump sum..	1,256,287.18

600 houses, Seventieth Street and Elwood Avenue, Philadelphia, Pa.:

Land.....	419,875.00
H. P. Schneider (construction contract)..... lump sum..	1,885,000.09

Public utilities for all the above projects..... 338,983.45

This amount has been loaned to the city of Philadelphia.

HILTON VILLAGE.

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.:

Land purchased by realty company.

Mellon-Stuart Co. (construction contract)..... fee.. 50,000.00

Blumenthal Kahn Electrical Co. (electric wiring and fixtures), lump sum..... 15,930.00

Loan to the Newport News Light & Water Co. for water, etc..... 67,130.00

CAMDEN, N. J.

New York Shipbuilding Co.:

Yorkship village—

Land purchased by realty company.

Tidewater Building Co. (construction contract)..... fee.. 70,000.00

Miles-Tighe Co. (engineering contract)..... do.. 24,000.00

F. Sabin Co. (heating)..... lump sum.. 108,000.00

C. A. Kuehnle (painting)..... do.. 95,000.00

J. N. Knight Co. (plumbing)..... do.. 271,667.50

Schneider Sheet Metal Works (metal and sheet-metal work)..... lump sum.. 98,000.00

L. K. Comstock (electric wiring)..... do.. 52,000.00

E. D. Litchfield (architect)..... fee.. 15,000.00

Lockwood-Greene & Co. (engineering contract)..... do.. 12,500.00

First Haller (100 houses)—

Mark Haller (construction contract)..... lump sum.. 283,965.00

Morgan village (100 houses)—

Mark Haller (construction contract)..... do.. 312,000.00

Fairview extension—

Tidewater Building Co. (construction contract)..... fee.. 50,000.00

Miles-Tighe Co. (engineering contract)..... do.. 24,000.00

T. A. O'Rourke (Inc.) (plastering)..... do.. 10,000.00

L. K. Comstock (electric wiring)..... lump sum.. 56,250.00

Lockwood-Greene & Co. (engineering contract)..... fee.. 13,000.00

Schneider Sheet Metal Works (roofing and sheet metal), lump sum.. 110,000.00

J.N. Knight & Son (plumbing, gas fitting, ranges, etc.), lump sum.. 309,757.00

C. A. Kuehnle (painting)..... lump sum.. 98,000.00

E. D. Litchfield (architect)..... fee.. 25,000.00

Loans to the city of Camden and to privately owned gas and electric companies for all public utilities for the above 4 projects total..... 865,344.00

SPARROWS POINT, MD.

Bethlehem Shipbuilding Co., near Baltimore, Md.:	
St. Helena—	
Land.....	\$33,549.35
Consolidated Engineering Co. (construction contract)....fee..	30,000.00
Riggs, Distler & Stringen (plumbing, heating, and elec- tricity).....	10,000.00
Dundalk—	
Land purchased by realty company.	
Consolidated Engineering Co. (construction contract)....do....	45,000.00
H. E. Crook Co. (plumbing, heating, wiring, and ranges)....do....	17,500.00
Loans to the Consolidated Gas, Electric Light & Power Co. for gas and electricity.....	121,290.00

PORTSMOUTH, N. H.

Atlantic Corporation:	
Land purchased by realty company.	
National Engineering Corporation (construction contract)..fee..	38,500.00
Kilham & Hopkins (architects).....do....	10,000.00
Eastern Power & Heating Co. (plumbing, heating, etc.), lump sum.....	272,154.00
Loan to the city of Portsmouth for public utilities, paving, water, sewage, etc., not to exceed.....	196,700.00
Loan to privately owned electric company.....	14,000.00

NEWPORT NEWS.

Newport News Shipbuilding & Dry Dock Co. (Apartments):	
Land purchased by realty company.	
James Stewart Co. (construction contract).....fee..	32,000.00
United Electric Construction Co. (wiring).....lump sum..	22,300.00
John Laura Co. (roofing).....do....	10,500.00
Wells Architectural Iron Co. (iron fixings).....do....	61,353.00
Reliance Fireproof Door Co. (fireproof doors).....do....	11,000.00
Maricel Akers (painting).....do....	33,650.00

CHESTER, PA.

Sun Shipbuilding Co.:	
Sun Village—	
Land purchased by realty company.	
Price & Johnson (construction contract).....fee..	62,200.00
Rhodes Bros. (plumbing).....lump sum..	46,250.10
Haney White Co. (mill work and stair material).....do....	35,758.12
Sun Hill—	
Land purchased by realty company.	
Price & Johnson (construction contract).....fee..	20,000.00
Chester Shipbuilding Co.:	
Buckman village—	
Land purchased by realty company.	
McArthur Bros. (construction contract).....fee..	58,000.00
Brumbaugh, Simon & Bassett (architects) (including Chester Hotel).....fee..	10,000.00
Walter Purks & Mellon (plumbing, heating, and ranges) (in- cluding Chester Hotel).....labor only..	11,000.00
O. H. Bauer (interior decorating and kalsomining) (including Chester Hotel).....lump sum..	25,654.00
Chester Hotel—	
McArthur Bros. (construction contract).....fee..	18,000.00
J. S. Thorn Co. (skylights and vents).....lump sum..	10,500.00
Wm. A. Wafer (marblework).....do....	11,300.00
Loan to the city of Chester for public utilities.....	500,000.00
Loan to privately owned gas company.....	105,000.00

LORAIN, OHIO.

American Shipbuilding Co.:	
Land purchased by realty company.	
Morego-Burkham Construction Co. (construction contract).....fee..	\$35,000.00
Koblitz Plumbing & Heating Co. (plumbing and heating), .....lump sum.....	90,800.00
Loan to the city of Lorain for public utilities and street improvements not to exceed.....	193,000.00

BATH, ME.

Texas Steamship Co.:	
L. P. Soule & Son Co. (construction contract).....fee..	25,000.00
Loan to the city of Bath for public utilities and street improvements not to exceed.....	100,000.00

UNION PARK GARDENS, WILMINGTON, DEL.

Bethlehem Shipbuilding Co. and Pusey & Jones:	
Land purchased by realty company.	
Lynch Construction Co. (construction contract).....fee..	70,000.00
Wilmington & Philadelphia Traction Co. for electrical extension and house service.....	20,462.00
Loan to the city of Wilmington for public utilities.....	335,000.00
Loan to privately owned gas company.....	34,500.00

BRISTOL, PA.

Merchants Shipbuilding Co.:	
Land.....	150,700.00
F. A. Gелlette Co. (heating).....lump sum.....	42,750.00
Wells & Newton (plumbing).....do.....	47,700.00
Gent Construction Co. (electric wiring and fixtures).....do.....	21,363.00

GLOUCESTER, N. J.

Pusey & Jones:	
Land purchased by realty company.	
McArthur Bros. (construction contract).....fee..	80,000.00
Bissell & Sinkler (architects).....do.....	10,000.00
Loan to the city of Gloucester for public utilities and street improve- ments.....	200,000.00
Loan by Emergency Fleet Corporation through the realty company to gas company privately owned.....	49,520.00
Public Service Railway Company for extension of electric railway to the housing project (estimated).....	201,230.00

ESSINGTON, PA.

Westinghouse Electric & Manufacturing Co.:	
Dormitories—	
Land purchased by realty company.	
Wm. Crawford (construction contract).....fee..	20,000.00
Houses—	
Land purchased by realty company.	
Wm. Crawford (construction contract).....fee..	30,000.00
Loan to American Gas Co. for gas installation.....	16,000.00
Loan to Springfield Water Co. for water supply and distribution.....	15,000.00
(These loans include both projects.)	

JACKSONVILLE, FLA.

Merrill Stevens Shipbuilding Co.:	
Land purchased by realty company.	
W. P. Richardson & Co. (construction contract).....fee..	25,000.00
H. L. Lee (electric wiring).....lump sum.....	10,045.00
Hooker & Lightbody (plumbing).....do.....	48,964.70
Loan to the city of South Jacksonville for public utilities, street im- provements, etc. not to exceed.....	100,000.00
Loan through South Jacksonville Realty Co. to gas company, pri- vately owned, for gas extension.....	29,000.00
Loan to Duval County, Fla., for road construction.....	20,000.00

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 187

PORT JEFFERSON, L. I.

Bayles Shipyard (Inc.):

Land purchased by Bayles Shipyard (Inc.)	
Mark Tredennick Co. (construction contract).....fee..	\$12,000.00
Public utilities and improvements will be borne by the appropriation for the project. Electrical installation will be furnished by the electric company at no cost to the project.	

WYANDOTTE, MICH.

Detroit Shipbuilding Co.:

Land purchased by realty company.	
Loan to the city of Wyandotte for public utilities, street improvements, etc.....	20,000.00

MANITOWOC, WIS.

Manitowoc Shipbuilding Co.:

Land purchased by realty company.	
Walter W. Oefflein Co. (Inc.), (construction contract).....fee..	18,000.00
Loan to the city of Manitowoc for public utilities street improvements, etc., including electric extension, not to exceed.....	50,000.00

GROTON, CONN.

Groton Iron Works:

Land purchased by realty company.	
National Engineering Co. (construction contract).....fee..	30,000.00
Loan for the borough of Groton for public utilities, street improvements, including electrical extension.....	50,000.00
Loan to the town of Groton for public utilities, street improvements, including electrical extension.....	50,000.00

In addition to the above, there has been spent up to October 31 (inclusive), the following amounts for labor and material, including all projects:

Material.....	\$12,539,347.60
Labor.....	16,543,120.49
Total.....	29,082,468.09

(B) Schedule of housing projects, including character of housing and number of men housed.

Shipyards.	Location.	Individual houses.		Apartments.		Dormitories.		Hotels.		Total number of men accommodated.	Approved, including contingency.	Net commitments.
		Number.	Men accommodated.	Number.	Men accommodated.	Number.	Men accommodated.	Number.	Men accommodated.			
American International Shipbuilding Co. (4 projects).	Hog Island, Philadelphia, Pa.	1,989	3,978					4	2,042	6,020	\$11,535,050	\$10,081,000
Newport News Shipbuilding & Dry Dock Co. (2 projects)	Newport News, Va.	501	1,002	332	664					1,668	5,012,375	4,880,500
New York Shipbuilding Co. (4 projects).	Camden, N. J.	1,877	3,754	72	144					3,898	12,500,500	10,870,000
Bethlehem Shipbuilding Corporation (2 projects).	Sparrows Point, Md.	1,296	1,848							2,910	5,175,000	4,500,000
Atlantic Corporation.	Portsmouth, N. H.	631	1,092			8	400			964	2,183,000	1,900,000
Sun Shipbuilding Co. (2 projects).	Chester, Pa.	282	1,424	56	112					1,538	4,094,000	3,560,000
Chester Shipbuilding Co. (2 projects).	do	278	556	106	168			1	232	1,168	3,450,000	3,000,000
American Shipbuilding Co.	Lorain, Ohio	232	464	8	16					480	1,440,000	1,250,000
Texas Steamship Co.	Bath, Me.	103	206			7	148			354	862,500	750,000
Bethlehem Shipbuilding Corporation and Pusey & Jones.	Wilmington, Del.	506	1,012			76				1,088	3,450,000	3,000,000
Merchants' Shipbuilding Co.	Bristol, Pa.	325	650	254	1,750					2,300	5,991,500	5,210,000
Pusey & Jones.	Gloucester, N. J.	457	914							914	2,840,500	2,470,000
Westinghouse Electric & Manufacturing Co. (2 projects).	Essington, Pa.	200	400			2	614			1,014	1,403,000	1,220,000
Merrill-Stevens Shipbuilding Co.	Jacksonville, Fla.	158	316							400	747,500	650,000
Bayless Shipyard (Inc.).	Port Jefferson, Long Island.	19	38			1	206			244	345,000	300,000
G. M. Standifer Construction Co.	Vancouver, Wash.	107	214	210	315			1	237	766	977,500	830,000
Terry Shipbuilding Co.	Savannah, Ga.	120	240							230	402,500	350,000
Traylor Shipbuilding Co.	Cornwell Heights, Pa.	(*)	300							300	10,120	8,800
Detroit Shipbuilding Co.	Wyandotte, Mich.	79	158							158	442,750	385,000
Manitowoc Shipbuilding Co.	Manitowoc, Wis.	100	200			1	300			500	644,000	590,000
Groton Iron Works.	Groton, Conn.	103	206	70	120					544	1,350,000	1,200,000
Newburgh Shipyards (Inc.).	Newburgh, N. Y.	127	254							374	1,035,000	900,000
Pacific Coast Shipbuilding Co.	Clyde, Cal.	105	210					1	110	320	862,500	760,000
Missouri Valley B. & I. Co.	Quantico, Va.	43	86							120	34,500	30,000
Total.		9,286	20,302	1,108	3,355	24	1,960	7	2,681	28,353	67,460,595	58,635,300

* Boarding house.

* Tents.

* Bunk houses.

* Convertible.

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 189

(C) STATEMENT OF TOTAL COMMITMENTS OF HOUSING DEVELOPMENTS OF THE UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION UP TO NOV. 14, 1918.

Company.	Location.	Amount.
Atlantic Corporation.....	Portsmouth, N. H.....	\$1,900,000
Newport News Shipbuilding & Dry Dock Co.....	Newport News, Va. (2 projects).....	4,880,500
New York Shipbuilding Co.....	Camden, N. J. (4 projects).....	9,525,000
Pusey & Jones.....	Gloucester, N. J.....	2,470,000
Bethlehem Shipbuilding Co.....	Wilmington, Del.....	3,000,000
Pusey & Jones.....		
Bethlehem Shipbuilding Co.....	Sparrows Point, Md. (2 projects).....	4,500,000
Chester Shipbuilding Co.....	Chester, Pa. (2 projects).....	3,000,000
Texas Shipbuilding Co.....	Bath, Me.....	750,000
Merchant's Shipbuilding Co.....	Bristol, Pa.....	5,210,000
American International Shipbuilding Co.....	Philadelphia, Pa. (4 projects).....	10,031,000
Sun Shipbuilding Co.....	Chester, Pa. (2 projects).....	3,560,000
G. M. Standifer Construction Co.....	Vancouver, Wash.....	850,000
Bayles Shipyard.....	Port Jefferson, Long Island.....	300,000
American Shipbuilding Co.....	Lorain, Ohio.....	1,260,000
Merrill-Stevens Shipbuilding Co.....	Jacksonville, Fla.....	650,000
Westinghouse Electric & Manufacturing Co.....	Essington, Pa. (2 projects).....	1,220,000
Terry Shipbuilding Co.....	Savannah, Ga.....	350,000
Taylor Shipbuilding Co.....	Cornwell Heights, Pa.....	8,800
Detroit Shipbuilding Co.....	Wyandotte, Mich.....	385,000
Manitowoc Shipbuilding Co.....	Manitowoc, Wis.....	560,000
Pacific Coast Shipbuilding Co.....	Clyde, Cal.....	750,000
Groton Iron Works.....	Groton, Conn.....	1,200,000
Newburgh Shipyards (Inc.).....	Newburgh, N. Y.....	900,000
Missouri Valley B. & I. Co.....	Quantico, Va.....	30,000
Total commitment.....		57,290,300
15 per cent reserve for contingency.....		8,593,545
Reserve for administration expenses, compensation in requisition and guarantee of rentals.....		1,000,000
		66,883,845

STATEMENT OF RESERVE FUND.

15 per cent reserve for contingencies as above.....		\$8,593,545
Less commitment to New York Shipbuilding Co.....	\$1,315,000	
Less commitment to American International Shipbuilding Co.....	36,150	
	1,381,150	
15 per cent reserve for contingency.....	207,172	
		1,588,322
Balance in reserve.....		7,005,223
Number of approved projects.....		35
Projects on which preliminary plans have been submitted.....		34
Projects on which final plans have been approved.....		33
Projects on which construction has begun.....		32

TABLE XIII.—*Legal arrangements involved in connection with the Emergency Fleet Corporation's housing projects for shipyard employees.*

I. (a) Shipbuilder is required to contribute cost of land to be developed. Title to land is insured by responsible title company at expense of shipbuilder.

(b) Shipbuilder organizes subsidiary realty company which acquires title to land in exchange for its stock for cost of land at par.

(c) If land be without streets or public utilities, shipbuilder or municipality is required to furnish or contribute to cost of installation of same.

II. (a) Shipbuilder agrees with realty company (advance money mortgage agreement) to advance or cause to be advanced all further costs of development *without fee to shipbuilder or realty company.*

(b) Realty company executes its bond for all advances made payable on or before 10 years with semiannual interest at 5 per cent; securing same by blanket mortgage, with proper provisions therein for releases in event of sales or individual lots to shipyard workers.

III. Shipbuilder realty company and Emergency Fleet Corporation execute tri-party agreement (known as operation agreement) which provides as follows:

(a) Shipbuilder assigns advance money mortgage agreement and bond and mortgage to Emergency Fleet Corporation.

(b) Shipbuilder guarantees all undertakings of realty company therein except as to repayment of loan.

(c) Shipbuilder pledges entire capital stock of realty company as collateral to its guaranty (see *b*) reserving voting and other rights therein.

(d) Upon any default of realty company or shipbuilder, Emergency Fleet Corporation may sell pledged stock without notice and become purchaser at any such sale, without affecting its right to foreclose mortgage.

(e) After 36 months, shipbuilder may assign stock of realty company to Emergency Fleet Corporation and be relieved of its guaranty if not then in default.

(f) Emergency Fleet Corporation assumes obligation of shipbuilder to make advances.

(g) Realty company agrees not to increase capital stock without consent of Emergency Fleet Corporation.

(h) Provision made for application of revenues of realty company from whatsoever source derived.

(i) Realty company limited to 5 per cent dividends on its stock until mortgage is paid.

(j) Dividends thereafter limited to 6 per cent with option to apply excess earnings, if any, to amount of 2 per cent per annum of capital stock originally issued toward its amortization and balance to improvement of unsold property.

(k) Emergency Fleet Corporation controls sales, renting, and restrictions on property until six months after conclusion of war.

(l) Upon sales Emergency Fleet Corporation grants release from blanket mortgage and accepts money mortgage on similar terms in lieu thereof.

(m) Provisions for appraisal not earlier than two years, not later than five years after conclusion of war (time at option of Emergency Fleet Corporation) if revenues of realty company prove insufficient to meet carrying charges including 3 per cent annual amortization of mortgage.

As result of appraisal there may be maximum write-off on mortgage of 30 per cent in recognition of excessively high construction costs.

Individual purchasers may get the benefit of any such write-off by leaving 30 per cent of the release value of their lots on bond and mortgage.

IV. Emergency Fleet Corporation approves selection of architects, engineers, contracts, etc., and determines amount of their respective compensations.

V. Resort is only had to power of requisition where price asked for land required is excessive or delay in securing good title would otherwise occur.

TABLE XIV.—List of municipalities which have furnished facilities in connection with housing projects of the Emergency Fleet Corporation with their approximate commitments.

Wilmington, Del. (including \$175,000 for school facilities).....	\$335,000
Gloucester, N. J. (including \$75,000 for school facilities).....	200,000
Camden, N. J. (including \$300,000 for school facilities).....	650,000
Lorain, Ohio (including \$100,000 for school facilities).....	174,000
Bath, Me. (including \$25,000 for school facilities).....	100,000
Portsmouth, N. H. (including \$75,000 for school facilities).....	196,700
Chester, Pa. (including \$200,000 for school facilities).....	500,000
Manitowoc, Wis.....	50,000
Wyandotte, Mich.....	20,000
Pensacola, Fla.....	100,000
South Jacksonville, Fla.....	100,000
Duval County, Fla. (for road construction).....	20,000
Borough of Groton, Conn.....	50,000
Town of Groton, Conn.....	50,000
City of Newburgh, N. Y. (pending).....	150,000

TABLE XV.—Loans made by the Emergency Fleet Corporation to utility companies in connection with housing projects.

Wilmington:	
Gas.....	\$34,500
Electricity.....	21,400
Gloucester:	
Gas.....	30,250
Electricity.....	45,530
Camden:	
Gas.....	72,072
Electricity.....	53,135
Lorain, electricity.....	13,800
St. Helena:	
Gas.....	16,102
Electricity.....	4,378
Dundalk:	
Gas.....	90,410
Electricity.....	10,400
Hilton Village, water.....	67,130
Port Jefferson, electricity.....	1,336
Portsmouth, electricity.....	14,000
Chester, gas.....	67,023
Jacksonville, gas.....	29,000

TABLE XVI.—Dormitories and cafeterias constructed or planned for the Emergency Fleet Corporation.

	Men to be housed.	Men to be fed.	Cost of equipment.
Hog Island.....	2,000	2,000	\$204,950
Essington.....	600	600	37,000
St. Helena.....	1,030	1,843	115,200
Chester boarding house.....	144	144	16,300
Chester hotel and cafeteria.....	315	2,000	50,000
Port Jefferson (dormitories only).....	214	250	18,000
Groton (cafeteria only).....			(1)
Portsmouth, N. H.....	400	400	28,000
Bath, Me.....	148	(1) 148	(1)
Jacksonville, Fla.....	94	(1)	(1)

¹ Pending.

192 SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD.

TABLE XVII.—Statement of total commitments for passenger transportation facilities of the United States Shipping Board, Emergency Fleet Corporation, as of Oct. 31, 1918.

Shipyard.	Company.	Location.	Amount.
Texas Steamship Co.....	Lewiston, Augusta & Water-ville Street Ry.	Bath, Me.....	\$170,500
Bethlehem Shipbuilding Corporation.	Bay State Street Ry.....	Quincy, Mass.....	82,000
Do.....	Metropolitan Park Commission.	.....do.....	42,000
Atlantic Corporation.....	Richmond Light & R. R. Co....	Portsmouth, N. H.....	4,000
Downey Shipbuilding Corporation.	.....do.....	Staten Island, N. Y.....	
Staten Island Shipbuilding Co.....	.....do.....	.....do.....	606,567
Standard Shipbuilding Co.....	.....do.....	.....do.....	
Johnson Shipbuilding Corporation	.....do.....	.....do.....	
Submarine Boat Corporation.....	Public Service Co. of New Jersey	Newark Bay, N. J.....	837,345
Federal Shipbuilding Co.....	.....do.....	Kearney, N. J.....	
The Foundation Co.....	.....do.....	.....do.....	39,586
New York Shipbuilding Corporation.	.....do.....	Camden, N. J.....	
Pusey & Jones Co.....	.....do.....	Gloucester, N. J.....	1,456,730
American International Shipbuilding Corporation.	Philadelphia Rapid Transit Co..	Philadelphia, Pa.....	2,099,446
Do.....	Philadelphia Rys. Co.....	.....do.....	826,000
Sun Shipbuilding Co.....	Southern Pennsylvania Traction Co.	Chester, Pa.....	1,278,412
Chester Shipbuilding Co.....	.....do.....	.....do.....	
Newport News Shipbuilding & Dry Dock Co.	Newport News & Hampton Ry. Gas & Electric Co.	Newport News, Va....	300,000
Bethlehem Shipbuilding Corporation.	United Railways & Electric Co.	Baltimore, Md.....	
Henry Smith & Sons Co.....	.....do.....	.....do.....	989,638
Baltimore Dry Dock & Shipbuilding Co.	.....do.....	.....do.....	
Carolina Shipbuilding Co.....	Tidewater Power Co.....	Wilmington, N. C.....	
Liberty Shipbuilding Co.....	.....do.....	.....do.....	340,000
Terry Shipbuilding Corporation.	Savannah Electric Co.....	Savannah, Ga.....	4,416
Alabama Dry Dock & Shipbuilding Co.	Mobile Light & R. R. Co.....	Mobile, Ala.....	
Mobile Shipbuilding Co.....	.....do.....	.....do.....	75,472
Fred T. Ley Co. (Inc.).....	.....do.....	.....do.....	
Lone Star Shipbuilding Co.....	Chas. B. Swank et al.....	Beaumont, Tex.....	3,250
Moore Shipbuilding Co.....	San Francisco-Oakland Terminal Rys. Co.	San Francisco, Cal....	9,675
Bethlehem Shipbuilding Corporation.	.....do.....	.....do.....	458,640
Schofield Engineering Co.....	San Diego Electric Co.....	San Diego, Cal.....	77,000
Todd Dry Dock & Construction Co.	City of Tacoma.....	Tacoma, Wash.....	232,000
Northwest Steel Co.....	Portland Ry. Light & Power Co..	Portland, Oreg.....	
Columbia River Shipbuilding Co.	.....do.....	.....do.....	167,250
Coast Shipbuilding Co.....	.....do.....	.....do.....	
Skinner & Eddy Corporation.....	City of Seattle.....	Seattle, Wash.....	
Seattle Construction & Dry Dock Co.	.....do.....	.....do.....	
Seattle North Pacific Shipbuilding Co.	.....do.....	.....do.....	377,000
Ames Shipbuilding & Dry Dock Co.	.....do.....	.....do.....	
J. F. Duthie & Co.....	.....do.....	.....do.....	
MacDougall-Duluth.....	Duluth Street Ry. Co.....	Duluth, Minn.....	
Globe Shipbuilding Co.....	.....do.....	Superior, Wis.....	100,000
American Shipbuilding Co.....	.....do.....	.....do.....	
Great Lakes Engineering Co.....	Lake Shore & Michigan Southern R. R.	Ashtabula, Ohio.....	6,000
Total commitments for passenger transportation facilities.			10,582,927
Add 15 per cent for contingencies.			1,587,439
Total commitments as of Oct. 31, 1918.			12,070,366

TABLE XVII.—Statement of total commitments for passenger transportation facilities of the United States Shipping Board, Emergency Fleet Corporation, as of Oct. 31, 1918—Continued.

Shipyards.	Company.	Location.	Amount.
Foregoing commitments and appropriations reduced:			
Bethlehem Shipbuilding Corporation.	San Francisco-Oakland Terminal Ry.	San Francisco, Cal.	\$458,640
Skinner Eddy Corporation.	City of Seattle	Seattle, Wash.	377,000
Seattle Construction & Dry Dock Co.	do	do	
Seattle North Pacific Shipbuilding Co.	do	do	
Ames Shipbuilding & Dry Dock Co.	do	do	
J. F. Duthie & Co.	do	do	
Total amount of reduction of commitments.			835,640
15 per cent for contingencies.			125,346
Total amount of reduction.			960,986
Total commitments for passenger transportation facilities.			12,070,366
Total amount of reduction of commitments.			960,986
Net total of commitments as of Oct. 31, 1918.			11,109,380

SUMMARY.

Passenger transportation appropriation made by Congress.	\$20,000,000
Less commitments as of Oct. 31, 1918.	11,109,380
Balance available to meet any cost in excess of commitments, etc., and for additional projects.	8,890,620

TABLE XVIII.—Special steam-train service arranged for shipyard workers.

	Number of trains.
Bethlehem Shipbuilding Corporation, Fore River.	1
L. H. Shattuck (Inc.), Newington, N. H.	1
Staten Island shipyards, N. Y.	1
Merchants Shipbuilding Corporation, Bristol, Pa.	5
Traylor Shipbuilding Co., Cornwells, Pa.	1
New York Shipbuilding Co., Camden, N. J.	3
The Pusey & Jones Co., Gloucester, N. J.	2
Sun Shipbuilding Co., Chester, Pa.	5
Chester Shipbuilding Co., Chester, Pa.	1
York River Shipbuilding Co., West Point, Va.	1
Bethlehem Shipbuilding Corporation, Sparrows Point, Md.	7
Terry Shipbuilding Corporation, Savannah, Ga.	1
Universal Shipbuilding Co., Houston, Tex.	1
Midland Bridge & Iron Co.	1
Dierck-Blodgett Co., Pascagoula, Fla.	1
Pacific Coast Shipbuilding Co., Bay Point, Cal.	1
G. M. Standifer Construction Co., Vancouver, Wash.	1
Seattle, Wash., shipyards.	4
Hog Island, Pa.	14
Submarine Boat Corporation, Newark, N. J.	5
Total.	57

Schedules of regular steam trains also have been adjusted for the accommodation of shipyard workers in various localities.

TABLE XIX.—*Arrangements for ferryboat transportation of shipyard workers.*

At several shipyards it has been necessary to provide transportation to and from the various yards by means of ferryboats. Transportation companies and shipyards for which such transportation is being furnished are as follows:

To Staten Island, N. Y., from Manhattan and Brooklyn, for the Standard Shipbuilding Co., Staten Island Shipbuilding Co., Downey Shipbuilding Co., and Johnson Shipyards Corporation, Staten Island, N. Y.

To Newark from Bayonne, N. J., for the Submarine Boat Corporation, Newark, N. J.

To Jacksonville, Fla., for the Merrill-Stevens Shipbuilding Co.

To Groton, Conn., from New London, for the Groton Iron Works.

To shipyard for the Todd Construction & Dry Dock Corporation, from Tacoma, Wash.

To shipyard for the Lone Star Shipbuilding Co., from Beaumont, Tex.

TABLE XX.—*Disbursements and liabilities of the Emergency Fleet Corporation at the Government agency plants at Hog Island and Bristol.*

The following is a statement of the disbursements of the Emergency Fleet Corporation at the Government agency plants at Hog Island and Bristol up to the time when the assistant general manager took charge and from that point on. (These figures include liabilities incurred):

HOG ISLAND.	
To Feb. 1, 1918.....	\$26,923,393.02
Feb. 1 to Aug. 31, 1918.....	89,907,565.89
Total.....	116,830,958.91
These are reflected in the agent's accounts as:	
To Feb. 1, 1918:	
Cash.....	\$3,567,752.27
Ship construction.....	4,704,844.83
Undistributed items.....	18,650,795.92
Total.....	26,923,393.02
Feb. 1 to Aug. 31, 1918:	
Cash.....	2,024,437.99
Ship construction.....	25,214,496.02
Plant.....	56,960,630.15
Undistributed items.....	29,776,587.54
Total.....	113,976,151.70
Transportation (direct payments by E. F. C.):	
Philadelphia Railway Co. (agreement Mar. 27, 1918).....	457,585.27
Philadelphia Rapid Transit Co. (agreement Mar. 20, 1918).....	581,295.87
	1,038,881.14
Removal of houses.....	20,155.76
Total.....	1,059,036.90
Housing (direct payments by E. F. C.):	
Purchased and requisitioned houses.....	472,219.69
Completion of 72 of them.....	99,573.16
Sixty-seventh Street and Elmwood Avenue operation.....	673,220.25
Sixty-first Street and Elmwood Avenue operation.....	544,757.21
Total.....	1,795,770.31
Expenses of operation.....	5,235.91
	1,801,006.22
Credit rentals received.....	30,133.00
Total.....	1,770,868.22

SECOND ANNUAL REPORT UNITED STATES SHIPPING BOARD. 195

RECAPITULATION.

Cash—Ships, plant, and undistributed.....	\$113,976,151.70
Transportation.....	1,059,036.90
Housing.....	1,770,868.22
Total.....	<u>116,806,056.82</u>

BRISTOL.

To Feb. 1, 1918.....	6,666,346.89
Feb. 1 to Aug. 31, 1918.....	28,184,749.54
Total.....	<u>34,851,096.43</u>

These are reflected in the agent's account as:

To Feb. 1, 1918:	
Plant and property.....	5,115,935.78
Inventory.....	1,309,471.32
Undistributed items.....	240,939.79
	<u>6,666,346.89</u>
Feb. 1 to July 31, 1918:	
Ship construction.....	4,838,354.89
Plant and property.....	10,106,922.39
Inventory.....	11,204,631.77
	26,149,909.05
Less undistributed credits.....	355,672.93
	<u>25,794,236.12</u>
Net total.....	4,059,814.28
Housing disbursements.....	4,997,046.03
Undistributed items for August.....	
Total.....	<u>34,851,096.43</u>

INDEX.

	Page.
Acquisition of vessels:	
By construction.....	9
Contract or charter from foreign owners.....	9, 46, 54
Just compensation.....	9
Of Dutch vessels by right of angary.....	47
By requisition.....	33
Seizure of German and Austrian vessels.....	9, 20, 45
Sources of.....	23
Adjustment:	
Of labor problems.....	83
Organizations for, in labor disputes.....	83, 88
Memorandum for, of wages, Appendix, Table V.	
Admiralty:	
Attorney of New York Agency of Operations.....	58
Litigation referred to Department of Justice.....	20, 78
Section of Law Division.....	77, 78
Agencies:	
Allied purchasing.....	
Of Division of Dispatch, Shipping Control Committee.....	67
Of Division of Operations.....	57
Of Law Division, Emergency Fleet Corporation.....	115, 116
Alaska:	
Packers', vessels of, used in Hawaiian sugar trade.....	60
Rates for Alaskan trade.....	79
Allied Maritime Transport Council:	
Division of Planning and Statistics, Relations with.....	76
Information furnished to.....	17
Representatives of Shipping Board on.....	8, 17, 18
State Department, relations with.....	20, 21
Supervision of American participation in.....	11, 12
Allocation of vessels:	
By Allied Maritime Transport Council.....	17, 18
By Division of Trades and Allocations, Shipping Control Committee.....	66, 67
Information concerning.....	62, 76
By Shipping Control Committee.....	10, 65, 68
American Bureau of Shipping.....	137, 139
American Federation of Labor, agreements with.....	87
American International Shipbuilding Corporation:	
See Shipbuilding yards, extension of.....	120
See "Fabricated" shipyard.....	129-131
See Government agency plants.....	121
Angary, right of, applied to Dutch ships.....	47
Arbitration of labor disputes.....	83, 86
Assignment of vessels:	
To meet Army requirements.....	11, 12
By Division of Operations.....	10, 62-63

Assignment of vessels—Continued.	Page.
Foreign chartered vessels.....	46
To managers and operators.....	62, 63
Secured from northern neutrals.....	52
Statistical summary.....	24, 32
Associations:	
Coal Barge and Towers' Association, supervision of.....	11, 12
International Longshoremen's Association.....	87
Lake Carriers' Association.....	61
Atlantic coast:	
Housing activities.....	145
Power facilities.....	150-151
See shipbuilding districts.....	124 128
Wage scale on.....	86
Auditing Division:	
Of Emergency Fleet Corporation.....	159, 160
Price auditing.....	64
Authorizations, appropriations, and commitments, summary of, for United States Shipping Board Emergency Fleet Corporation.....	96-114
Balance sheet:	
Of Emergency Fleet Corporation, Appendix, Table IX.....	181
Of United States Shipping Board and United States Shipping Board Emergency Fleet Corporation, Appendix, Table III.....	172, 173
Baltimore, general agent of Division of Operations at.....	58
Bare boat charter.....	34, 63
Barges:	
Concrete (see Concrete ship construction).....	143
Wood towing.....	135
Belgian relief, vessels assigned to.....	53, 55
Board of Survey and Consulting Engineers. (See Survey and Consulting Engineers.)	
Boilers:	
• Types of (Scotch, water-tube).....	136
Supply of, by Supply Division.....	150
Boston:	
Agency of Division of Operations.....	57, 59-60
Recruiting service headquarters at.....	79
Brazil, negotiations with, concerning ex-German tonnage.....	45
Bunkering:	
Coaling machines for.....	73
Coal suitable for.....	72
Facilities at ports, study of.....	72
Hampton Roads facilities increased.....	79
Cable censor.....	77
Camouflage painting.....	136
Cargo ships, special types (see Design).....	135
Carolina Shipbuilding Co. (see Extension of shipbuilding yards, Government agency plants, "Fabricated" shipyard).....	120-123
Central staff work for Emergency Fleet Corporation.....	161-162
Chartering Committee:	
Control of charters and rates by.....	10, 15, 18, 23, 68-71, 78, 79
Relations with Allied Maritime Transport Council.....	17, 18
Relations with Division of Operations.....	56, 58
Relations with Division of Planning and Statistics.....	76

	Page.
Charter:	
Control of, by Chartering Committee.....	10, 15, 18, 68-71
Enemy tonnage secured by.....	45
Of foreign vessels.....	46
Forms of.....	19, 34, 63
Of French sailors.....	54
Hire.....	16
Number of ships under.....	23, 55
Rates of.....	10, 15, 64, 68-71, 78-79
Risks assumed and compensations made.....	90
Shipping Control Committee.....	65, 67
China:	
Contracts for construction of vessels in.....	53
Ex-Austrian vessels secured from.....	45
Claims, Court of.....	89
Classification and summary of vessels under jurisdiction of Shipping Board..	23-32
Coal:	
Coal Barge and Towers' Association.....	11, 59
Machines for coaling.....	73
Methods for handling at ports.....	72
Transportation service of, in New England.....	22, 79
Types of, suitable for bunkering.....	72
Coastwise lines.....	43
Coastwise trade:	
Admission of foreign vessels to.....	10, 40
Authority of Director of Operations.....	40, 55
Collection of information concerning.....	61
Pacific coast.....	60
Railroad Administration's control of.....	21, 43, 79
Commandeering of vessels in course of construction.....	116, 117
Commerce, Committee on, authorized to investigate construction program....	14
Commerce, Department of:	
Cooperation with Recruiting Service.....	80
Relations with Shipping Board.....	21
Commission:	
National adjustment.....	86, 87
Port and harbor facilities.....	72
War zone pass.....	88
Compensation:	
For Dutch ships, cargoes, and crews.....	47-52
Of employees (Appendix, Tables I, XI).....	164-170, 182-183
For housing facilities taken.....	115, 116, 143-145
Increased rates of, for employees of Shipping Board, Appendix, Table IV.	174, 175
Ocean Advisory Committee on.....	89
For vessels taken.....	9, 33, 115
Composite ships, production of.....	110, 139-141
Comptroller:	
Of Division of Operations.....	64-65
Of Emergency Fleet Corporation.....	64
New York representative of.....	64
Supervision of agency accounts.....	63
Concrete ships:	
Authorizations, appropriations, and commitments.....	110
Contracts for.....	142, 143

	Page.
Concrete ships—Continued.	
Development of.....	142, 143
Yards for, location of.....	120, 142
Construction:	
Acceleration of.....	117, 133, 158
Applications for private.....	10, 40-43, 77
Commandeering of vessels in course of.....	116, 117
Of concrete ships.....	142, 143
Contracts for.....	53, 77, 117, 119
In Chinese yards.....	53
Of dry docks, authorized.....	73
Division of transfer and private construction.....	42
Of housing facilities.....	143-145
In Japanese yards.....	53
Labor problems bearing upon.....	83
Monthly summary of (Appendix, Table VII).....	178, 179
Of power facilities.....	150, 151
Program of Emergency Fleet Corporation.....	94-96, 117-123, 132
Requirements for.....	148, 149
Of shipyards (see Shipyard plants).....	122, 123
Of steel ships.....	132-138
See Survey, Board of.....	89
Of wood ships.....	139-141
Contests among shipyards to encourage speed in construction.....	158
Contracts:	
Authorizations, appropriations, and commitments.....	101
For construction of ships in Chinese yards.....	
Division of, Emergency Fleet Corporation.....	118, 136
For Diesel motors.....	134
Form of.....	118
For housing facilities.....	143-145
For Japanese construction.....	53
Preparation of, by Law Division.....	77, 115
Reference to comptroller.....	64
For ship construction.....	117-119, 132, 137-143
For transportation facilities (Appendix Table XVII).....	146, 147, 192, 193
Contract yards, administration of.....	121
Contracts and Charters, Department of, Division of Operations.....	56
Control of vessels:	
Forms of.....	23
Total tonnage controlled by Shipping Board.....	21-22, 55
Cost of living in settlement of labor problems.....	83, 85
Council of National Defense, committee on shipping of.....	33, 44
Court of Claims, resort to.....	89
Credit Department, Emergency Fleet Corporation.....	160
Danish vessels:	
Chartered to Shipping Board.....	46, 52
Acquisition of, by chartering agreement.....	52
Deferred classification:	
Applied to men in training for merchant marine.....	82
For men employed in shipyards.....	153
Delaware River:	
See "Fabricated" shipyard.....	129
See Shipbuilding districts.....	124-128

	Page.
Deliveries of ships:	
Information concerning.....	62
Statistical Summary, Appendix, Tables VI, VII, VIII.	
Design:	
Cargo-troop ship.....	135
Concrete ships.....	142-143
Houses.....	144
Refrigerator ships.....	135
Standardization of.....	129, 135
Straight-line ship.....	135
Wood ship.....	135, 139, 140
Dispatch, Division of, Shipping-Control Committee.....	67
Diesel motors.....	134
Disbursements:	
And liabilities at Hog Island and Bristol plants, Appendix, Table XX.	
Statement of, Appendix, Table II.	
Disease, control of:	
Department of Health and Sanitation.....	155-156
Sanitary engineering.....	156
Districts, shipbuilding:	
Management of.....	119
Plant engineers.....	122
Summary.....	124-125
Dormitories and cafeterias, construction of, Appendix, Table XVI.	
Dry docks:	
Authorizations, appropriations, and commitments.....	114
Construction of.....	73
Regulations of (see Law Division).....	78
Dutch vessels:	
Acquisition of.....	20, 39, 47-52
Compensation for cargoes on.....	51
Crews of, repatriated and compensated for losses.....	48-50
Legal questions concerning.....	78
Manned by Navy Department and Shipping Board.....	48, 55, 63
Education and Training Section.....	153, 154
Electric welding.....	134, 155
Emergency Fleet Corporation (see Table of Contents).....	4-5
Organization and jurisdiction of.....	94-95
Removal of offices to Philadelphia.....	96
Employees:	
Compensation of, Appendix, Tables I, XI.	
Compensation for injured, Law Division.....	78
Hygienic conditions affecting.....	155-156
Housing facilities for.....	143-146
Statistics regarding.....	153
Insurance of.....	161
Labor problems of, Shipbuilding Labor Adjustment Board.....	84-86
Medical aid supplied to.....	155-156
Transportation of.....	146-147
Employment Service of Department of Labor, relations with Shipping Board.	21
Enemy tonnage:	
Ex-German and ex-Austrian, seizure of.....	22
Secured from other countries.....	45
Enemy trading act, provisions regarding imports.....	13

	Page.
Enginers and engineering:	
Engineering Section, designs of.....	135
Safety Engineering Section.....	157
Sanitary Engineering.....	156
See Shipyard Plants Division.....	122
Training of, by Recruiting Service.....	80, 81
Espionage act, provisions relating to commerce, enforcement of.....	13
Exports:	
Exports Administrative Board.....	44
Exports Control Committee.....	19
Control of.....	19
Information concerning.....	74
Relations with State Department regarding.....	22
“Fabricated” shipyards:	
Construction and administration of.....	120
Detailed report on.....	129-132
Federal Shipbuilding Corporation, contracts with.....	132
Financial:	
Administration of Emergency Fleet Corporation.....	159
Statements, Appendix, Tables II, III, IV, IX, X.	
Department of Division of Operations.....	64, 65
Fir production boards, furnishes lumber supply.....	149
Fire protection, general and district fire marshals.....	148
First annual report, United States Shipping Boards, references to.....	7, 45, 61, 78
Food Administration, United States:	
Relations with chartering committee.....	70
Vessels assigned to.....	55
Foreign yards, contracts for construction in, and commitments.....	111
Foreign vessels:	
Acquisition of.....	46, 54
Chartered by the Shipping Board.....	46
Contracts for construction, prepared by Law Division.....	77
Information concerning.....	62
Owned or under control by Shipping Board.....	23, 55
Forest Products Department of Division of Operations.....	56
Freight rates:	
Affected by exclusion of vessels from war zone.....	44
Control of.....	15, 77
Examination of, by Law Division.....	77
Increase of, in Alaskan trade.....	61
French vessels:	
Chartered to Shipping Board.....	46
Sailers chartered to Shipping Board.....	54
German and Austrian vessels:	
Included in summary of vessels.....	23
Repair of.....	45, 64, 88
Sailers, operation of.....	56
Secured from other countries.....	45
Seizure of.....	9, 20, 45
State Department.....	20
German-owned properties acquired, Hudson River properties.....	13
Government agency plants:	
Account of.....	121
Disbursements and liabilities, Appendix, Table XX.	
See “Fabricated” shipyards.	

	Page.
Great Britain:	
Allied Maritime Transport Council.....	17
Shipping Control Committee.....	65
Terms for Dutch ships.....	48
Great Lakes:	
Admission of foreign vessels to.....	40
Advisory Committee.....	89
Department of Division of Operations.....	56, 61
Power facilities on.....	150
See shipbuilding districts.....	124-128
Transfer of vessels from, to ocean service.....	56, 61, 88
Wage scale on.....	86
Gulf of Mexico:	
Lumber supplies from.....	149
Power facilities on.....	150
See shipbuilding districts.....	124-128
Wage scale on.....	86
Hampton Roads, increase of bunkering facilities.....	79
Health and sanitation section.....	155
Hog Island:	
Disbursements at, Appendix, Table XX.	
"Fabricated" shipyard at.....	130-131
Housing facilities.....	144
Insurance of employees.....	161
Sanitary engineering.....	156
Transportation facilities.....	147
Housing and transportation:	
Act granting authority for.....	14
Appropriations and commitments.....	112-113
Contracts, details of, Appendix, Table XII.	
Expansion of housing facilities.....	143-146
Legal problems with reference to, Appendix, Table XIII.	
Loans for, Appendix, Table XV.	
Transportation of shipyard workers (Appendix, Tables XVII, XVIII)..	146-147
Imports:	
Control of.....	20, 21
Information concerning.....	74
Relations with State Department concerning restriction of.....	21
Restriction of.....	13
Tonnage assigned for essential.....	66
Industrial relations:	
Group of the Emergency Fleet Corporation.....	151-157
Marine and Dock, Division of.....	84
Industrial Service Section.....	86, 151
Information:	
Bureau of.....	93
Collection of, by Division of Planning and Statistics.....	74, 77
Concerning employees.....	153
Maritime Intelligence, Department of.....	61 62
Injuries and accidents:	
Aid in case of.....	155
Campaign for prevention of.....	156
Safety engineering.....	157

Insurance:	Page.
Casualty, section.....	161
Section of, Emergency Fleet Corporation.....	160
Division of, United States Shipping Board.....	10, 57, 89-91
Investigation bureau, Plant Protection Section.....	148
Investment plants.....	121
Japanese vessels:	
Admitted to San Francisco-Honolulu trade.....	40
Chartered to Shipping Board.....	46, 53
Legal questions pertaining to.....	78
Purchase and construction of.....	53
Justice, Department of:	
Admiralty litigation.....	20, 78
Secret Service Division.....	20
Labor Adjustment Board. (See Shipbuilding Labor Adjustment Board.)	
Labor:	
Agencies and organizations.....	8, 83 88
Department of.....	21
On Pacific Coast.....	
Problems.....	83-84
Requirements section.....	153
Supply of.....	152
Wages, hours, and conditions of (Appendix, Table V).....	83 88
Labor Policies Board.....	19
Lake Carriers' Association, Cooperation with Shipping Board.....	61
Law Division:	
Of Emergency Fleet Corporation.....	114-116
Insurance questions.....	89-91
Legal arrangements in housing projects, Appendix, Table XIII.	
Relations with Department of Justice.....	20, 78
Of Shipping Board.....	77
Legislation:	
Affecting the Shipping Board.....	13-16
Preparation of, by Law Division.....	78
Lloyds' Register of Shipping, cooperation of, with Steel Ship Division.....	137
Lumber department division of operations.....	56
Marine railways:	
Authorizations, appropriations, and commitments.....	114
Construction of.....	73
Marine superintendent, Division of Operations.....	56
Marine and dock industrial relations:	
Contact with Division of Operations.....	57
Division of.....	84
Maritime Intelligence, Department of.....	56, 61-62
Medical aid supplied to employees.....	155-156
Merchant marine (American):	
Investigations on development and regulation of.....	11-13
Manning of Dutch ships.....	47, 55, 63
Manning of Shipping Board vessels.....	19
Recruiting Service.....	79-82
Training of officers and men.....	79-82

Merchant Shipbuilding Corporation:	
Disbursements, Appendix, Table XX.	
See Extension of shipbuilding yards.	
See "Fabricated" shipyard.	
See Government agency plants.	
Mineral Section, Division of Planning and Statistics.....	75
Motors (see Diesel motors).....	134
Municipalities, list of furnishing housing facilities, Appendix, Table XIX.	
National Adjustment Commission:	
Cooperation in labor problems.....	84
Pacific coast disputes handled by.....	61
Work of, and agencies of.....	86, 87
National Service Section.....	159
Navigation:	
Bureau of.....	21, 33, 80
Deputy Commissioner of, at New York.....	58
Schools for training men.....	80
Navy Department:	
Advice of, regarding exclusion of vessels from war zone.....	44
Labor problems of (see Shipbuilding Labor Adjustment Board).....	85
Law Division, contact with.....	77
Manning of Army transports.....	19, 63
Manning of Dutch ships.....	48
Naval Consulting Board.....	91
Operations, Division of, contact with.....	56
Protective devices effected by.....	91, 92
Relations with Shipping Board.....	19
Secretary of Navy authorized to seize Dutch ships.....	47
Steel Ship Construction Division, contact with.....	136
Neutrals:	
Control over neutral tonnage.....	63, 79
Policy regarding (see Division of Planning and Statistics).....	76
Tonnage from northern.....	52
New England, coal transportation service of.....	22, 79, 59
New Orleans, Assistant Director of Division of Operations at.....	58
New York:	
Agency of Division of Operations.....	58, 59, 64
Harbor Wage Adjustment Board.....	84, 88
Shipbuilding Corporation.....	117
Norfolk, General Agent of Division of Operations.....	58
Norwegian vessels:	
Chartered to Shipping Board.....	46
See tonnage from northern neutrals.....	52
Ocean Advisory Committee on Just Compensation.....	89
Oil:	
Fuel-oil bunkering facilities.....	72
Study of transportation of.....	77
Operation of vessels:	
For Army needs (see Shipping Control Committee).....	65
Assignment to operators.....	63
Control of coastwise trade by Division of Operations.....	40
Dry docks and terminal facilities.....	16
Dutch ships seized.....	48

Operation of vessels—Continued.	Page.
Insurance questions with reference to.....	90
Labor problems arising from.....	83
Legal work arising from.....	77
Requisitioned vessels.....	33
Summary and classification of vessels. #.....	23-32, 55
Operations, Division of:	
Administrative organization of.....	55-61
Branch offices and agencies of.....	57-61
Comptroller of.....	64
Cooperation with Steel Ship Construction Division.....	136
Functions and duties of.....	10, 54-65
Financial department of.....	64-65
Total tonnage under direction of.....	55
Organization:	
Emergency Fleet Corporation.....	94
Divisions and agencies of Shipping Board.....	7, 8
Membership of Shipping Board.....	7, 8
And Methods Section, Emergency Fleet Corporation.....	161
Outfitting department, Supply Division.....	149
Pacific coast:	
District of the Division of Operations.....	60-61
Freight rates on.....	79
Lumber supplies from.....	149
Pacific Mail Steamship Co., Philippine trade.....	61
See shipbuilding districts.....	127-128
Trade with Hawaii and Philippines.....	60, 61
Wage scale on.....	86
Passenger, Transportation, and Housing Division. (See Housing and transportation.)	
Personnel of Emergency Fleet Corporation, Appendix, Table XI.	
Peru, vessels secured from.....	45, 78
Planning and Statistics, Division of:	
Activities of.....	10, 74, 77
Cooperation with other governmental agencies.....	74, 75, 77
Import program.....	75
Mineral Section.....	75
Shipping information furnished to.....	76
Special studies of.....	76
Trade Hearings Section.....	74
Plants and property:	
Authorizations, appropriations, and commitments.....	111, 112
See shipyard plants.	
Port and harbor facilities:	
Commission.....	72-73
Requisition of.....	16
Survey of.....	10, 72-73
Transfer of, to foreign owners prohibited.....	37
Power:	
Facilities, survey and development of.....	150-151
Propulsive machinery for ships.....	135

	Page.
President:	
Emergency fund.....	64
Proclamations and executive orders:	
Charters.....	71
Coastwise trade.....	39
Construction.....	41
Dutch ships.....	47
(See Legislation).....	13-16
Requisition.....	33
Priorities:	
Construction program affected by.....	41
Division of, War Industries Board.....	18
Order of, in carrying goods.....	15
Protection of plants.....	147
Protection of vessels:	
Camouflage.....	
Protective devices.....	15, 91, 92
Ship Protection Committee.....	91-93
Supervision of, by Division of Operations.....	55
War Department, armed guards.....	20, 147
War-risk insurance.....	14
Publications:	
Emergency Fleet News.....	158
Information Bureau.....	93
National Service Section.....	159
Posters and educational matter.....	158
Shipyards Bulletin.....	158
Quartermaster's Corps, cooperation with Shipping Control Committee.....	66
Railroad Administration:	
Control of certain coastwise lines.....	21, 43, 79
Legal relations with.....	78
Relations with Shipping Board.....	21
Rates:	
Chartering Committee, action of, regarding charter and berth rates.....	68-71
Examination of, by Law Division.....	78
Freight rates, control of.....	15, 35, 44, 79
Insurance, rates of.....	90
Interallied, for foreign vessels chartered.....	46
For Philippine trade.....	61
Regulation of.....	78, 79
Requisition.....	34
Raw Materials Section.....	149
Recommendations to Congress.....	16, 17
Recruiting Service:	
Activities and duties of.....	10, 20, 79-82
Relations with Division of Operations.....	57
Sea-Service, Bureau of.....	82
Refrigerator ships.....	135
Regulation:	
Division of.....	10, 78-79
Of rates.....	78, 79
Regulation of shipping and shipbuilding:	
Agencies cooperating in.....	10
Division of Regulation.....	10

	Page.
Regulation of shipping and shipbuilding—Continued.	
Freight rates, control of.....	15
Interstate and foreign rates.....	10
Wages, hours, conditions of labor (Appendix, Table V).....	10, 83-88, 152
Investigations regarding.....	11-13
Relations of Shipping Board with other departments:	
Commerce, Department of.....	21
Justice, Department of.....	20, 78
Labor, Department of.....	21
Navy Department.....	19
Railroad Administration.....	21
State, Department of.....	20, 21
Through Law Division.....	77
Treasury Department.....	21, 13
War Department.....	20
War Industries Board.....	18
War Trade Board.....	13
Removal of Emergency Fleet Corporation offices to Philadelphia.....	96
Repair of vessels:	
Dutch ships.....	47
Ex-German and ex-Austrian.....	45, 88
Plants for.....	73
See Survey, Board of.....	88
Representatives of Shipping Board on other governmental agencies:	
Allied Maritime Transport Council.....	17
Exports Control Committee.....	19
Labor Policies Board.....	19
War Industries Board.....	18
War Trade Board.....	18
Requirements Section.....	148-149
Requisition:	
Authorizations, appropriations, and commitments.....	100
Compensation for vessels taken.....	89
Of dry docks and wharves.....	16
Information concerning.....	62
Operation and direction of vessels taken.....	54, 55
Papers prepared by law division.....	77
Summary of requisitioned vessels.....	22, 23, 55
Of vessels.....	9, 15, 33-35
Yards, administration of.....	121
Safety Engineering Section.....	157
Sailers:	
Chartered French.....	54
Foreign, secured by charter.....	46
Operation of, by Sailing Vessel Department.....	56
Policy with reference to.....	76
Record of, by Division of Trades and Allocations.....	67
Summary and classification of.....	23-32
Sale of vessels.....	38
San Francisco, Assistant Director Operations.....	57, 60-61
Sanitary Engineering at Hog Island and other plants.....	156
Sanitation and Health Section.....	155
Sea-Service Bureau, see Recruiting Service.....	82

	Page.
Seattle:	
Alaskan trade rate hearings at.....	79
Assistant Director of Operations.....	58
Shipbuilding. (See Construction, Districts, Shipyard plants.)	
Shipbuilding Labor Adjustment Board.....	10, 84-86
Shipping Board:	
Divisions and agencies.....	8
Emergency Fleet Corporation.....	94, 95
Functions of.....	8-11
Organization and membership of.....	7, 8
Relations with other departments.....	8-11, 19-21
Vessels under control of, summary.....	23-32
Shipping Control Committee:	
Activities and organization of.....	19, 65-68
Allied Maritime Transport Council.....	18
Allocation of vessels.....	10, 55, 65-68
Chartering Committee.....	70
Division of Dispatch.....	67
Exports Control Committee, representatives on.....	19
Operations, division of.....	55-57
Planning and Statistics, Corporation with Division of.....	76
Requisition program.....	35
Trades and Allocations, Division of.....	66, 67
Tug and Lighter Department, cooperation with.....	57
Shipyard plants:	
Administration of.....	120-121
See Concrete ships.....	142-143
Contests among.....	158
Division of.....	122
See "Fabricated" shipyard.....	129-132
Great Lakes.....	61
See Housing and transportation.....	143-147
Investments in.....	122-123
List of.....	125-128
Power facilities.....	150-151
Protection of.....	20, 147-148
Requirements for.....	148-149
Sanitation of.....	155-156
Transfer to foreign owners prohibited.....	38, 39
See Wood and composite ship production.	
Siam, ex-German vessels secured from.....	45
Standardization:	
Of design of vessels.....	129-135
Of fittings.....	135
Manufacturing facilities increased by.....	150
State, Department of:	
See Law Division.....	77
Operations, Division of.....	56
Settlement to Dutch crews.....	48-52
Shipping Board, relations with.....	20-21
Steamboat-Inspection Service:	
Examination of, see Recruiting Service.....	80
Relations with Shipping Board.....	21

	Page.
Steamers:	
Foreign, secured by charter.....	46
Summary and classification of.....	23-32
Steel ships:	
Authorizations, appropriations, commitments.....	102-105
Construction of.....	132-139
Summary of activities and results in production of (Appendix, Tables VI, VII, VIII).....	137
See also, Shipyard plants.	
Submarine Boat Corporation:	
See Extension of shipbuilding yards.	
See "Fabricated" shipyard.	
See Government agency plants.	
Summary and classification of vessels under jurisdiction of Shipping Board.....	23-32
Supplies, control of, by supply division.....	149
Survey and consulting engineers, board of:	
Activities of.....	88
Relations with division of operations.....	57
Repair of ex-German and ex-Austrian vessels.....	45
Swedish vessels:	
Chartered to Shipping Board.....	46
Tonnage of northern neutrals.....	52
Swiss relief (see Tonnage from northern neutrals).....	52
Tankers:	
Allocated by Division of Trades and Allocations, Shipping Control Committee.....	66
Department of, Division of Operations.....	57
Employed in carriage of owner's goods.....	35
See Summary and classification of vessels.....	23-32
Time-Form charter (see Charter, forms of).....	34, 63
Tonnage:	
For Alaskan trade.....	79
Assigned by Division of Trades and Allocations.....	66, 67
Chartering committee.....	68
Control of.....	17, 23-32, 33, 78
Divided into groups.....	63
Enemy, secured from other countries.....	45
Foreign, acquisition of.....	46-54
Import and export policy.....	21
From northern neutrals.....	52
Study of, Division of Planning and Statistics.....	74
Transfer of registry policy.....	36
Total tonnage, summary of, forms of control, source of acquisition, assignment, etc.....	23, 55
Trade:	
Alaskan, rates of.....	79
Assignments to trades classified.....	24-32
Division of Trades and Allocations.....	66, 67
Foreign vessels assigned.....	45-54
Hawaiian.....	60
Hearings section.....	74
Philippines.....	61
Routes.....	46, 74
Study of commodities and.....	76
Terminal facilities, relation to.....	72, 73

	Page.
Traffic Department of Division of Operations.....	57
Training:	
Education and.....	153-155
Officers and men for merchant marine.....	79-82
Ships, for recruiting service.....	81, 82
Of technical experts.....	155
Transfer of registry:	
From Americans to Americans.....	38, 39
American to foreign prohibited.....	36-38
Foreign to American.....	39, 40
Legal questions of.....	77
Regulation of.....	10, 15
Transfer and Private Construction, Division of.....	42
Transportation:	
Authorizations and commitments.....	112-114
Facilities, contracts for, Appendix, Table XVII.	
Ferryboat service, Appendix, Table XIX.	
See Housing and transportation.....	143-147
Steam-train service, Appendix, Table XVIII.	
Treasurer, report of, Appendix, Table X.....	
Treasury Department:	
Cooperation with Chartering Committee.....	71
Relations with Shipping Board.....	21
Troop ships, design of.....	135
Tug and lighter department.....	57
Urgent deficiencies act and amendments:	
Authorizing acquisition of German property.....	13, 14
Authorizing acquisition of transportation systems.....	14
Operation fund.....	64
Uruguay, ex-German vessels secured from.....	45, 78
Vessels:	
Commandeering of.....	116-117
Compensation for.....	89
Construction of. (See Construction.)	
Grouping of.....	63
Indirect control over.....	70, 71
Information concerning.....	62
Legal questions regarding.....	77, 78
Operation of.....	54-61
Prewar value of.....	77
Summary and classification of.....	23-32, 55
Vocational Education, Federal Board of (see Education and Training Section).	155
Wages:	
Control of, Industrial Relations Group.....	152
Increases of.....	85
Organizations for adjustment of.....	83-88
War Department:	
Labor problems.....	84-86
Law Division.....	77
Protection of vessels and plants by.....	20, 147
Relations with Division of Operations.....	56
Relations with Shipping Board.....	20, 33
Relations with shipping control committee.....	65

	Page.
War Industries Board:	
Cooperation with, regarding requirements of material for shipbuilding...	148-149
Planning and Statistics, Division of.....	77
Priority orders, affecting construction.....	41
Relations with Shipping Board.....	18
War-Risk Insurance:	
Bureau of.....	14
Compensation for losses.....	89
Division of Insurance.....	89, 90
Foreign vessels protected by.....	14
Officers and men on Shipping Board vessels.....	21
Requisitioned vessels.....	34, 89
War Trade Board:	
Chartering Committee, relations with.....	70, 71
Espionage act, enforcement of.....	13
Import restrictions.....	13
Japanese tonnage, negotiations for.....	53
Relations with Division of Planning and Statistics.....	74, 77
War zone:	
Exclusion of vessels from.....	10, 15, 43, 44
French sailing vessels taken from.....	54
War Zone Pass Commission.....	88
Washington, D. C.:	
Assistant Director of Operations at.....	57
Requirements Section.....	149
Welding. (See Electric welding.)	
West Indies Transportation, Joint Committee on, Chartering Committee, relations with.....	70
Wood (and composite) ships:	
Authorizations, appropriations, and commitments.....	105-110
Construction, Division of.....	139-142
Contracts for.....	118
Designs of.....	135, 139-140
Private construction limited largely to.....	41, 42
Summary of, Appendix, Tables VI, VII.	
Yards:	
See Plants and property.	
See Shipyard plants.	
See "Fabricated" shipyards	