

UNITED STATES DEPARTMENT OF LABOR

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# Hourly Earnings in Private Ship-Repair Yards, Spring 1943

Prepared in the  
DIVISION OF WAGE ANALYSIS

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## Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,  
BUREAU OF LABOR STATISTICS,  
Washington, D. C., January 18, 1944.

The SECRETARY OF LABOR:

I have the honor to transmit herewith a report on hourly earnings in private ship-repair yards, spring of 1943. The report is based on a study by the Bureau of Labor Statistics of the earnings of workers in 60 representative occupations employing approximately 90 percent of all first-shift workers in private ship-repair yards.

This bulletin was prepared by Willis C. Quant, under the direction of Victor S. Baril, of the Bureau's Division of Wage Analysis.

A. F. HINRICHS, *Acting Commissioner.*

HON. FRANCES PERKINS,  
*Secretary of Labor.*

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## Contents

	Page
Summary.....	1
Ship repair in wartime.....	1
Scope and method of study.....	2
Definition of regions.....	3
Labor force.....	3
Wage stabilization.....	5
Hourly earnings, by region, spring of 1943.....	6
Atlantic Coast.....	10
Gulf Coast.....	12
Pacific Coast.....	13
Great Lakes.....	14
Regional differences in earnings.....	15
Earnings comparisons, 1942 and 1943.....	17

## Hourly Earnings in Private Ship-Repair Yards, Spring of 1943

### Summary

FOR the country as a whole, the average hourly straight-time earnings of workers in ship-repair yards amounted to \$1.062 in May 1943. This average is based on a study, by the Bureau of Labor Statistics, of the earnings of workers in 60 representative occupations employing approximately 90 percent of all first-shift workers. Among the four broad regions in which ship-repair operations are carried on, earnings varied from 92.3 cents on the Gulf Coast to \$1.259 on the Pacific Coast. The averages for the Great Lakes and Atlantic Coast regions were \$1.112 and \$1.032 an hour, respectively.

In all regions first-class skilled mechanics generally received the minimum rates established by the regional agreements. The rates for such workers were \$1.20 in the Atlantic, Gulf, and Great Lakes regions and \$1.34 in the Pacific Coast region. Much wider variations are found, by regions, in the earnings of the other workers.

Earnings were 11.4 cents higher in May 1943 than in the spring of 1942. (See footnote 1, table 5, p. 156.) Regional increases ranged from 9.3 cents in the Pacific Coast region to 12.7 cents in the Gulf Coast region. The increases for the Atlantic Coast and Great Lakes regions amounted to 11.8 and 9.9 cents an hour, respectively.

The increase in earnings between 1942 and 1943 is very largely attributable to wage adjustments made during the summer of 1942 under the regional wage agreements of that year. These agreements increased the rates in ship-repair yards by 8 cents an hour for Atlantic Coast and Great Lakes workers and by a sliding scale ranging from 9 cents for the lowest-paid workers to 13 cents for the highest-paid workers in the Gulf Coast region. Increases in the Pacific Coast region generally amounted to 9 cents an hour. The margin by which the actual increases in earnings exceeded the statutory increases was due primarily to the upgrading of workers between the spring of 1942 and 1943.

### *Ship Repair in Wartime*

Ship-repair work plays a vital part in our war economy. From a small peacetime industry, engaged very largely in the servicing, reconditioning, and repairing of privately owned commercial ships, this industry has increased greatly in size since the outbreak of World War II, from the standpoint of both the number of yards and the number of workers. It is estimated that the number of workers now engaged in ship-repair work is more than 6 times as great as it was at the start of the war.

The great increase in ship-repair work in the last few years is due largely to the tremendous increase that has occurred in ship construction, the hazardous nature of shipping in wartime, the increased tempo at which vessels are operated at present, and the shifting from Government-operated to private repair yards of much of the repair work on naval vessels.

Repair work in private yards is largely performed in yards operated by a few large companies. These companies operate a number of widely scattered yards. The many small, independent yards which have entered the repair field in recent years account for but a comparatively small proportion of all repair work. Some repair work is done in yards primarily engaged in new construction.

Ship-repair work varies greatly from ship to ship and consequently does not lend itself to the mass-production techniques employed in the construction yards. Repair work may involve only minor repairs on the hull, deck, or engines of a ship, or it may consist of such major tasks as the rebuilding of large sections of the hull or deck or of the general overhauling or replacing of the ship's engines.

### *Scope and Method of Study*

The present comprehensive study of wages in ship-repair yards was undertaken by the Bureau of Labor Statistics as a part of its established program of securing basic information on the wage structure of American industries. The information obtained is designed to serve the needs of Government agencies charged with the responsibility of developing the shipbuilding program and stabilizing wages in the industry. A previous survey of wages paid to workers in ship-repair yards, was made by the Bureau during the spring of 1942 in conjunction with a study of wages in ship-construction yards, in advance of the National Shipbuilding Conference held in May of that year; it therefore did not reflect the broad wage adjustments which resulted from that conference.<sup>1</sup> The present survey, which was made in May 1943, provides a basis for appraising the wage levels resulting from the 1942 conference.

The current study was limited to privately operated yards engaged wholly or primarily in the repair of ships. Altogether 34 yards were surveyed. In selecting the yards to be studied, such factors as size of yard, geographical location, and corporate affiliation were given full consideration. Because of their geographical location and strategic importance in the industry it was necessary to include in the sample proportionately more large yards than small yards. In all such cases, however, only an appropriate proportion of the workers in the various occupations was used, so that the large yards would not unduly influence the averages shown. The findings presented in this article are believed to be representative of the entire industry.

The wage data presented in this report were taken from pay rolls for a period ending about May 15, 1943. Full utilization was made of the pay-roll data submitted semiannually to the Secretary of Labor under the Copeland Act. These data were supplemented, whenever necessary, by information obtained at the yards by experienced Bureau representatives.

<sup>1</sup> For the results of this study, see the Monthly Labor Review for August 1942 (p. 298) and October 1942 (p. 810).

Information was obtained only for first-shift (day) workers,<sup>2</sup> whose earnings are not affected by premium pay for late-shift work. For all time workers covered, the wage data represent hourly rates. The data for incentive workers include average bonus payments per hour of work, but exclude all premium payments for overtime work. The survey was limited to 60 occupations, selected because of their numerical importance or because they were key jobs. These occupations accounted for approximately 90 percent of all first-shift workers in the yards surveyed.

### *Definition of Regions*

The ship-repair industry, like the ship-construction industry, is widely scattered along the three coasts and the inland waterways of the country. Because of regional variations in the level of wages, it is appropriate that the data obtained be presented on a regional rather than an industry-wide basis. For purposes of this study, the regions used are those established for the shipbuilding industry by the Shipbuilding Stabilization Committee (sponsor of the shipbuilding wage-stabilization program), namely, the Atlantic, Pacific, and Gulf Coasts, and the Great Lakes. No significant amount of ship-repair work is carried on elsewhere in the United States.

The areas covered by these four regions are as follows: The Atlantic Coast region includes the tidewater ports along the eastern coast of the United States from the eastern tip of Maine to the northern border of Florida; the Gulf Coast region embraces all ports along the eastern coast of Florida and on the Gulf of Mexico; the Pacific Coast region is made up of the tidewater ports of the western part of the United States; and the Great Lakes region includes the American lake ports on Lakes Superior, Michigan, Huron, Ontario, and Erie.<sup>3</sup>

### *Labor Force*

Ship-repair work requires a high degree of skill. Proportionately more skilled workers are found in repair yards than in construction yards. The work is both arduous and hazardous and is generally performed by men. Because of the dearth of skilled workers, ship-repair yards have found it necessary to inaugurate extensive training programs in order to fill their labor requirements. In most instances these training programs are of an informal nature.

In ship-repair yards, as in construction yards, various grades or classes of workers are found in most occupations. Although the number of grades and classes varies among the individual yards and regions, many occupations include specialists, first-class workers, second-class workers, third-class workers, handymen, and helpers. First-class craftsmen and helpers are relatively comparable from yard to yard. Other craftsmen (i. e., second-class workers, third-class workers, and handymen) are not always comparable from yard to yard and, for this reason, workers in these three groups have been combined, for purposes of this study, into one broad group termed "other classes."

<sup>2</sup> In a few instances, workers found in important occupations represented only on the second or third shifts were included in the study. In such cases, however, extra earnings resulting from shift-differential payments were eliminated.

<sup>3</sup> A more detailed description of the areas covered by each of the four regions appeared in the *Monthly Labor Review*, August 1943 (p. 317): *Earnings in Ship-Construction Yards*.

The proportion of all craftsmen (first-class and other classes, excluding helpers) to the total number of workers in the selected occupations studied varied from 41.9 percent in Gulf Coast yards to 63.0 percent in the Atlantic Coast yards (table 1). In the other two regions the relative number of all craftsmen closely approximated that in the Atlantic Coast region—59.7 percent in the Great Lakes and 58.3 on the Pacific Coast.

The proportion of first-class craftsmen, however, varies widely from region to region. Well over half of the first-shift workers in the Pacific Coast and Great Lakes regions, 57.3 and 55.9 percent, respectively, were first-class craftsmen. This compares with slightly over one-fourth (26.2 percent) of the workers in the Gulf Coast region and about one-third (32.8 percent) of the workers in the Atlantic Coast region. Even wider variations are found in the relative number of journeymen in classes below first class—from 1.0 percent in West Coast yards to 30.2 percent in Atlantic Coast yards.

TABLE 1.—Percentage Distribution of Day-Shift Ship-Repair Workers, by Class of Worker and Region, Spring of 1942 and 1943

Class of worker	Atlantic Coast		Gulf Coast		Pacific Coast		Great Lakes	
	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942
Craftsmen, first-class.....	32.8	32.6	26.2	25.0	57.3	59.7	55.9	38.3
Craftsmen, other classes.....	30.2	21.9	15.7	12.6	1.0	1.7	3.8	13.4
Helpers.....	17.9	21.3	25.2	31.5	24.1	26.1	12.0	10.0
Laborers.....	7.4	10.0	15.7	16.6	5.8	2.4	3.7	7.0
Apprentices and learners.....	2.1	1.7	5.9	3.9	3	3	4.9	1.1
Supervisors.....	6.2	5.8	7.9	6.5	7.7	5.9	12.4	7.7
Other workers.....	3.4	6.7	3.4	3.9	3.8	3.9	7.3	13.5
All workers studied.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Substantial variations among regions are also found in the relative number of journeymen's helpers, the second largest group of workers in ship-repair yards. The proportion of such workers to all craftsmen varied from 12.0 percent in the Great Lakes region to 25.2 percent in the Gulf Coast region.

Laborers and supervisory workers also account for a substantial proportion of the workers in ship-repair yards. The ratio of laborers to all workers varied from 3.7 percent in the Great Lakes region to 15.7 percent in the Gulf Coast region, while that of supervisors to all workers ranged from 6.2 percent in the Atlantic Coast region to 12.4 percent in the Great Lakes region.

In general, the composition of the labor force in ship-repair yards had not changed materially since the spring of 1942. The greatest change, as may be seen from the figures presented in table 1, occurred in the Great Lakes region, where the relative number of first-class craftsmen increased from 38.3 percent in 1942 to 55.9 percent in 1943, and the relative number of craftsmen below first-class declined from 13.4 to 3.8 percent. Upgrading of workers together with a fuller adherence to the stabilization program accounts, in a large part, for this change. Other significant changes were an increase of 8.3 percentage points in the number of craftsmen below first-class in the Atlantic Coast region, and a decline of 7.0 points in the number of helpers in the Great Lakes area.

### Wage Stabilization

The wage-stabilization program in the shipbuilding industry was sponsored (early in 1941) by the Shipbuilding Stabilization Committee of the National Defense Advisory Commission, with the purpose of attaining greater uniformity in the rates of pay and providing for a systematic and periodic review of general wage levels in the industry. The program applied to both ship-repair and ship-construction operations in 3 regions—Atlantic, Gulf, and Great Lakes. In the Pacific Coast region, where the wage rates for ship-repair work were considerably higher than the rates for ship-construction work, the stabilization program applied only to ship-construction yards. Agreements<sup>4</sup> covering operations other than the West Coast repair yards were voluntarily entered into by representatives of both the shipbuilders and the labor organizations, and were approved by the Navy, the Maritime Commission, and the Office of Production Management. Wages in ship-repair yards in the Pacific Coast region were stabilized by special agreements entered into by representatives of labor and management. These agreements applied to all areas of the Pacific Coast region, except southern California, where workers in ship-repair yards were generally paid rates comparable to those paid to workers in ship-construction yards on the Pacific Coast. The Pacific Coast agreements for both ship-repair and ship-construction yards were the first to be adopted, and became effective on April 1, 1941. The effective dates for the other regional agreements were: Great Lakes, June 2; Atlantic Coast, June 23; and Gulf Coast, August 1, 1941.

All these agreements, except those pertaining to ship-repair operations on the Pacific Coast, included provisions covering basic rates of pay, overtime and shift-differential premiums, hours of work, standardization of shifts, prohibition of strikes and lockouts, restriction against limitation of production, machinery for settling disputes, apprenticeship training, periodic wage adjustments based on cost of living, and duration of the agreements. The Pacific Coast repair-yard agreements contained provisions covering basic rates of pay, overtime and shift-differential premiums, and hours of work.

Under the 1941 general stabilization agreements, basic minimum-wage rates for first-class skilled mechanics engaged in ship-repair work were set at \$1.12 an hour in the Atlantic Coast and Great Lakes regions and at \$1.07 in the Gulf Coast area. The repair-yard agreements for the Pacific Coast region provided for rates of pay ranging from 89 cents an hour for laborers to \$2.41 an hour for senior marine engineers or naval architects, with additional premiums for leadmen and for those workers engaged in specific types of dirty work. The prevailing rate for first-class workers in most of the skilled crafts was \$1.25 an hour. The wage provisions pertaining to ship-repair yards were generally similar to those for ship-construction yards, except in the Pacific Coast region.

The effective dates of the wage agreements, it will be recalled, varied from April 1 to August 1, 1941. Since living costs rose substantially and unevenly in the months following these effective dates, there was danger that the wage structure of the industry would be upset if

<sup>4</sup> For further details on these agreements see *Monthly Labor Review* for May 1941 (p. 1162) and October 1941 (p. 880).

regional cost-of-living adjustments were made at different times and on a differing basis. Consequently, a National Shipbuilding Conference, composed of representatives of the War Production Board, the Navy Department, the Maritime Commission, labor, and management, was held in May 1942 to consider methods of adjusting wages in all four regions. This conference, acting on an appeal from the President, agreed to delete from the zone agreements the provision for adjusting wages in proportion to changes in the cost of living. In place of cost-of-living increases, there was an agreement on certain specific wage levels. These levels involved wage increases which were generally lower than the workers would have obtained by application of the cost-of-living formula.<sup>5</sup> The new minimum rate for "first-class skilled mechanics" was set at \$1.20 in both ship-construction and ship-repair yards in the Atlantic, Gulf Coast, and Great Lakes regions, and in ship-construction yards on the Pacific Coast. The rates for other than first-class workers were increased by 8 cents an hour except in the Gulf Coast region where a sliding scale, ranging from 9 cents for the lowest-paid workers to 13 cents for the highest-paid workers, was placed in effect.

Shortly after the meeting of the National Shipbuilding Conference, representatives of both labor organizations and operators of ship-repair yards in the Pacific Coast region met for the purpose of adjusting the wage-rate provisions contained in the special agreements adopted in 1941. Although the meeting was not held at the request of the Shipbuilding Stabilization Committee, that body did suggest to the representatives of both labor and management that they establish rates for ship-repair work more comparable to those paid for ship-construction work. The delegates did not concur, however, in this suggestion and instead established rates for workers in ship-repair yards on the Pacific Coast at a level 11.6 percent higher than the revised rates for ship-construction workers in that region, thereby affording workers in ship-repair yards about the same percentage increase as those in construction yards. In general, the increases for ship-repair workers in Pacific Coast yards amounted to 9 cents an hour, the rate for most skilled crafts being raised from \$1.25 to \$1.34 an hour.

The new agreements further provided for elimination of double-time rates for Saturday and Sunday work as such, and prescribed instead for the payment of time and a half for the sixth consecutive day and double time for the seventh consecutive day in a worker's regularly established week. The agreements also provided for the payment of time and a half for all work on holidays recognized by local agreements and authorized the acceptance of extra pay in lieu of vacations.

The amended agreements became effective in each of the regions at the expiration of the first year of the original agreement and are to remain in effect for the duration of the war. Provision is made for the periodic review of wages.

### *Hourly Earnings, by Region, Spring of 1943*

The average hourly straight-time earnings of first-shift workers in private ship-repair yards amounted to \$1.062 an hour in May 1943.

<sup>5</sup> See Monthly Labor Review, July 1942 (p. 85) for details of the 1942 shipbuilding-stabilization agreements.

The highest earnings in any of the four regions, \$1.259, were found on the Pacific Coast; and the lowest, 92.3 cents, on the Gulf Coast (table 2). The averages for the Atlantic and Great Lakes regions were \$1.032 and \$1.112 an hour, respectively. These averages indicate the existence of substantial differences in wage or occupational structures in the different regions.

TABLE 2.—Earnings and Distribution of Day-Shift Ship-Repair Workers in Selected Occupations, by Region, Occupation, and Class, Spring of 1942 and 1943

STRAIGHT-TIME AVERAGE HOURLY EARNINGS<sup>1</sup>

Occupation and class	Atlantic Coast		Gulf Coast		Pacific Coast		Great Lakes	
	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942
All occupations studied.....	\$1.032	\$0.914	\$0.923	\$0.796	\$1.259	\$1.166	\$1.112	\$1.013
Anglesmiths.....	1.097	1.105	1.265	.973	(?)	(?)	-----	-----
First class.....	1.200	1.114	(?)	(?)	(?)	(?)	-----	-----
Other classes.....	.959	(?)	(?)	(?)	(?)	(?)	-----	-----
Anglesmiths' helpers.....	.954	.880	(?)	(?)	(?)	(?)	.930	-----
Apprentices.....	.766	.853	.835	.732	1.052	.659	-----	.755
Blacksmiths.....	1.089	1.082	1.151	1.049	1.348	1.204	1.213	1.110
First class.....	1.201	1.152	1.200	1.095	1.348	1.204	1.223	1.120
Other classes.....	.890	.925	1.066	(?)	(?)	(?)	(?)	(?)
Blacksmiths' helpers.....	.855	.768	.732	.660	1.060	.983	(?)	.813
Boilermakers.....	1.103	1.045	1.075	.993	1.337	1.250	1.237	(?)
First class.....	1.200	1.120	1.202	1.072	1.340	1.250	1.237	(?)
Other classes.....	1.004	.925	.951	.806	(?)	(?)	(?)	(?)
Boilermakers' helpers.....	.796	.708	.726	.617	1.060	.970	.890	.821
Boilers, hand <sup>1</sup> .....	.680	.849	-----	-----	-----	.984	.915	.979
First class.....	1.049	.934	-----	-----	-----	.984	.915	1.021
Other classes.....	.945	.777	-----	-----	-----	-----	-----	.780
Burners, acetylene (including gas).....	1.099	1.013	1.132	.989	1.340	1.244	1.189	1.141
First class.....	1.207	1.103	1.200	1.070	1.340	1.250	1.195	1.158
Other classes.....	1.034	.924	1.004	.851	-----	1.155	(?)	(?)
Burners' helpers, acetylene (including gas).....	(?)	(?)	.712	(?)	-----	(?)	(?)	(?)
Carpenters (shipwrights).....	1.152	1.074	1.114	1.023	1.339	1.245	1.220	1.095
First class.....	1.193	1.118	1.197	1.070	1.340	1.250	1.220	1.120
Other classes.....	1.010	.946	.990	.855	(?)	1.120	-----	1.032
Carpenters' helpers.....	.840	.732	.727	.624	1.060	.970	(?)	.840
Chippers and calkers (including foundry chippers).....	1.134	1.070	1.147	1.048	1.344	1.340	1.192	1.113
First class.....	1.198	1.117	1.167	1.070	1.344	1.378	1.200	1.179
Other classes.....	1.005	.930	1.051	.885	-----	1.123	(?)	1.010
Coppersmiths.....	1.123	1.097	(?)	.963	-----	1.314	-----	-----
First class.....	1.302	1.251	(?)	1.105	-----	1.314	-----	-----
Other classes.....	1.034	.904	(?)	.773	-----	-----	-----	-----
Coppersmiths' helpers.....	.833	.723	(?)	(?)	-----	.970	-----	-----
Crane operators (all types).....	1.143	1.051	1.129	1.086	1.390	1.307	1.256	1.152
First class.....	1.187	1.077	1.162	1.086	1.390	1.307	1.256	1.167
Other classes.....	1.070	.968	1.056	-----	-----	-----	-----	(?)
Draftsmen (senior and junior).....	1.211	1.208	1.312	.893	1.406	(?)	-----	-----
Drillers (including reamers and counter sinkers).....	1.108	.994	.750	.695	1.210	1.118	.902	1.010
First class.....	1.169	1.044	-----	.695	1.210	1.120	.902	1.019
Other classes.....	1.016	.916	.750	-----	-----	(?)	-----	(?)
Electricians.....	1.094	1.028	1.110	.969	1.334	1.250	1.183	1.135
First class.....	1.200	1.118	1.200	1.070	1.340	1.250	1.189	1.203
Other classes.....	1.010	.893	.970	.857	1.220	-----	(?)	1.005
Electricians' helpers.....	.839	.740	.706	.628	1.060	.970	(?)	.806
Erectors.....	.947	-----	-----	-----	-----	-----	-----	1.030
First class.....	(?)	-----	-----	-----	-----	-----	-----	-----
Other classes.....	.936	-----	-----	-----	-----	-----	-----	1.030
Erectors' helpers.....	.805	-----	-----	-----	-----	-----	-----	.830
Foremen (including assistant foremen and quartermen).....	1.673	1.443	1.682	1.672	1.832	1.750	1.649	1.495
Furnace men (plate and forge shops).....	1.195	1.153	-----	(?)	-----	1.133	-----	1.056
First class.....	(?)	(?)	-----	(?)	-----	-----	-----	(?)
Other classes.....	(?)	(?)	-----	(?)	-----	(?)	-----	1.030
Handymen, not elsewhere classified.....	1.009	.789	-----	-----	-----	-----	(?)	-----
Helpers, not elsewhere classified.....	.835	.753	.604	-----	1.060	-----	(?)	-----
Joiners (including woodworking-machine operators).....	1.166	1.063	-----	-----	1.341	1.251	1.200	(?)
First class.....	1.192	1.118	-----	-----	1.341	1.251	1.200	(?)
Other classes.....	1.066	.935	-----	-----	-----	-----	-----	-----
Joiners' helpers.....	.836	.744	-----	-----	1.060	.970	(?)	(?)
Laborers (excluding tank cleaners and janitors).....	.774	.696	.605	.540	1.022	.890	.835	.939

See footnotes at end of table.

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TABLE 2.—Earnings and Distribution of Day-Shift Ship-Repair Workers in Selected Occupations, by Region, Occupation, and Class, Spring of 1942 and 1943—Con.

## STRAIGHT-TIME AVERAGE HOURLY EARNINGS—Continued

Occupation and class	Atlantic Coast		Gulf Coast		Pacific Coast		Great Lakes	
	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942
Layers-out.....	(?)	\$1.190	(?)	(?)	-----	-----	(?)	\$1.350
First class.....	(?)	\$1.190	(?)	(?)	-----	-----	(?)	1.350
Other classes.....	(?)	-----	-----	-----	-----	-----	(?)	-----
Leaders.....	\$1.293	1.181	\$1.140	\$1.116	\$1.527	\$1.459	\$1.269	1.238
Learners.....	.760	-----	-----	-----	-----	-----	.919	.906
Loftsmen.....	1.338	1.192	1.251	1.100	(?)	-----	-----	(?)
First class.....	(?)	1.448	(?)	1.280	(?)	-----	-----	(?)
Other classes.....	1.265	(?)	(?)	.920	-----	-----	-----	-----
Machinists, shop and outside.....	1.122	1.050	1.135	1.038	1.338	1.253	1.186	1.082
First class.....	1.201	1.122	1.200	1.070	1.345	1.253	1.202	1.120
Other classes.....	1.026	.920	1.013	.890	1.206	1.120	1.058	.998
Machinists' helpers, shop and outside.....	.837	.752	.713	.634	1.061	.970	.887	.826
Molders, foundry.....	-----	(?)	(?)	(?)	-----	-----	-----	-----
First class.....	-----	(?)	(?)	(?)	-----	-----	-----	-----
Other classes.....	-----	-----	-----	-----	-----	-----	-----	-----
Painters, brush and spray.....	1.036	.863	1.129	1.024	1.340	1.250	1.169	1.178
First class.....	1.139	.919	1.198	1.070	1.340	1.250	1.207	1.186
Other classes.....	1.007	.853	.960	.936	-----	-----	(?)	(?)
Pattern makers.....	1.226	1.280	1.330	(?)	-----	-----	-----	-----
First class.....	1.273	1.280	1.330	(?)	-----	-----	-----	-----
Other classes.....	(?)	-----	-----	-----	-----	-----	-----	-----
Pipe fitters (including plumbers).....	1.105	1.034	1.128	1.042	1.338	1.249	1.194	1.085
First class.....	1.199	1.118	1.198	1.070	1.341	1.250	1.206	1.120
Other classes.....	1.014	.931	.970	.820	1.220	(?)	(?)	1.027
Pipe fitters' helpers (including plumbers' helpers).....	.836	.744	.717	.643	1.060	.970	.838	.828
Plate-shop machine operators.....	1.018	.947	1.087	.774	(?)	1.197	1.093	1.091
First class.....	1.174	1.060	1.202	1.070	(?)	1.201	1.125	1.075
Other classes.....	.965	.823	.915	.685	-----	(?)	1.008	1.097
Plate-shop machine operators' helpers.....	.834	.732	.697	.606	-----	1.038	.860	.834
Regulators.....	1.077	(?)	1.200	1.103	-----	1.170	-----	.800
First class.....	(?)	(?)	1.200	1.103	-----	1.170	-----	-----
Other classes.....	1.016	-----	-----	-----	-----	-----	-----	.800
Riggers, ship.....	1.106	.955	1.151	(?)	1.288	1.250	1.000	(?)
First class.....	1.203	1.119	1.188	(?)	1.288	1.250	(?)	(?)
Other classes.....	1.032	.878	1.089	-----	-----	-----	1.000	-----
Riggers, yard and crane.....	1.067	.876	.808	.795	1.220	1.158	.992	.987
First class.....	1.148	.879	.853	.930	1.220	1.158	1.015	1.007
Other classes.....	.914	.801	.773	.754	-----	-----	.882	.900
Rivet heaters.....	.929	.865	.774	.713	(?)	1.120	1.201	.876
Rivet holders-on.....	1.202	1.111	.783	.734	1.218	1.177	1.140	.962
Rivet passers.....	.823	.765	.729	.685	-----	-----	.758	.708
Riveters.....	1.212	1.142	1.191	1.174	1.340	1.241	1.374	1.158
First class.....	1.222	1.151	1.200	1.174	1.340	1.241	1.374	1.161
Other classes.....	1.112	.924	(?)	-----	-----	-----	-----	(?)
Sheet-metal workers (including tinsmiths).....	1.095	.944	1.033	.936	1.340	1.216	1.200	1.145
First class.....	1.220	1.115	1.193	1.087	1.340	1.250	1.200	1.173
Other classes.....	1.017	.881	.970	.818	-----	1.101	-----	(?)
Sheet-metal workers' helpers.....	.837	.709	.718	.645	1.060	.971	(?)	(?)
Ship fitters.....	1.044	.969	1.131	.920	1.339	1.250	1.187	1.196
First class.....	1.200	1.128	1.207	1.101	1.340	1.250	1.199	1.395
Other classes.....	.998	.885	1.080	.804	(?)	-----	(?)	.997
Ship fitters' helpers.....	.830	.746	.711	.609	1.060	.970	.845	.833
Stage builders.....	-----	.812	-----	-----	1.210	1.120	(?)	1.030
Tank cleaners.....	-----	(?)	-----	-----	1.100	.954	-----	-----
Tool and die makers.....	(?)	(?)	-----	-----	(?)	-----	-----	-----
First class.....	(?)	(?)	-----	-----	(?)	-----	-----	-----
Other classes.....	-----	-----	-----	-----	-----	-----	-----	-----
Tracers.....	.955	(?)	(?)	(?)	-----	-----	-----	-----
Watchmen and guards.....	.788	.746	.606	.450	.956	.890	.737	.793
Welders, acetylene and electric.....	1.118	1.025	1.148	1.091	1.345	1.254	1.206	1.138
First class.....	1.200	1.095	1.198	1.091	1.345	1.264	1.209	1.146
Other classes.....	1.033	.926	1.000	-----	-----	1.142	(?)	1.030
Welders' helpers, acetylene and electric.....	.785	.739	.684	-----	-----	.970	(?)	.850

See footnotes at end of table.

TABLE 2.—Earnings and Distribution of Day-Shift Ship-Repair Workers in Selected Occupations, by Region, Occupation, and Class, Spring of 1942 and 1943—Con.

Occupation and class	Atlantic Coast		Gulf Coast		Pacific Coast		Great Lakes	
	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942
All occupations studied.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Anglesmiths.....	.2	.2	.1	.2	( <sup>9</sup> )	( <sup>9</sup> )	-----	-----
First class.....	.1	.2	.1	.1	( <sup>9</sup> )	( <sup>9</sup> )	-----	-----
Other classes.....	.1	( <sup>9</sup> )	( <sup>9</sup> )	.1	-----	-----	-----	-----
Anglesmiths' helpers.....	.1	.2	( <sup>9</sup> )	.1	.1	( <sup>9</sup> )	.5	-----
Apprentices.....	.4	1.7	5.9	3.9	.3	.3	-----	.5
Blacksmiths.....	.4	.4	.4	.5	.2	.2	.9	.5
First class.....	.2	.3	.3	.4	.2	.2	.8	.4
Other classes.....	.2	.1	.1	.1	-----	-----	.1	.1
Blacksmiths' helpers.....	.4	.5	.7	.2	.3	.4	.4	.8
Boilermakers.....	1.0	1.3	2.5	2.9	2.9	3.4	2.3	.2
First class.....	.5	.8	1.2	1.4	2.8	3.4	2.3	.1
Other classes.....	.5	.5	1.3	1.5	.1	-----	-----	.1
Boilermakers' helpers.....	.5	.7	5.1	10.8	6.9	5.7	3.7	1.3
Bolters, hand *.....	1.1	1.4	-----	-----	-----	.3	5.2	8.1
First class.....	.4	.6	-----	-----	-----	.3	5.2	6.7
Other classes.....	.7	.8	-----	-----	-----	-----	-----	1.4
Burners, acetylene (including gas).....	3.5	2.5	1.5	1.2	2.5	2.6	5.8	2.6
First class.....	1.3	1.2	1.0	.8	2.5	2.4	5.6	2.4
Other classes.....	2.2	1.3	.5	.4	-----	.2	.2	.2
Burners' helpers, acetylene (including gas).....	( <sup>9</sup> )	( <sup>9</sup> )	.5	( <sup>9</sup> )	-----	( <sup>9</sup> )	-----	( <sup>9</sup> )
Carpenters (shipwrights).....	8.8	5.3	5.7	3.2	6.0	6.8	2.5	3.2
First class.....	6.8	3.9	3.4	2.5	6.0	6.7	2.5	2.3
Other classes.....	2.0	1.4	2.3	.7	( <sup>9</sup> )	.1	-----	.9
Carpenters' helpers.....	.6	.6	.8	2.8	1.5	1.1	.1	2.8
Chippers and calkers (including foundry chippers).....	3.1	2.2	2.2	2.1	1.7	1.0	3.0	2.7
First class.....	2.1	1.6	1.8	1.8	1.7	.9	2.9	1.6
Other classes.....	1.0	.6	.4	.3	-----	.1	.1	1.1
Coppersmiths.....	.3	.2	.1	.4	-----	.1	-----	-----
First class.....	.1	.1	.1	.2	-----	.1	-----	-----
Other classes.....	.2	.1	( <sup>9</sup> )	.2	-----	-----	-----	-----
Coppersmiths' helpers.....	.2	.3	.3	.1	-----	.3	-----	-----
Crane operators (all types).....	.3	.3	.5	.3	.2	.2	1.4	1.1
First class.....	.2	.2	.4	.3	.2	.2	1.4	.9
Other classes.....	.1	.1	.1	-----	-----	-----	-----	.2
Driftsmen (senior and junior).....	.1	.3	.5	.8	.5	.1	-----	-----
Drillers (including reamers and counter sinkers).....	1.0	.9	.6	.6	.6	1.3	2.0	1.8
First class.....	.6	.5	-----	.6	.6	1.2	2.0	1.6
Other classes.....	.4	.4	.6	-----	-----	.1	-----	.2
Electricians.....	5.3	3.7	3.3	7.2	6.7	6.7	1.7	3.3
First class.....	2.3	2.2	2.0	3.8	6.4	6.7	1.6	2.2
Other classes.....	3.0	1.5	1.3	3.4	.3	-----	.1	1.1
Electricians' helpers.....	1.9	3.0	1.5	4.0	.8	4.2	.2	1.1
Erectors.....	.6	-----	-----	-----	-----	-----	-----	1.1
First class.....	.6	-----	-----	-----	-----	-----	-----	1.1
Other classes.....	-----	-----	-----	-----	-----	-----	-----	-----
Erectors' helpers.....	.1	-----	-----	-----	-----	-----	-----	.4
Foremen (including assistant foremen and quartermen).....	.8	.6	3.0	1.7	1.2	.3	5.3	1.4
First class.....	( <sup>9</sup> )	.1	-----	.1	-----	.1	-----	.5
Other classes.....	( <sup>9</sup> )	( <sup>9</sup> )	-----	-----	-----	( <sup>9</sup> )	-----	.2
Handymen, not elsewhere classified.....	.1	.2	-----	-----	-----	-----	.4	-----
Helpers, not elsewhere classified.....	1.7	3.0	.8	-----	.1	-----	.2	-----
Joiners (including woodworking-machine operators).....	2.1	2.7	-----	-----	5.4	5.7	2.8	.2
First class.....	1.7	1.9	-----	-----	5.4	5.7	2.8	.2
Other classes.....	.4	.8	-----	-----	-----	-----	-----	-----
Joiners' helpers.....	.2	.3	-----	-----	.3	1.1	.2	.1
Laborers (excluding tank cleaners and janitors).....	7.4	10.0	15.7	16.6	5.8	2.4	3.7	7.0
Layers-out.....	( <sup>9</sup> )	.2	( <sup>9</sup> )	.1	-----	-----	.4	.4
First class.....	( <sup>9</sup> )	.2	( <sup>9</sup> )	.1	-----	-----	.3	.4
Other classes.....	( <sup>9</sup> )	-----	( <sup>9</sup> )	( <sup>9</sup> )	-----	-----	.1	-----
Leaders.....	5.4	5.2	4.9	4.8	6.5	5.6	7.1	6.3
Learners.....	1.7	-----	-----	-----	-----	-----	4.9	.6
Loftsmen.....	.1	.1	.1	.5	( <sup>9</sup> )	-----	-----	.2
First class.....	( <sup>9</sup> )	.1	.1	.2	( <sup>9</sup> )	-----	-----	.2
Other classes.....	.1	( <sup>9</sup> )	( <sup>9</sup> )	.3	-----	-----	-----	-----

See footnotes at end of table.

TABLE 2.—Earnings and Distribution of Day-Shift Ship-Repair Workers in Selected Occupations, by Region, Occupation, and Class, Spring of 1942 and 1943—Con.

## PERCENT OF WORKERS—Continued

Occupation and class	Atlantic Coast		Gulf Coast		Pacific Coast		Great Lakes	
	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942	Spring 1943	Spring 1942
Machinists, shop and outside.....	9.0	10.8	7.4	5.7	10.2	9.6	5.7	3.0
First class.....	4.9	6.9	4.8	4.7	9.7	9.5	5.1	2.1
Other classes.....	4.1	3.9	2.6	1.0	.5	.1	.6	.9
Machinists' helpers, shop and outside.....	3.6	3.9	5.1	5.8	6.9	4.2	.9	1.5
Molders, foundry.....	(9)	(9)	.1	.1				
First class.....	(9)	(9)	.1	.1				
Other classes.....								
Painters, brush and spray.....	2.9	3.0	1.9	2.6	1.5	4.7	1.0	1.3
First class.....	.6	.5	1.3	1.7	1.5	4.7	.9	1.2
Other classes.....	2.3	2.5	.6	.9			.1	.1
Pattern makers.....	.1	.1	.2	.1				
First class.....	.1	.1	.2	.1				
Other classes.....	(9)	(9)						
Pipe fitters (including plumbers).....	4.0	3.7	3.8	2.8	5.6	3.7	2.1	3.0
First class.....	1.9	2.1	2.6	2.5	5.5	3.7	2.0	1.9
Other classes.....	2.1	1.6	1.2	.3	.1	(9)	.1	1.1
Pipe fitters' helpers (including plumbers' helpers).....	3.0	3.5	3.7	4.1	4.9	3.5	2.1	4.9
Plate-shop machine operators.....	.4	.3	.3	1.6	.1	.5	1.9	1.7
First class.....	.1	.2	.2	.4	.1	.5	1.4	.5
Other classes.....	.3	.1	.1	1.2		(9)	.5	1.2
Plate-shop machine operators' helpers.....	.3	.2	2.8	1.7		.3	1.5	3.5
Regulators.....	(9)	(9)	.2	.2		2.2		1.1
First class.....	(9)	(9)	.2	.2		2.2		1.1
Other classes.....	(9)	(9)						
Riggers, ship.....	2.9	2.8	.7	.1	5.3	2.5	.6	.1
First class.....	1.3	.9	.5	.1	5.3	2.5	.1	.1
Other classes.....	1.6	1.9	.2				.5	
Riggers, yard and crane.....	3.2	3.2	.6	1.1	.2	.5	4.3	3.6
First class.....	2.1	3.1	.3	.3	.2	.5	3.6	2.9
Other classes.....	1.1	.1	.3	.8			.7	.7
Rivet heaters.....	.3	.7	.5	.5	.1	.1	1.0	1.7
Rivet holders-on.....	.2	.4	.4	.6	.1	.2	2.6	2.2
Rivet passers.....	.1	.4	.7	.7			.7	3.8
Riveters.....	1.5	1.7	.5	.4	.4	.4	2.8	2.1
First class.....	1.4	1.6	.5	.4	.4	.4	2.8	2.0
Other classes.....	.1	.1	(9)					.1
Sheet-metal workers (including tinsmiths).....	1.9	1.5	1.6	1.0	2.2	2.6	.9	1.2
First class.....	.7	.4	.5	.4	2.2	2.0	.9	1.0
Other classes.....	1.2	1.1	1.1	.6		.6		.2
Sheet-metal workers' helpers.....	1.5	1.5	1.5	1.5	1.1	2.0	.1	.2
Ship fitters.....	4.2	2.2	3.0	1.1	3.1	1.6	3.1	1.7
First class.....	.9	.8	1.2	.4	3.1	1.6	2.9	.9
Other classes.....	3.3	1.4	1.8	.7	(9)		.2	.8
Ship fitters' helpers.....	3.5	2.6	2.0	.4	1.2	3.0	2.0	1.6
Stage builders.....		2			5	1.1	.2	4.1
Tank cleaners.....	(9)	(9)			1.5	1.4		
Tool and die makers.....	(9)	(9)			.1			
First class.....	(9)	(9)			.1			
Other classes.....	(9)	(9)						
Tracers.....	(9)	(9)	(9)	.1				
Watchmen and guards.....	2.7	4.7	1.3	1.2	1.1	1.0	2.8	1.7
Welders, acetylene and electric.....	5.0	3.5	4.6	1.5	3.4	4.7	3.9	7.0
First class.....	2.5	2.1	3.4	1.5	3.4	4.3	3.8	6.5
Other classes.....	2.5	1.4	1.2			.4	.1	.5
Welders' helpers, acetylene and electric.....	.3	1.0	.7			.3	.1	.8

<sup>1</sup> Excluding earnings resulting from extra pay for overtime work.

<sup>2</sup> Number of workers too small to justify computation of average.

<sup>3</sup> Includes a small number of machine bolters.

<sup>4</sup> Occupations not included in spring 1942 study.

<sup>5</sup> Less than a tenth of 1 percent.

## ATLANTIC COAST

The Atlantic Coast region is the most important of all the ship-repair areas, measured by either number of yards or number of workers. Data obtained in the present survey indicate that more than half of the yards and about two-thirds of the workers in the ship-repair industry are found in this region.

First-shift workers in Atlantic Coast yards were reported in 57 of the 60 selected occupations studied. However, nearly seven-tenths (69.0 percent) of the workers were concentrated in 14 occupations. Machinists accounted for 9.0 percent of the workers studied, carpenters for 8.8 percent, and laborers for 7.4 percent. Relatively large numbers of workers were also reported for pipe fitters, ship fitters, welders, electricians, and leaders.

Occupational average hourly earnings in the Atlantic Coast region varied from 76.0 cents for learners to \$1.673 for foremen. Roughly one-fourth (22.9 percent) of all the workers in Atlantic Coast ship-repair yards were in jobs averaging \$1.20 or more an hour. A large proportion of these workers were first-class craftsmen. Two-fifths (40.3 percent) of all the workers, most of whom were craftsmen below first class, were in occupations averaging between \$1.00 and \$1.20 an hour. Another fourth (23.8 percent), predominantly helpers to the various craftsmen, averaged between 80 cents and \$1 an hour.

In 13 of the 23 occupations in which separate figures are shown for first-class workers, average hourly earnings were at least \$1.20 an hour, the minimum rate established for such workers under terms of the second wage-stabilization agreement adopted in 1942. Fully half of all first-class workers were found in these 13 occupations. Moreover, in 5 of the remaining 10 occupations the earnings of first-class workers were less than 2 cents lower than the \$1.20 minimum and in 2 additional occupations their earnings were less than 4 cents below the minimum. In only three occupations did first-class workers have earnings substantially lower than the established \$1.20 minimum—yard and crane riggers (\$1.148), brush and spray painters (\$1.139), and hand bolters (\$1.049). Low wages in a number of small yards which did not subscribe to the stabilization program, coupled with differences among yards in the application of the program, account for subminimum average earnings in the 10 occupations.

The average hourly earnings of journeymen below first class ranged from 91.4 cents for yard and crane riggers to \$1.265 for loftsmen. Most of the occupations, however, had a much narrower range in earnings. In 19 of the 25 occupations in which earnings are shown for journeymen below first class, the differences in the averages were less than 10 cents, and in 14, less than 5 cents. Much of the variation in the earnings of journeymen below first class is undoubtedly accounted for by the wide differences from yard to yard in the proportion of workers in the individual classes represented.

The earnings of journeymen's helpers varied comparatively little. Most of these workers were in occupations with average hourly earnings ranging from 78.5 cents to 85.5 cents an hour.

Less than a half of 1 percent of the workers in Atlantic Coast ship-repair yards worked under incentive methods of wage payment, and incentive earnings increased the regional average by only a tenth of 1 percent. The concentration of incentive workers in a few occupations, however, particularly the occupations associated with riveting, influenced considerably the earnings of these workers. As a group, incentive workers in this region earned 23.5 percent more than they would have received at their basic hourly rates.

Average hourly earnings did not vary consistently according to size of yard, both the lowest and the highest averages being reported by small yards. In general, however, earnings were higher in the large yards than in the small yards.

Some idea of the variation in occupational averages between yards may be had from the following tabulation of low and high yard averages for first-class workers in four representative occupations. The lowest averages were all found in very small yards, while three of the four high averages were for yards employing between 300 and 650 workers. The fourth high average was for a small yard employing fewer than 100 workers.

	<i>Average hourly earnings</i>	
	<i>Lowest</i>	<i>Highest</i>
Chippers and calkers.....	\$0. 975	\$1. 218
Machinists, shop and outside.....	. 838	1. 240
Riggers, ship.....	1. 000	1. 250
Welders, acetylene and electric.....	. 900	1. 269

#### GULF COAST

Ship-repair activities in the Gulf Coast region, although limited in volume, play an important part in the country's wartime industrial program.

First-shift workers in Gulf Coast ship-repair yards were reported in but 49 of the 60 selected occupations covered by the study. The occupations for which workers were not reported included such usual shipyard crafts as hand bolters, erectors, joiners, and tool and die makers. Prominence of welded ships in this region accounts, in part, for the absence of hand bolters, while the duties of the other missing occupations were combined in other jobs.

Over one-half (54.4 percent) of the workers reported in this region were concentrated in eight occupations. Laborers accounted for 15.7 percent and machinists for 7.4 percent of the workers. Other occupations containing more than 4 percent of the workers surveyed were apprentices (5.9 percent), carpenters (5.7 percent), boilermakers' helpers (5.1 percent), machinists' helpers (5.1 percent), leaders (4.9 percent), and welders (4.6 percent).

The range in average hourly earnings by occupation in the Gulf Coast region was from 60.4 cents for general helpers to \$1.682 for foremen. Approximately one-fourth of the workers, most of whom were first-class craftsmen, were in occupations averaging more than \$1.18 an hour; and another two-fifths, which included large numbers of helpers, laborers, and apprentices, were in occupations averaging less than 75 cents an hour.

In practically all occupations the earnings of first-class workers either equaled or closely approximated the established minimum of \$1.20. The failure of some yards to subscribe to the stabilization program and the practice in other yards of paying first-class workers subminimum rates during a brief probation period account for some of the cases in which the average was lower than the established minimum. Unlike other regions, the Gulf Coast region does not recognize the occupation of yard and crane riggers as being subject to the stabilization minimum. Workers in this occupation earned an average of 85.3 cents an hour.

The wide variation in the earnings of journeymen below first class in the Gulf Coast region, as in the Atlantic Coast region, is due largely to wide differences from yard to yard in the proportion of workers in each of the classes of workers which make up this group. The lowest earnings for these workers (75.0 cents) were found in the occupation

of drillers and counter sinkers, and the highest (\$1.089) in the occupation of ship riggers. Fourteen of the 17 occupations for which figures are shown for journeymen other than first class had average earnings within the 15-cent interval 95.0 cents to \$1.10.

Helpers to the various craftsmen were generally paid rates averaging from about 68 cents to approximately 73 cents an hour, although a relatively small proportion of unclassified helpers had average earnings of only 60.4 cents an hour.

Considerable variation in earnings was found among yards. These differences, however, were very largely confined to journeymen below first class and to helpers. Individual yard averages ranging from 85.0 cents to \$1.114 for "other classes" of carpenters and from 68.3 to 75.0 cents for electricians' helpers are typical of the range of earnings of other than first-class workers.

#### PACIFIC COAST

The ship-repair industry on the West Coast has the highest wage structure of any region in the industry. As previously pointed out, repair-yard operators and representatives of labor in the Pacific Coast region have entered into special agreements which provide substantially higher rates than were established by the general stabilization agreements under which the industry is operating in the other regions.

The occupational structure of West Coast repair yards is much less diversified than that found in either the Atlantic or the Gulf Coast regions. Workers were reported in only 43 of the 60 selected occupations studied and seven-tenths of all these workers were found in 11 occupations. The greatest concentration (10.2 percent) was in the occupation of machinist. Other occupations with more than 5 percent of the workers were boilermakers' helpers, machinists' helpers, electricians, leaders, carpenters, laborers, pipe fitters, joiners, and ship riggers. Practically all journeymen in this region were first-class workers. Thus, of all first-shift workers studied, 57.3 percent were first-class journeymen and only 1.0 percent were below first class.

Average hourly earnings in West Coast repair yards ranged from 95.6 cents for watchmen to \$1.832 for foremen. Three-fifths (59.2 percent) of the first-shift workers in Pacific Coast yards, for whom averages are presented, were in occupations in which earnings ranged upward from \$1.34 an hour, the prevailing minimum rate for most skilled crafts under terms of the special wage agreements in effect in the area. Included in this group are first-class workers in 15 occupations, representing slightly more than one-half of all workers surveyed in this region. Three other groups of first-class workers (ship riggers, yard and crane riggers, and drillers) had average earnings somewhat below \$1.34 an hour. These workers were not generally recognized by most yards as being subject to the minimum rate.

Journeymen other than first class (commonly called trainees in this region) were found in only a few occupations. Most of these workers had earnings averaging approximately \$1.20 an hour.

Practically all journeymen's helpers received \$1.060 an hour. Fully 24 percent of all the workers studied were reported as helpers. The uniformity of the wage structure in West Coast repair yards is also confirmed by the general yard averages. There was a spread of

less than 7 cents between the averages for the lowest-paying and highest-paying yards. These limited variations are due largely to differences in occupational structure among yards.

#### GREAT LAKES

Ship-repair yards in the Great Lakes area are engaged primarily in the maintenance and repair of ships used in lake transportation. Yards in this area employ considerably fewer workers than any one of the other three regions covered by the study.

Only 44 of the 60 selected occupations studied in this survey were found in ship-repair yards in the Great Lakes region, and nearly a half (47.2 percent) of all first-shift workers were concentrated in 8 of these occupations. Welders and leaders included the largest proportion of workers, 8.9 and 7.1 percent, respectively. Other occupations embracing between 4 and 6 percent of the workers were acetylene burners, machinists, foremen, hand bolters, learners, and yard and crane riggers.

Roughly half (46.6 percent) of the first-shift workers studied were in occupations averaging as much as or more than \$1.20 an hour, the stabilization minimum for first-class workers in the Great Lakes area, and another 10 percent were in occupations averaging within 2 cents of that minimum. Considerably lower earnings were received by first-class workers in four occupations, namely, plate-shop machine operators (\$1.125), yard and crane riggers (\$1.015), hand bolters (\$0.915), and drillers (\$0.902). The 3 last-named occupations were not recognized by any of the yards as subject to the stabilization minimum. The earnings of plate-shop machine operators, as well as those in a number of occupations showing average earnings only slightly below \$1.20 for first-class workers, reflect subminimum rates paid in some yards to various first-class workers during a probationary period.

There were relatively few journeymen in the classes below first class. These workers, who accounted for less than 4 percent of all first-shift workers covered, were distributed among 13 occupations. The earnings of most of these workers were concentrated within the 5-cent interval—\$1.00 to \$1.05.

About one-fifth (18.1 percent) of the workers, comprising helpers to the various craftsmen, laborers, and watchmen and guards, were in occupations with average earnings of less than 90 cents an hour.

For most occupations, average hourly earnings were quite uniform from yard to yard. The few variations reported are primarily attributable to incentive methods of wage payment found in some of the yards. Only 2.2 percent of the workers studied worked under incentive wage systems and their earnings increased the regional average by only 1 percent. The influence of incentive payments on the average earnings of individual occupations in which such earnings are found is much more pronounced, however. As a group, incentive workers in this region were able to increase their basic hourly earnings by 48.5 percent.

### *Regional Differences in Earnings*

It is apparent from the foregoing that widely different wage levels are found in ship-repair yards in the four broad regions in which repair operations are carried on. The highest earnings are found in the Pacific Coast region where first-shift workers earned an average of \$1.259 in May 1943. These earnings exceed by 14.7 cents the earnings of workers in the Great Lakes region, by 22.7 cents those found in the Atlantic Coast region, and by 33.6 cents the earnings shown for the Gulf Coast region. Part of this variation in earnings can be attributed to the difference in the levels at which the rates of pay of first-class journeymen were stabilized by the regional agreements. The minimum rate of pay of such workers, it will be recalled, was set at \$1.20 an hour in three regions—Atlantic, Gulf, and Great Lakes—and at \$1.34 an hour for most crafts in the Pacific Coast region.

The general averages for the four regions, however, also reflect the wide interregional differences in the earnings of workers other than first-class skilled mechanics. No attempt was made in any of the regional agreements to stabilize the wages of workers other than first-class skilled mechanics. The stabilization of the wages of such workers was left entirely to local collective bargaining. Over-all regional averages are also profoundly influenced by differences in the occupational structure of the various regions. It will be recalled that of the 60 representative occupations for which wage data were sought in this study, workers were reported for 57 in the Atlantic Coast region, for 49 in the Gulf Coast region, for 44 in the Great Lakes region, and for 43 in the Pacific Coast region. Wide variations are also found in the distribution of workers among the classes or grades within occupations.

The variations in regional wage levels are clearly reflected in the distribution of yard averages presented in table 3. These averages tend to concentrate at widely different levels. On the Pacific Coast all yard averages are found within the 10-cent interval—\$1.20 to \$1.30—and in the Great Lakes area they are found within the 15-cent range—\$1.05 to \$1.20. Most yards in the Gulf Coast region were found within the 10-cent interval—90.0 cents to \$1.00. Despite the wide dispersion of yard averages in the Atlantic Coast region, two-thirds of the yards, employing most of the workers, had averages ranging from 95.0 cents to \$1.10.

It is also of interest to compare the average hourly earnings in those individual occupations which are found in all regions. Such information is presented in table 4 for 24 broad occupational groups, for 15 first-class occupations.

TABLE 3.—Percentage Distribution of Yards and Workers by Yard Average Hourly Earnings and Region, Spring of 1943

Yard average earnings	Percent of yards with specified yard-average earnings				Percent of workers in yards with specified yard-average earnings			
	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes
70.0 to 74.9 cents.....	5.6				0.2			
75.0 to 79.9 cents.....	5.6	16.7			.4	1.8		
80.0 to 84.9 cents.....								
85.0 to 89.9 cents.....	5.6				.4			
90.0 to 94.9 cents.....	5.6	66.6			3.2	94.9		
95.0 to 99.9 cents.....	27.7	16.7			30.7	3.3		
\$1.000 to \$1.049.....	11.0				29.0			
\$1.050 to \$1.099.....	27.7			40.0	32.2			21.6
\$1.100 to \$1.149.....	5.6			40.0	2.3			60.1
\$1.150 to \$1.199.....				20.0				18.3
\$1.200 to \$1.249.....	5.6		20.0		1.1		33.3	
\$1.250 to \$1.299.....			80.0				66.7	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 4.—Comparative Average Straight-Time Hourly Earnings of Day-Shift Workers in Selected Occupations Appearing in all Regions, Spring of 1943

Occupation	All classes of workers				First-class workers			
	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes
Blacksmiths.....	\$1.089	\$1.151	\$1.348	\$1.213	\$1.201	\$1.200	\$1.348	\$1.223
Boilermakers.....	1.103	1.075	1.377	1.237	1.200	1.202	1.340	1.237
Boilermakers' helpers.....	.796	.725	1.060	.890				
Burners, acetylene (including gas).....	1.099	1.132	1.340	1.189	1.207	1.200	1.340	1.195
Carpenters (shipwrights).....	1.152	1.114	1.339	1.220	1.193	1.197	1.340	1.220
Chippers and calkers (including foundry chippers).....	1.134	1.147	1.344	1.192	1.198	1.167	1.344	1.200
Crane operators (all types).....	1.143	1.129	1.390	1.256	1.187	1.162	1.390	1.256
Drillers.....	1.108	.750	1.210	.902				
Electricians.....	1.094	1.110	1.334	1.183	1.200	1.200	1.340	1.189
Foremen (including assistant foremen and quartermen).....	1.673	1.682	1.832	1.649				
Laborers (excluding tank cleaners and janitors).....	.774	.605	1.022	.805				
Machinists, shop and outside.....	1.122	1.135	1.338	1.186	1.201	1.200	1.345	1.202
Machinists' helpers, shop and outside.....	.837	.713	1.061	.887				
Painters, brush and spray.....	1.036	1.129	1.340	1.169	1.139	1.198	1.340	1.207
Pipe fitters (including plumbers).....	1.105	1.128	1.338	1.194	1.199	1.198	1.341	1.206
Pipe fitters' helpers (including plumbers' helpers).....	.836	.717	1.060	.838				
Riggers, yard and crane.....	1.667	.808	1.220	.992	1.148	.853	1.220	1.015
Rivet holders-on.....	1.202	.783	1.218	1.140				
Riveters.....	1.212	1.191	1.340	1.374	1.222	1.200	1.340	1.374
Sheet-metal workers (including tinmiths).....	1.095	1.033	1.340	1.260	1.220	1.193	1.340	1.200
Ship fitters.....	1.044	1.131	1.339	1.187	1.200	1.207	1.340	1.199
Ship fitters' helpers.....	.830	.711	1.060	.845				
Watchmen and guards.....	.788	.606	.956	.737				
Welders, acetylene and electric.....	1.118	1.148	1.345	1.206	1.200	1.198	1.345	1.209

The averages for the broad occupational groups reveal the Pacific Coast region as paying the highest wages in all occupations except that of riveter. The Great Lakes area, because of incentive premiums, pays the highest wage for that work. Workers in the Great Lakes area generally had the second highest earnings. In 14 of the 24 occupations, earnings in the Atlantic Coast region were higher than in the Gulf Coast region, and in 10 they were lower. A comparison of average earnings for first-class workers reflects similar results. In 14 of the 15 first-class occupations for which figures are shown in table

4, the highest earnings were found in the Pacific Coast region. The Great Lakes region again had the highest average for riveters. In 10 of the 15 occupations, earnings were higher in the Atlantic Coast region than in the Gulf Coast region, in 4 they were lower, and in one there was no difference.

A comparison of the earnings of workers in 28 classifications <sup>6</sup> which were found in all regions and which are comparable from one region to another provides a dependable measure of regional variations in wage levels that is not disturbed by differences in occupational structure. In the following tabulation of averages, each occupation has been given the same weight in all regions. It is of interest to observe that this approach considerably reduces the apparent wage advantage of the Pacific Coast and Great Lakes regions over the Atlantic Coast and Gulf regions. Clearly the higher wages prevailing in the former regions are exaggerated somewhat by differences in the distribution of workers by occupation and class.

	<i>Atlantic</i>	<i>Gulf</i>	<i>Pacific</i>	<i>Great Lakes</i>
Total, 28 selected classifications...	\$1. 024	\$0. 953	\$1. 205	\$1. 036
First-class skilled mechanics.....	1. 196	1. 180	1. 333	1. 193
Journeyman's helpers.....	. 832	. 708	1. 061	. 863
Laborers.....	. 774	. 605	1. 022	. 805

### Earnings Comparisons, 1942 and 1943

The straight-time hourly earnings of day-shift workers in ship-repair yards in the United States as a whole averaged \$1.062 an hour in May 1943, or 9.1 cents more than the average of 97.1 cents for the corresponding period in 1942 (table 5). This increase, however, is influenced to some extent by wide and uneven increases in employment among regions between 1942 and 1943. In order to eliminate this influence, averages for the country as a whole were also computed by weighting the regional averages for each year by the 1943 employment in each region. These averages show an increase in earnings of 11.4 cents an hour between 1942 and 1943. It appears that the greatest wage increases occurred in the Atlantic and Gulf regions, where employment increased more rapidly than in the Pacific and Great Lakes regions, which had higher wage levels but smaller wage increases.

TABLE 5.—Average<sup>1</sup> Straight-Time Hourly Earnings of Day-Shift Ship-Repair Workers in Selected Occupations, by Region, Spring of 1942 and 1943

Region	Average hourly earnings		Increase
	Spring 1943	Spring 1942	
United States.....	\$1. 062	\$0. 971	<i>Cents</i> 9. 1
Atlantic Coast.....	1. 032	. 914	11. 8
Gulf Coast.....	. 923	. 796	12. 7
Pacific Coast.....	1. 259	1. 166	9. 3
Great Lakes.....	1. 112	1. 013	9. 9

<sup>1</sup> This average arrived at by weighting the regional averages by the 1942 employment in each region. If, however, the 1943 employment in each region is used in weighting the regional averages, the average for the country as a whole becomes 94.8 cents, and the average increase for the country as a whole becomes 11.4 cents.

<sup>6</sup> This group is made up of first-class journeymen in 17 occupations, journeyman's helpers in 10 occupations, and laborers. The weights used are the weights of the respective jobs in combined figures for all regions.

The absolute increase in hourly earnings between 1942 and 1943 varied from 9.3 cents in the Pacific Coast region to 12.7 cents in the Gulf Coast region. The increases in the Atlantic and Great Lakes regions amounted to 11.8 and 9.9 cents, respectively. In all cases the increases were greater, particularly in the Atlantic Coast region, than the increases provided by the regional agreements.

