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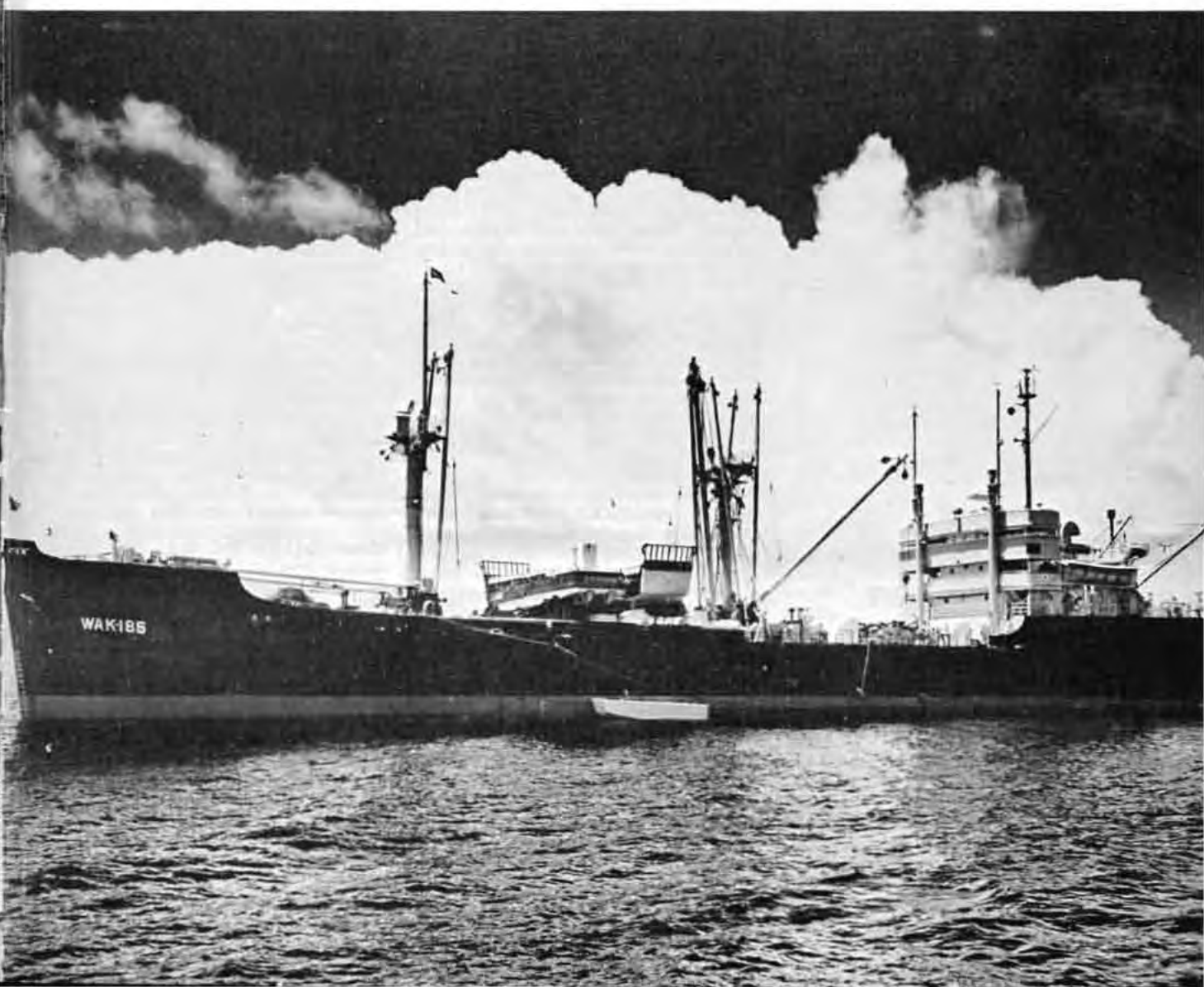

Proceedings of the

MERCHANT MARINE COUNCIL

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The Merchant Marine Council of the United States Coast Guard

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COUNCIL ACTIVITIES

The Merchant Marine Council will hold a public hearing and special session on January 30, 1951, commencing at 9:30 a. m. in room 4120, Coast Guard Headquarters, Washington, D. C., to consider proposed regulations for nautical school ships.

The proposed regulations are intended to apply to public nautical school ships, which are vessels used as nautical school ships by any State or political subdivision thereof, or schools operated by the United States Maritime Administration, but shall not include vessels of the Navy or Coast Guard. It is the intent of the proposed regulations to provide minimum standards for vessels used as school ships in accordance with the various inspection statutes and to obtain their correct and uniform application. These regulations are not applicable to civilian nautical school ships. The regulations will contain requirements for the design, construction, inspection, lifesaving equipment, fire-fighting and fire-prevention requirements, special operating requirements, and number of persons required to be carried on nautical school ships. With respect to articles of equipment or materials used in the equipment or the construction of nautical school ships, the specifications of the Navy or Coast Guard or their approved equivalent may be accepted. The establishment of these regulations will provide a complete set of regulations applicable only to public nautical school ships, and it is intended that such vessels will no longer be subject to the various General Rules and Regulations for Vessel Inspection published in other subchapters of title 46 of the Code of Federal Regulations.

Copies of the proposed regulations have been mailed to all persons and organizations who have expressed an active interest in the subject under discussion. Copies of the proposed regulations may be obtained from the Commandant (CMC), Coast Guard Headquarters, Washington 25, D. C., so long as they are available. However, it is necessary that written comments on the proposed regulations should be submitted prior to January 30, 1951, in order to insure consideration before recommendations are made to the Commandant concerning the proposed regulations. All interested persons are invited to attend a public hearing and submit written comments supplemented by oral arguments.

SECURITY OF VESSELS AND WATERFRONT FACILITIES

The Commandant approved the regulations for the security of vessels

and waterfront facilities, which were considered by the Merchant Marine Council at a public hearing held November 27 and 28, 1950. These regulations were published in the Federal Register on December 28, 1950. Because of the urgency of the present situation the regulations were made effective on the date of publication in the Federal Register. However, it is necessary that interim appeal boards be established pending the establishment of qualified people to act on the appeal boards provided by the Executive order and the regulations. The text of the regulations has been reprinted in the appendix on page 16.

THE HISTORICAL DEVELOPMENT OF THE MARINE ENGINEERING REGULATIONS

By

Lt. Comdr. George C. Steinman, USCG

The administration of laws and the promulgation and enforcement of regulations for the promotion of safety of life at sea and on the waters subject to the jurisdiction of the United States are presently the direct responsibility of the United States Coast Guard. Those rules and regulations as pertain to the design, construction, and inspection of boilers, unfired pressure vessels, and appurtenances thereof appear in title 46 of the Code of Federal Regulations, Subchapter F—Marine Engineering, parts 50 to 58, inclusive, and are published in a booklet entitled "Marine Engineering Regulations and Material Specifications." The current publication is dated November 1, 1949, and has been amended by changes promulgated in the Federal Register of May 20, 1950.

Under the organizational plan of the Coast Guard, the Merchant Marine Council is charged with the general responsibility of advising the Commandant as to the policy with and affecting the safety of the merchant marine. Thus any proposed changes in the Marine Engineering Regulations must be considered by the Merchant Marine Council. For the sake of comparison with stationary practice, the Merchant Marine Council may be considered the counterpart of the Boiler Code Committee of the American Society of Mechanical Engineers. The Merchant Marine Council meets twice a year in March and September, at which time proposed changes to the regulations are considered at public hearings. The amendments to the regulations considered acceptable to the Council are then transmitted to the Commandant. Based upon his approval, they are then published in the Federal Register and usually become effective 90 days thereafter. The new regulations thus promulgated, are usually printed in the Council's monthly publication "Proceedings of the Merchant Marine Council."

In order that the latest regulations may be made available to the merchant-marine industry and interested parties, every effort is made (dependent upon the availability of funds) to reprint the "Marine Engineering Regulations" annually, so that the pamphlet will include all the new regulations promulgated in the Federal Register which have not heretofore been published in the pamphlet.

A study of the present "Marine Engineering Regulations" promulgated by the Coast Guard would not be complete without a historical review of the early development of the Rules and Regulations of the Steamboat Inspection Service. Herein is presented, in chronological order, the development of the laws enacted by Congress which provided the statutory basis for the promulgation of the "Marine Engineering Regulations" and its forerunner, the "General Rules and Regulations" of the Steamboat Inspection Service.

Establishment and Early History of the Steamboat Inspection Service to 1871

The "Steamboat Act" of August 30, 1852, may be said to have originated the Steamboat Inspection Service. It provided for the appointment of nine supervising inspectors, by the President, by and with the advice and consent of the Senate, who were required to meet once a year for joint consultation and to establish rules and regulations for the uniform administration of the steamboat inspection laws. The supervising inspectors were charged with supervision of the work of the local inspectors and to report cases of neglect, carelessness, and inefficiency among the local inspectors to the Secretary of the Treasury, who was given the power of removal.

It is of interest to note that the first law enacted by Congress relating to steamboats was that of March 12, 1812, which provided, in part, that steamboats belonging to aliens should be enrolled and licensed. The act of February 18, 1793, chapter 8, required similar licensing of American owned vessels, of all types.

There followed two laws preceding the "Steamboat Act" of 1852, which effected the licensing and inspection of steamboats. The law of March 3, 1825, authorized the register or enrollment and license of steamboats owned by an incorporated company to be issued in the name of the president and secretary of the company.

The act of July 7, 1838, entitled "An Act to Provide for the Better Security of the Lives of Passengers on Board of Vessels Propelled in Whole or in Part by Steam," was the original statute of which the "Steamboat Act" of 1852 was an amendment. The act of 1838 was noticeable in that it first established the local inspectors of hull and boilers. It appears that the name of the Steamboat Inspection Service may have stemmed from this act. The inspectors were appointed by the Federal judge in whose district the applicant for enrollment of the steamboat resided. Boilers were required to be examined once in every 6 months, and, under the provisions of this act, the inspectors were required to issue a certificate as to the soundness of the boiler. It was also required that each vessel should carry a competent number of experienced and skillful engineers; and that the safety valve should be opened when the vessel stopped.

A few important changes were made in this act by the acts of March 3, 1843, and March 3, 1849. The latter act provided for the establishment of lighthouses, lifeboats, buoys, etc. The act of March 3, 1843, authorized the Secretary of the Navy to appoint a board of examiners consisting of three persons, whose duty it was to make experimental trials of such inventions and plans designed to prevent the explosion of steam boilers and the collapsing of flues. It was also the duty of the board of examiners to investigate the "relative strength of copper and iron boilers of equal thickness," and "whether hydrostatic pressure, or what other plan, is best for testing the strength of boilers under the inspection laws, and what limitations as to the force or pressure of steam to the square inch, in proportion to the ascertained capacity of a boiler to resist, it would be proper to establish by law for the more certain prevention of explosions." The latter appears to be the first attempt to establish requirements for boiler design based upon a minimum factor of safety.

A review of the "Steamboat Act" of 1852 indicates that the original rules and regulations pertaining to the design and construction of boilers were incorporated in this statute. The law authorized the supervising inspectors to receive information from persons of practical knowledge and experience in the construction and use of boilers, engines, machinery, and equipment, and the causes of boiler explosions and collapse of flues and the means of prevention of same, and transmit such information to the Secretary of the Treasury, who in turn was required to report same to Congress, together with recommendations as he deemed proper to be made for the better security of the lives of persons on board steam vessels.

The rules and regulations approved by the Board of Supervising Inspectors under the act of 1852, were in the form of resolutions which appeared in the proceedings of the board. The meeting of November 2, 1852, produced the first set of rules which were adopted from the act of 1852. The evening session of August 3, 1853, produced the first table of allowable working pressures of boilers, the standard pressure being 110 pounds per square inch for a 42-inch boiler, ¼-inch iron plate. Inspection was extended from the boilers to the manufacture of boiler plate.

Following the passage of the act of 1852, numerous acts were passed usually upon recommendation made to Congress by the Secretary of the Treasury. Accordingly, the Steamboat Act was amended on March 1853, March 3, 1855, April 29, 1864, May 5, 1864, June 8, 1864, July 4, 1864, March 3, 1865, and July 25, 1866.

Period 1871–1903

Although the act of 1852 gave the Secretary of the Treasury a certain amount of direct supervision over the work of the Steamboat Inspection Service, it failed to place the service definitely under the direction and control of any one of the executive departments. By the act of February 28, 1871, an administrative head of the service was created in the office of the "Supervising Inspector—General," who, under the direction of the Secretary of the Treasury was granted immediate supervision over the entire work of the service.

The joint meeting of the supervising inspectors, first provided for in the act of 1852, was given a more definite status. The supervising inspectors, together with the Supervising Inspector General, were to assemble as a board at Washington once a year, and at such time as the Secretary of the Treasury might prescribe. The board was vested with the authority to establish all necessary rules and regulations required for the proper and uniform administration of the inspection laws, and such regulations, when approved by the Secretary of the Treasury should have the full force of law. Thus the first set of "General Rules and Regulations" prescribed by the Board of Supervising Inspectors was published in pursuance of the act of 1871.

Regulations were approved for boilers built prior to February 28, 1872, and for boilers built after February 28, 1872.

The first formula for the calculation of allowable working pressure was prescribed in the rules for boilers built after 1872. The working pressure was to be determined by taking one-sixth of the tensile strength found stamped on the plate, multiplied by the thickness of the plate, divided by the radius for single riveting. Where the longitudinal laps of the cylindrical parts of the boiler were double riveted, an increase of 20 percent was allowed.

In 1873 the rules and regulations pertaining to working pressures, boilers, and the inspection of boiler plates were divided into rule 1 for boilers built prior to February 28, 1872, and rules 1 to 9, inclusive, for boilers built after February 28, 1872.

In 1877, the "General Rules and Regulations" provided for a standard test specimen for tensile testing of boiler plates.

No appreciable revision was made to the "General Rules and Regulations" until 1884, when the existing rules were classified and indexed. Henceforth it was required that supervising and local inspectors refer to the rules and regulations by rule and section number. The reclassified and amended rules were approved March 5, 1884. Rule I pertained to boiler plate and rule II to boilers and attachments.

Following the reclassification of the "General Rules and Regulations," numerous amendments were approved which expanded the requirements for the safe design and construction of marine boilers. The "General Rules and Regulations" prescribed by the Board of Supervising Inspectors were published as approved by the Secretary of the Treasury during the following years: 1886, 1887, 1888, 1890, 1891, 1892, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, and 1903.

Period 1903–12

By act of Congress approved February 14, 1903, the Steamboat Inspection Service was transferred to the newly established Department of Commerce and Labor. By the express provisions of the act, all the duties, power, authority, and jurisdiction previously imposed upon the Secretary of Treasury by acts of Congress and relating to the control of American and foreign shipping or to the Steamboat Inspection Service were transferred to the Secretary of Commerce and Labor.

Following the transfer of the Steamboat Inspection Service to the new department, the Board of Supervising Inspectors met in special sessions during the months of June and July 1903 to make a thorough revision of the rules and regulations. A bill was framed embodying what seemed to be amendments necessary to harmonize the organization of the Steamboat Inspection Service with modern developments in marine transportation, but it failed of enactment. However, the heavy loss of life through the burning of the excursion steamer *General Slocum* in the East River, N. Y., spurred Congress into passing, on March 3, 1905, a series of amendments to the existing marine inspection laws. As regards the "Rules and Regulations," an important provision empowered the Secretary of Commerce and Labor to call in session at any time, after reasonable public notice, an executive committee, to be composed of the "Supervising Inspector General" and any two supervising inspectors, which committee had the power to amend the rules and regulations made by the Board of Supervising Inspectors. This made possible changes in the rules and regulations to meet the emergencies which often arose due to the changes and improvements in the rapidly expanding field of marine engineering.

Following the reorganization of the service under the Department of Commerce and Labor, the "General Rules and Regulations" prescribed by the Board of Supervising Inspectors and approved by the Secretary of Commerce and Labor were published during the following years: 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912.

Period 1913–42

By an act of Congress approved March 4, 1913, a new executive department called the Department of Labor was organized. The Steamboat Inspection Service was thereafter a bureau of the Department of Commerce and under the direction of the Secretary of Commerce.

The following editions of the "General Rules and Regulations" promulgated to 1931 are listed: 1913, 1914, 1915, 1916, 1918, 1920, 1921, 1922, 1923, 1924, 1926, 1927, 1928, 1929, 1930, and 1931.

For greater convenience, the rules and regulations were classified in the 1914 edition for the following services: Ocean and Coastwise, Lakes, Bays, and Sounds, Rivers. Rules I

and II were added to each classification. Beginning with the 1916 edition, each class of service was printed in a separate pamphlet under the titles "Ocean and Coastwise," "Great Lakes," "Bays, Lakes, and Sounds," and "Rivers."

It should be noted that the amendments to the "General Rules and Regulations" approved by the Board of Supervising Inspectors commencing from 1914 were first promulgated in the form of circular letters to supervising inspectors, local inspectors, and others concerned, and published as supplements to the "General Rules and Regulations."

Congress by the act of June 30, 1932, reorganized the Steamboat Inspection Service by consolidating it with the Bureau of Navigation to form a new bureau known as the "Bureau of Navigation and Steamboat Inspection."

During the period from 1914 to 1931, rules I and II of the "General Rules and Regulations" had been amended by so many circular letters and supplements that it became almost impossible to keep up with the text of the regulations. As early as 1929 an attempt was made by the Board of Supervising Inspectors to consolidate rules I and II (all classes) of the "General Rules and Regulations" into a single pamphlet. During that year, a tentative revision of rules I and II was proposed but was never approved.

There followed in April 1933, a tentative draft of a proposed marine boiler code, the result of work by a special committee extending over a period of about 2 years and organized at the suggestion of the Secretary of Commerce. The proposed code represented the unanimous opinion of the committee, whose members were chosen from the Steamboat Inspection Service, the American Bureau of Shipping, American Society of Mechanical Engineers, the steamship builders, steamship owners and operators, and boiler manufacturers. It was the desire of the committee that the proposed marine boiler code would serve as a basis for future revisions of rules I and II of the "General Rules and Regulations."

The hope of the committee was realized, for in 1935, the tentative draft of the marine boiler rules was promulgated by the Bureau of Navigation and Steamboat Inspection Service and published as "Amended Rules I and II," 51st Supplement to the General Rules and Regulations, January 1, 1935. It is of interest to note here that by virtue of an act of Congress, June 13, 1933, the Board of Supervising Inspectors was "empowered to prescribe formulas, rules, and regulations for the design, **material,** and construction of boilers, unfired pressure vessels and appurtenances thereof. The maximum working pressure shall be determined by formulas prescribed by the Board of Supervising Inspectors and no such boiler, pressure vessel, or appurtenances thereof shall be designed or operated where the factor of safety is less than four."

The publication of "Amended Rules I and II" was a far reaching step in the consolidation of the existing marine boiler regulations. For the first time, a regulatory code was the result of a coordinated effort on the part of industry to formulate regulations which would be acceptable to the entire profession.

A thorough reorganization of the Bureau of Navigation and Steamboat Inspection followed two serious marine disasters.

On September 8, 1934, the *Morro Castle* caught fire off the New Jersey coast, and on January 4, 1935, the *Mohawk*, bound for Havana, collided with the Norwegian vessel *Talisman* near Sea Girt Lighthouse. As a result of a heavy loss of life, an intensive congressional investigation was conducted and a comprehensive report and recommendations were made to the Senate. The preliminary report of the investigations of the *Morro Castle* and *Mohawk* disasters was submitted by Senator Royal S. Copeland as Senate Report No. 184, Seventy-fifth Congress, March 17, 1937. Due to the highly technical nature of the regulations regarding the safety of ship construction and operation, the work of formulating such rules was assigned to a highly specialized group of naval architects and marine engineers representing the Government agencies, the classification societies, the shipbuilders and operators, and the consulting engineers. The group was called the Technical Committee on Safety at Sea and was first convened on June 17, 1935. The technical committee made a thorough study of the subject, covering a period of 16 months, and prepared a comprehensive set of rules detailing the requirements (for the engineering portion) on boilers, pressure vessels, piping, main propelling machinery, electrical machinery and equipment, and auxiliaries such as emergency generators, bilge pumps, fire pumps, steering gear, boat winches, anchor windlasses, etc. The section on boilers, pressure vessels, and piping was in substantial agreement with the coordinated marine boiler code proposed earlier by the Special Marine Boiler Code Committee and promulgated as "Amended Rules I and II." The regulations proposed in Senate Report No. 184 were never adopted, in whole, by the regulatory bodies. However, some sections of the report have been formulated in existing rules and regulations of the Coast Guard and American Bureau of Shipping.

The recommendation made in Senate Report No. 184 did provide a basis for the reorganization of the Bureau. A technical staff was created to assist the Director and to pass upon contract plans and specifications for merchant vessels. By the act of May 27, 1936, the name of the Bureau was also changed to "Bureau of Marine Inspection and Navigation."

"Amended Rules I and II" remained in force until 1942, and during that period was revised by Supplement I (May 28, 1938) and Supplement II (May 5, 1939).

In February 1942 the "Amended Rules I and II" were reprinted and editorally revised to comply with the style and numbering system as given in the Code of Federal Regulations. The material contained in the new publication called "Marine Engineering Regulations and Material Specifications" was a compilation of and superseded "Amended Rules I and II" as set forth in the 51st Supplement, and all effective provisions of Rules I and II General Rules and Regulations (1931 edition.)

The "Marine Engineering Regulations" were divided into nine parts, numbered 50 to 58 inclusive. Parts 50 to 57, corresponded to various sections given in Amended Rules I and II (51st Supplement) which applied to installations made or contracted for on or after July 1, 1935, and part 58 corresponded to the regulations contained in Rules I and II (1931 edition)

which applied to installations made or contracted for prior to July 1, 1935.

Present Regulations

The responsibility for the promulgation of rules and regulations for the promotion of safety of life at sea and certain other maritime activities exercised by the Bureau were transferred on a temporary basis to the United States Coast Guard by virtue of Executive Order No. 9083, approved February 28, 1942, and effective March 1, 1942. This transfer was subsequently made permanent by the act of December 20, 1945, and in accordance with Reorganization Plan III of the President, approved and effective July 11, 1946.

Under the jurisdiction of the Coast Guard, the "Marine Engineering Regulations" were republished in August 1943, December 1944, April 1948, and November 1949. The April 1948 edition was the first major revision of the boiler regulations since the Amended Rules I and II were published in 1935. The amendments to the Marine Engineering Regulations proposed during the postwar period and now under consideration reflect a desire on the part of the regulatory bodies to reach some degree of uniformity in the requirements of the various code formulating organizations and agencies.

SAFETY IN CARGO HANDLING

Reprinted from the December, 1949, issue of "Motorship" by special permission of the magazine and author, Mr. M. J. O'Leary, Editor, "Motorship."

A cost factor in ship operation which is even more unpredictable than the weather is the expensive item, *accidents*. A ship operator may figure down to the last mill his cost per ton-mile or passenger-mile based on the predictable expense of loading, transporting, and unloading, but a single accident claim which may run into thousands of dollars in time and money can knock all of his figures into a cocked hat.

Safety aboard ship has always been a serious problem and one to which ship operators are directing their attention with increasing concern. More and more it is admitted that applied safety is not a science allowing absolute control but an art of probability, or rather, *reducing* probability.

In general, a given working area aboard ship has no quality of danger or safety until a human appears on the scene, when it immediately assumes an accident potential that increases equally in degree with the addition of each human.

This may seem like an exceedingly dim view but it is, nevertheless, a valid one. A good workman may be trained to recognize a specific situation and react to it in a certain way but no matter how long he has been trained and conditioned by experience, his every action is still a matter of free choice and the most intelligent person in the world can still baffle the psychologists by reacting in precisely the wrong way in a situation he has been carefully trained to recognize. Fatigue, illness, undetected disability, emotional disquiet are a few random examples of influences that could impair the judgment of a worker and cause him to make mistakes with consequences that could range from the negligible to the calamitous.

Where men are working in group and using and directing the power of machines, an error in judgment on the part of any one individual may involve the group and elaborate precautions must be taken to reduce the possibility of human failure to the ultimate minimum.

The operation of loading or unloading cargo from a ship is this type of situation, wherein men work together, aided by the directed force of powerful machines.

Winches, derricks, booms, tackle, and rigging are machines that will operate in exactly the same way as often as a situation is exactly repeated. They are not free agents, of course. It is necessary for a man to set up and arrange the conditions under which they will operate. If the wrong conditions are set up through a mistake of the operator, a boom may fail, tackle may give way, the winch itself may become an instrument of destruction. Every case of accident can be traced, not to divine intervention, but to some error in human judgment.

Sound judgment is the end product, actually, of a complicated mental process for which working conditions may not always allow sufficient time. Science, in providing the machines to assist man in his labors has endeavored to make these machines as independent of man as mechanically possible in their function. Hence, there have been produced a multitude of devices designed to make working machines progressively safer until the point has been reached where it would take a deliberate and consciously mischievous effort on the part of the operator to make them malfunction.

A ship sometimes presents an odd mixture of the modern and the ancient. Her pilothouse may boast the most modern radar set, yet her cargo handling gear may be basically of the same type used for generations, even centuries, a point brought out in numerous safety surveys such as the following:

"The development of cargo handling equipment has not kept pace with the trend of the times. It is felt that there is a large field for improvement in this respect. When one considers that the safe and efficient transportation of cargo is the only excuse for the existence of a cargo ship, it would appear that the cargo gear should receive most careful consideration, not only from the standpoint of efficiency in operation but also from the standpoint of maintenance together with the elimination of injury to the men having to use such gear.*

Thus, while it is the responsibility of the seaman to observe carefully every recommended safety practice in the routine of his regular work, it is just as much the responsibility of ship owners to install every practical safety device that is available and actually to foster and encourage the development of new ones for which experience may establish a demand. Necessarily, such an investment in safety stands out on the books as an immediate item of expense and it is unfortunate that the cost of the accident it may prevent cannot be expressed on a balance sheet.

The working area around the hatches of a modern cargo ship may

*"Relation of Design and Operation Practices to casualties in shipyards and aboard ship . . ." by Capt. Edward C. Holden, Jr., USNR. A paper read before the New York Metropolitan Section of the SNAME, March 25, 1949.

at the same time reflect efficiency and obsolescence. Typical installations of deck machinery will include a powerful and efficient winch to serve each boom over a cargo hold. The primary function of this equipment is to provide the force necessary for lifting cargo for removal or stowage in the hold. However, gipsy heads are fitted outside the main framing of the winch to enable a seaman to utilize the power of the winch for other purposes by merely taking a few turns of line around the head. Even in so-called "modern" vessels, this is the standard provision for handling vang and topping lift loads. The force required to handle vang lines may not be great enough to require the use of the gipsy in many cases, but the gipsy is certainly required when it is necessary to top a boom.

The area around the cargo hatches of a freighter such as shown above is potentially hazardous because of exposed winch machinery, heavy loads, limited working space.

After or just before a vessel is docked, the line serving the boom is taken to the gipsy and the boom is topped or positioned over the cargo hatch. The line then is made fast and guy lines limiting the lateral swing of the boom are also secured.

The boom itself, without load, is of considerable weight and after it is raised from its secured position, its weight is supported entirely by the topping lines. Hence, each time these lines require adjustment and are unsecured, accident potential shoots up sharply. Safety experts have time and again directed the attention of ship operators to this danger point. The authority previously quoted states:

"Cargo booms are often dropped with disastrous effect to personnel and ship. In all cases where special boom winches are not provided, it is recommended that the topping lift wire be rove to the drum of the winch for hoisting or lowering booms. The winch gipsy should never be used for the topping lift wire when hoisting a boom due to the possibility of the wire overriding on the gipsy and the hazard of clearing it, particularly if the boom is at low angle. Then, too, a man often catches his finger or hand under the turns of the wire. In lowering booms, turns often jump off the horn of the cleat and then the boom comes down on the run. Men have been killed or maimed for life through such accidents."

A recommended safety practice, as above, directing that the topping lift wire be rove to the drum of the winch when raising or lowering booms, is not advanced as a substitute for the proper equipment, in this case a separate boom topping winch, but it is rather a feeble, time-consuming alternative to apply on ships where such equipment is not provided. It fails to eliminate the need of transferring the wire to a cleat while loaded by the boom. Where safety can be insured with the installation of proper equipment, neglect to do so thrusts a heavy responsibility on the shipowner for such accidents as this, also quoted from the same source:

"An A. B. was lowering a boom when it got out of his control. As he slacked down, he took off enough turns so that the topping lift wire would run freely. As the boom got lower it went faster and faster and crashed before the A. B. could take additional turns on the pin or cleat. The A. B.'s leg caught in a bight of the topping lift wire hoisting him aloft! He later fell free and landed headfirst on the top of a winch, killing himself instantly. Another man, also an A. B., was crushed to death by the falling boom."

This, certainly, makes gloomy reading and unfortunately, it is not an exceptional case. Almost every man who has lived at sea for any length of time can add to it his own stories of death and injury resulting from boom-handling accidents.

A land-lubber freight handler might gasp in disbelief at such primitive cargo handling methods and point out that the installation of a crane would enable one man to handle the job in a small fraction of the time required by four or five A. B.'s using such archaic equipment. Actually, some cargo carriers have been equipped with deck cranes to serve their main holds and this is the ideal way to handle cargo. But such equipment is considerably more expensive and its safety factor is not appreciably higher than the conventional equipment *where a separate boom topping winch has been provided.*

A careful study of a typical cargo handling operation reveals that one of the critical danger periods occurs when a seaman is required to adjust manually the boom topping wire. Safety practices, if followed precisely in each operation, would forestall accident. A seaman, however, is not a machine and is subject to errors in judgment as well as anyone else, and this is an instance where an error in judgment is almost certain to have immediate and disastrous effect.

A separate boom topping winch installed to serve each boom is the simplest and most economical method of negating danger of accident in topping operations. The statement can be supported by a brief consideration of the function and operation of this small but important piece of equipment.

Very few cargo ships are equipped with such highly efficient means of cargo handling as individual cranes over each hold as in the view above of a foreign freighter.

A representative type currently available is the American boom topping winch, manufactured by the American Hoist & Derrick Co. and developed for this purpose exclusively. This is essentially a single-drum, single-speed electric winch with a recommended safe drum capacity of 366 feet of ¾-inch rope or cable. It is rated 1,200-pound line pull on the first layer of rope at 60 ft./min. and will sustain a static single line pull of 10,000 pounds on any layer or rope. It is designed for horizontal or vertical mounting and can be mounted on deck, mast, king post, or any convenient location regardless of the position of the operator, as all control is conducted from a motor-control station placed in a suitable location.

This is a notable point. The winch can be mounted in a position entirely removed from the working area. Manual boom handling requires that the line be brought into the working area and, after secured, the surplus line is merely hung coiled on the pad eye or cleat. The mere presence of a clumsy coil of line in the working area is a hazard. With a properly

designed topping winch, the line is away from the working area and excess line reeved on the drum.

In common practice, the topping line from boom end runs to the top of the king post and is secured somewhere in the working area as shown in this typical deck view.

Properly installed, it is never necessary for the operator to go near the winch, let alone the line itself. The winch's 5-horsepower motor is operated through a watertight reversing drum controller with spring return handle providing hoist, lower and stop positions, allowing one speed in either direction. The critical operation of slacking away on topping lines by hand is eliminated entirely.

Boom topping winches may be mounted at any convenient point entirely removed from the working area. Positive remote control eliminates the danger of boom accidents.

Even when hand motions are reduced to the minimum, errors in judgment are entirely possible. The design of good equipment compensates *in advance* for such errors. With the American boom topping winch, for example, it is impossible to raise or lower the boom when there is any load on the main fall, and should the controller lever be operated while the boom is handling a load, nothing happens. This is achieved through the use of a bronze thrust plate for locking the boom at any desired fixed position instead of a ratchet and dog arrangement common to this type of equipment. The thrust plate is so designed that it simply freezes tighter with every pound of load added to the main fall. Hence, even if the motor switch is accidentally thrown on while the boom is carrying a load, the motor cannot turn against this brake. The winch can raise or lower the boom only when unloaded, although it holds a top-limit load at any position.

The motor is connected to the worm shaft with a flexible coupling which serves to protect both motor and gearing. The cut-tooth worm and gear set has a low helix angle, making it self-locking. The worm shaft is provided with a small self-energizing spring-set shoe brake that is designed to provide a high retarding torque in the lowering direction and a very low torque in the hoisting direction. This feature of design serves to limit drift when stopping the boom from motion in either direction and is an excellent example of the kind of foresight in design that will prevent accidents in the field.

Winch controls should be placed where the operator may have an unobstructed view of the entire working area.

The measure of safety alone that is gained by the use of proper cargo handling equipment on deck is enough to argue for its installation, but the farsighted ship operator gains even more by the mechanization of operations that have been traditionally manual. The topping winch, for example, requires only 2½ minutes to accomplish a job that may require as much as a half-hour by the manual method. Hence the accumulated man-hours saved in even a very few complete loading and unloading operations will have a marked influence in lowering cargo handling costs on shipboard.

Recent, broad-scale studies of shore-bound problems in materials handling have, in fact, definitely indicated that improvements in safety go hand in hand with improvements in efficiency.

It is admitted that a ship's cargo handling equipment is in use for only a small fraction of the time consumed in ship operation, and that the shipowner is economically justified in seeking to limit his expenditure on this type of equipment. However, when expenditure is limited to the point where seamen must work under unnecessarily dangerous conditions, it is blind economy indeed and certain, sooner or later, to show up on the books as a crushing debit in grim and costly accidents.

Absolute safety anywhere is something that probably can never be attained with certainty and simply because man is not aquatic by nature it can never be attained aboard ship. But shipowners can improve relative safety on their vessels to a degree that could exceed that for any other carrier. It cannot, of course, be accomplished at one stroke, but it can be improved steadily by correcting one condition after another.

It is doubtful however, if this dangerous condition in the deck department can ever be remedied by asking seamen to accept safety practices in lieu of proper equipment. Boom handling by manual means has a long and nasty record of destructive and fatal accidents. A shipboard safety program could well begin with the installation of topping winches to serve every boom carried on ship. The expenditure would be dwarfed by the savings achieved in accidents that would never happen.

Here two American boom topping winches are mounted on a deck house completely removed from the main deck working area.

PEW DISCUSSES SHIPYARD SAFETY

VICE PRESIDENT OF SUN SHIPBUILDING & DRY DOCK CO., AT A RECENT MEETING OF THE SAFETY CONGRESS, GIVES AN INTERESTING AND ORIGINAL VIEWPOINT OF MANAGEMENT'S RESPONSIBILITY TOWARD SHIP REPAIR YARD WORKERS

By John G. Pew, Jr.

All through my shipbuilding experience I have felt that the safety of our personnel is of the highest concern to management.

I also feel sure that there is little doubt in the minds of anyone (unless it be Soviet inspired) that management feels its responsibility to its employees, not only in a financial way but as fellow human beings.

The day is long past when man was a mere number unrecogized by management. The number has become a personality which management recognizes as an integral part of a successful business.

His protection is just as vital as the balance sheet to which he contributes such a large part.

Management, at least in our case, does a lot more than all the problems of shipbuilding, public relations, labor relations, employment, and production.

It is idle talk to say that management realizes its responsibility and gives every support to its supervision and safety department in their efforts to bring about safe working conditions.

Management, at least in our case, does a lot more than talk about this everyday problem of the shipyard. To bring about effective solutions to the problems of protecting our personnel we not only give our moral and financial support but take a hand in the actual planning of the educational factors and enforcement of the safety rules.

In the not too distant past it was a popular idea that if management furnished the money and said "go ahead" it had fulfilled its obligations. Whereever this plan is followed the safety program is not the sole fatality.

Management feels that no important undertaking can be accomplished without the cooperation of the supervisory personnel and it is equally true that supervisory force must depend upon the loyalty and cooperation of its employees. While this has become an axiom it is doubly so where safety's success is in question.

When management and the supervision who are responsible for safety have done all they can to remove the physical hazards the message of these safety signs take over.

We know that specific dangers are innate in specific types of employment and to assist in combating these hazards we employ statistical information to point directly to the sore spots. We consider intelligently prepared accident statistics in the same category as we do working blueprints in construction.

Now if management feels it has the all-out support of its supervisory force in its daily contact with the employees, that its safety department is having the proper psychological effect on the employees through education and that management is supplying the proper financial aid and authority for enforcement of a well-planned safety program then the employee's chances will be as near perfection as one could hope for in a hazardous undertaking.

I should like to stress a few specific items peculiar to ship repair such as: "Safety precautions in preparation of the ship before entering the yard; instructions the owner should issue to crew who remain aboard as to their activities and responsibilities; maintenance of alarm indicators while ship is in yard; ship repairer's responsibility in maintaining fire watch; hot work dangers; relation of shipyard's safety engineer to ship crew"; and "some case histories."

I practically cut my shipyard teeth in the shipyard repair department, and while I have not been actually engaged in the physical side of the regular business for a number of years I still remember the problems and headaches that accompany this work.

Ship repair work is generally considered the most dangerous activity in the shipbuilding industry, but our safety record belies this conclusion.

It occurs to me that where danger is known to exist accidents are not so apt to occur. For instance, if my memory is correct there are more bad accidents on a straight-away road than at the so-called dangerous intersections where they say "angels are made."

The fact that we generally use experienced mechanics on ship repair and that most of these employees sense the element of danger in their work, together with the extra precautions used is responsible for our good record on repair work.

One of these extra precautions is the employment of a full-time certified chemist and two assistants who cover the full 24-hour period. The chemist's job as you all know is a very important one and his word is law when ships enter our yard for repair. The chemist must be familiar with all types of vessels, not only in a general way, but particularly with the confined spaces which vary a great deal in the different types of ships.

He is the first to board the ship and make a complete inspection, regardless of the nature or extent of the repairs. A "hot-sheet" is prepared which is sent to every foreman who, in any way, may be connected in the repair of the ship. The "hot-sheet" specifies where and where not hot work may be done. In addition to this sheet all compartments are marked with stickers and the corresponding shell location marked with yellow paint, indicating the condition of the space. Regardless of these warning stickers and painted shells written permission must be had from the chemist before the "hot" work begins. I cannot emphasize too much the importance of this precaution when I remember the lives that have been uselessly sacrificed in the various repair yards of the world. It is not only fire and explosion that cause these accidents, but the more insidious agents, such as hydrogen sulphide, carbon monoxide, and dioxide and oxygen deficiency.

Different from tankers the holds on other vessels present a large variety of cargoes, such as coffee, linseed cake, rosin, tobacco, potatoes, rice, and similar plant products which when aided by moisture absorb oxygen and give off toxic gases. The cargoes of sulphur, coal, molasses, and fertilizer present their peculiar problems.

All of these cargoes can lead to fires or explosions through spontaneous combustion and asphyxiation through hydrogen sulphite, carbon monoxide, and dioxide and lack of sufficient oxygen. Let me cite some of the recorded tragedies over the past years:

A ship carrying a cargo of cherries used dry ice to preserve them on their trip. When the hatch cover was opened the ice had melted and CO_2 remained in deadly concentration. Four stevedores lost their lives.

Another case of a vessel carrying castor pomace, a comparatively little known material, used as a fertilizer. The fertilizer emitted the deadly CO_2 in which one man lost his life.

The nitrates used as fertilizer gave a bad account of themselves in the Texas City disaster.

These and many more examples could be quoted as to the dangers of cargoes to ship repair in that many vessels come to the yard for minor repairs or in distress which are carrying these cargoes.

Two of our own experiences may be of interest. Several years ago on

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one of our trial trips, on which it was necessary to carry dry ice because the refrigeration unit had not yet been completed, nearly ended in a fatality. The butcher entered the refrigerator to cut and prepare his meat. If it had not been for his assistant coming in several minutes later and finding him on the floor we would have had a fatality due to the CO_2 from the dry ice.

Again, in the after peak of a vessel, several of our employees were rather badly burned about the hands and arms. It was discovered that caustic soda had been stored there and the contaminated water in the peak tank burned the men.

While on the question of oxygen deficiency and the dioxides, experience has taught us to wire down the handles on the battery of CO_2 bottles.

Several years ago and accident occurred in a repair yard in the South when someone accidentally pulled the cord releasing the CO_2 into the holds killing five men, the two who released the CO_2 realizing what had happened rushed in to notify the men and died as a result.

In preparing a ship for entry into a shipyard, other than a tanker, I know of no other precautions taken by the crew than to abide by regulations of the U. S. Coast Guard Merchant Marine Inspection Service "Safety of Life at Sea" with which all shipping men are more or less familiar.

The responsible officer abroad should notify the deck superintendent as to any peculiarities of the ship and the nature of his last cargo. Where certain specific cargoes have been carried in deep tanks or in spaces peculiar to the vessel in question either gas freezing or restoration of oxygen content could be accomplished at sea. In any event, wherever danger lurks full publicity in the form of written information should be handed the shipyard authorities.

The crew of the ship remain in authority during repair work and the same regulations prevail as at sea.

The yard naturally cooperates with the owner and establishes fire watches where necessary. Fire lines are immediately established by connecting the ship's fire system with the city pressure lines.

The responsibility of the shipyard is limited to the amount of specified insurance and cooperation of both parties is essential.

If the crew has completely abandoned ship while under repairs, the owner hires professional guards who take over the crew's duties.

The alarm indicators as a rule, unless the repairs are of a minor nature, become somewhat if not totally disrupted. The owner must then depend upon his crew or guards for routine watches.

Drunken crew members sometimes are very hazardous. They either fall off gangways or set fire to their bunks. Our guards generally escort them to their ships, but if too inoculated permit them to sleep it off on a concrete floor in the locker room.

Any negligence on the part of the ship's crew, guards or repair yard employees has often been the beginning of tragedy.

Several examples of negligence over the past years have been recorded by the Norfolk (Va.) Pilot on fire disasters. A few I will quote:

The latest, of course, was the *Noronic*. A 36-year-old vessel tied up to a berth with all the available fire apparatus of the city on hand, yet it took the lives of 119. The *Noronic* had had a preview by her sister ship the *Hamonic* 5 years previously.

The feeling that this could never happen to a large ocean liner was certainly disproved in the case of the *Normandie* tied up at a berth in New York under a renovating program with 2,000 workmen aboard. The *Normandie* was considered the most fireproofed passenger ship afloat.

The article calls attention to many more such as the *Genges Phillippar* 40 lives. The *Asia* 100 lives, the *Atlantique* 17 lives. The elegant *Lafayette* burned at its dock in La Havre in 1938 when fuel oil spilled on the engine room floor and was ignited.

A year later the *Paris*, also at dock, suffered a two and one-half million fire loss. These disasters have by no means been confined to the French Line.

Three months before her maiden voyage the *Europa* burned for 6 hours before turning over. The *Segovia* on the eve of her completion burned with a loss of three and one-half million dollars.

The *Monarch of Bermuda* was gutted in drydock, three years after it acted as a rescue ship in the *Morro Castle* disaster.

These examples merely scratch the surface of the ever-occurring disasters from fire, even in the so-called "fireproof ships."

The safety department, while cooperating with the chemist, exists as a separate unit in our yard and, of course, covers all the phases of the shipbuilding industry.

The inspectors generally consult with the mate and then proceed to see that proper lighting is installed. A drop light is generally placed in holds in which there is no work. This is extra-curricular work but guides that inquisitive employee who is in search of a stray banana or pineapple.

The inspector sees that all hatches and manholes are closed or guarded, ladders placed in holds to get away from the vertical ship's ladder and inspects all temporary and swinging staging.

The toilets are locked and tagged and while this may seem beyond the safety necessities the pulling of a chain plays havoc with an unsuspecting employee working underneath.

Portable ventilators are furnished to eliminate welding fumes, toxic gases and reestablish the oxygen content.

No smoking signs are erected as we do not permit smoking on vessels in the water or in drydock.

The hazards of oxygen deficiency plays a big part in ship repair. Even a slight degree of oxygen deficiency will impair the nervous system. Oxygen deficiency may occur at any time and in almost any space that is normally closed. Some locations are particularly susceptible, such as innerbottoms on any type vessel, peak tanks, deep tanks, etc. Many fatalities have occurred in deep tanks of Liberty type vessels.

A boiler may also be the scene of an accident if entered without ventilation.

The U. S. Coast Guard records an accident in a Liberty ship carrying coal. Following the clearing of No. 1 hold the deep tanks which had not been used were entered for inspection. Officers of the ship, who should have known better, entered the tank and were victims of oxygen deficiency.

Molasses may be considered a sticky harmless sort of substance but the residue clinging to the tank aided by a burner on the outer shell caused rapid fermentation and emitted CO_2 which settled to the bottom of the tank, causing the tragedy.

Quoting these accidents could go on and on. There are many crewmen, officers, shipyard and dock workers and operators and owners who realize the hazards incident to the operation and repair of vessels, who are striving continuously for better understanding and conditions. The delay of a few minutes or even hours to properly test and ventilate contaminated spaces is a small factor compared to the value of human life.

I have given you a few case histories as requested. Let me add that I am very happy that I am unable to give you a recent Sun ship repair case with a gruesome ending.

In our yard we take the precautions I have mentioned and being human we wonder sometimes if some of the tragedies that have occurred elsewhere, while ships are being repaired,

might not have been forestalled or mitigated if all known safety precautions had been taken.

May I say that new material and labor will repair the damage to a ship but when even one life is lost the damage is irreparable.

Personally, I am thoroughly convinced that the attitude of management in general is to keep abreast of the times wherever the safety and welfare of its employees are concerned. In its more intimate relations with the employees it has come to know the hardships and suffering caused by accidents.

I have tried to make clear that the three musketeers who defend shipyard repair safety are "management, supervision, and employee" and like the three musketeers in Alexandre Dumas' celebrated story we can do no better than accept their slogan "All For One and One For All."

LESSONS FROM CASUALTIES

1 EXPLOSION—2 LIVES LOST

In many cases of fires, explosions, sinkings, etc., all the personnel who might be expected to know what happened immediately preceding the casualty had been killed in the accident. Take for instance, the case at hand.

A casualty was reported recently relating to an explosion and fire on board an oil barge. The information gleaned from the report indicated that two gasoline barges had just completed discharging their cargo of gasoline, and were in the process of being gas-freed.

Both of the gassy barges were moored to a dock; one outboard of the other.

At the time of the explosion one man was down in No. 4 tank plying his hose on the bulkheads. Another member of the crew was tending his hose lines on deck adjacent to the cargo deck hatch. It was during these operations that the explosion occurred in No. 4 tank of the outboard barge.

One of the workmen on the inboard barge saw flames coming up from No. 4 cargo hatch followed by a blast and more fire erupting over the top of the tank. The whole top or deck of the barge appeared broken. The fire appeared to be confined to one tank and burned approximately 15 minutes, during which time the barge broke its moorings and floated downstream where it sank. The two men who were working on the barge lost their lives.

There were no survivors who were able to give a practical and logical reason for this casualty. The investigating officer concluded that there were two possible sources of ignition: (1) Static electricity or a lightning discharge near the tank; and (2) an arc from a bare wire of a portable light cable which had apparently been allowed to touch the side of the steel barge.

In analyzing a case of this nature it is not possible to render any factual conclusions. Conclusions can only be based on supposition. The electrical equipment used by the gas-freeing crew at this particular plant is inspected by an electrician only once a week. Ordinarily one might suppose that a weekly inspection would be sufficient to keep incipient shorts from developing to the danger point in electric cables; but not, however, while being subjected to the severe usage that tank cleaning lamps receive. That static electricity might be the cause arises from the fact that a severe thunder storm had been experienced in the vicinity of the gas-freeing yard immediately prior to the explosion. However, it is felt that the cause of the casualty should be based upon the investigating officer's second conclusion; that the most probable source of ignition was by an arc from a poorly insulated electrical cable.

Inasmuch as the actual cause of the explosion cannot be definitely determined it can only be said that first-class equipment, common sense, and eternal vigilance are necessary to avoid accidents of this type in the performance of such work.

IN THE FIRE ROOM

Never attempt to light a burner from a hot furnace wall. This has caused numerous serious accidents. Use a torch, and, stand clear.

Test the fuel oil heater at regular intervals to see that oil is not leaking into the water side.

Keep oil out of bilges, off tank tops, and floor plates. Never neglect a leak nor put off cleaning up a spill.

Never leave a disconnected burner in place.

Report at once, any sudden changes in water level in a boiler.

At the very first sign of water in the fuel you should report it to the engineer on watch.

Keep burner tips clean—and when cleaning the tips do not use a hard implement that might enlarge or roughen the hole or the grooves.

Excess smoke from the stack indicates waste. This may be due to lack of air, dirty burners, or incorrect oil temperatures. Learn what the best conditions are for your job. Remember that all burners *except one* may be working properly.

Too much air is just as wasteful as too little.

The oil in the pipe to burners of boilers that have been cut out for a while may be too cold to light off. It should be circulated to raise its temperature.

It is possible that the water level shown in a gage glass might not be correct. If either the top or bottom connection of a water gage glass is closed or partly blocked, the water level indicated will be a false one. This condition can be detected by "blowing" the gage glass. This can be done by closing the top shut-off valve and opening the gage glass drain. This clears the bottom line connections. Then close the bottom shut-off valve, open the top valve and the drain. This clears the top line connections. Next be sure to close the drain and open the bottom shut-off valve. It will be noticed that when the lower gage glass valve and the drain are closed, the water becomes still in the glass and gradually rises as the steam above the water condenses. On the other hand, if the upper valve and drain are closed when the lower valve is open, the water in the glass will rise out of sight. This is caused by the loss of pressure in the upper end of the glass.

Before attempting to remove boiler manhole plates see that the boiler drains are open even though you know the boiler is cold. No great force should be required to remove plates from a boiler in which the pressure has been equalized with the atmosphere.

Never depend upon the stop valve of a dead boiler being properly secured by the other watch. Determine for yourself which boiler, if any, is cut out, before opening any valve. There may be a man working in one of them.

See that all exits from engine room or fire room and watertight doors are kept free from any obstruction. The emergency may arise while you are below.

Speed is the most important item because it is a known fact that in most cases the longer a fire burns the "hotter" it gets. If you can keep a fire from spreading or "get it under control," you are keeping it from getting "hotter." Getting a fire under control may be done by moving other things

that will burn away from the fire, but this is not always possible. The next best thing would be to keep these things from catching fire. To do this you must remember that a flame or spark is not always necessary to start something burning. It may get hot enough to burn because it is too close to the fire or because it is against a bulkhead that is heated by the fire or by hot air or other gases given off by the fire. If you do not take these things into account, you may have two or three fires to fight instead of one. When any fire is under control, it is much easier and simpler to cool it or smother it and thereby put it out.

It is also important for a fire fighter to protect himself if he is to do a good job. It is common knowledge that fire will burn you, but there are other factors that must be thought of. A fire in a closed or unventilated compartment may have used up so much of the oxygen from the air that you could not live by breathing it. If this is thought to be the case no one should enter without wearing an oxygen breathing appartus. *You can snuff out a life as well as a fire by cutting off the supply of oxygen.* Also, an explosion may occur if air is admitted suddenly to a closed compartment in which there is a fire. The fire fighter must BE CAREFUL—Be CAREFUL—He Must *Think* as He *Works.*

SEA ANCHOR

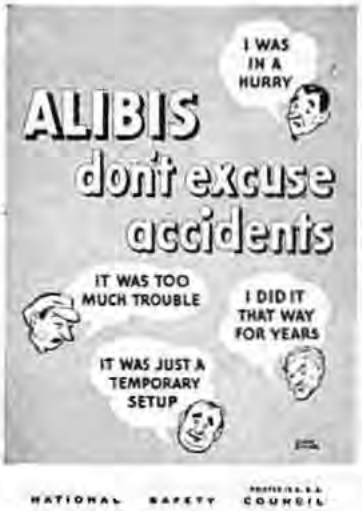
Purpose.—The sea anchor is used to check the boat's way, keeping her end onto the sea to prevent broaching to and capsizing while encountering heavy seas or breaking surf.

Broaching to.—The term "Broaching to" means that the boat is being thrown broadside onto the sea which in all probability would result in the boat capsizing. Thus, if a boat is running before a sea, the first effect of an overtaking sea is to lift the stern and depress the bow. If the boat has sufficient inertia to let the sea pass her, she will in succession pass through the descending, horizontal, and ascending positions as the crest of the sea passes successively her stern, midships, and bow. However, if the boat has not sufficient inertia to allow the sea to pass her, only the first of the three positions, as previously stated, will occur. In other words, the stern is raised high and forced onward by the crest of the sea, while the bow is immersed deeply in the hollow of the sea where the water, being stationary, or comparatively so, offers resistance, with the result that the boat is quickly turned broadside to the sea and capsized.

Line.—The sea anchor should be employed during periods of rough weather at sea and on approaching the shore through a broken surf. At sea, the sea anchor may be rigged either over the bow or the stern, depending on the circumstances. The boat painter in the lifeboat can be used as a holding line. One end of this line is fastened to the swivel or grommet of the sea anchor. The sea anchor is then placed in the water and the holding line paid out. No specific rule can be laid down relative to the length of holding line to be paid out, as existing conditions, particularly the size of the seas, is the important factor. However, it may be said that as the sea begins to lift the boat and force it, the sea anchor should rest in comparatively dead water, thus affording the best holding qualities. Where chafing is likely to take place, the holding line should be well wrapped with canvas or other chafing gear. The use of oars and steering oar, to handle a lifeboat successfully in conjunction with the sea anchor when experiencing heavy weather, is often necessary.

Emergency sea anchors.—If no sea anchor is available, ingenuity may be exercised in constructing a sea anchor from usable boat equipment. The boat bucket, properly slung, an air tank filled with water, or a combination of oar and canvas weighted and properly bridled, are methods suggested.

Storm oil container.—In cases where the sea is extremely heavy and much breaking water is encountered, storm oil should be used. A conical-shaped container provided for this purpose is to be inserted through the mouth of the sea anchor, with the pointed end allowed to extend through the opening at the apex of the sea anchor. There are two lanyards provided at the apex of the sea anchor which are to be secured to the two rings attached to the container. Attaching the oil container in this manner will prevent its loss. The cocks at both the large and pointed ends of the oil container are to be slightly opened to allow the oil to seep out slowly. Oil spread on the water in this manner will prevent to some extent the destructive force of breaking seas.



DISENGAGING APPARATUS

Releasing gear is installed in many lifeboats. Its purpose is to permit releasing both of the falls from the boat as soon as the boat is waterborne. There are several types of disengaging apparatus installed at present. One type consists of two releasing hooks one at each end of the boat, connected by a chain running from one end of the boat to the other.

The releasing hooks are hooks which are hinged on pins so that they may be rotated on the pins and upset. The chain between the two hooks is led along the side of the boat through fairleaders and is equipped with an operating grip in a convenient location near the stern. It is fastened to the releasing hooks in such a manner that a strain on the chain will cause the hooks to upset and thus free themselves from the falls.

In operation, a strain is put on the chain by pulling the operating grip as soon as the boat is waterborne, upsetting both hooks and freeing them from both falls simultaneously. Other types of releasing hooks are conected to rods or shafting running along the bottom of the boat, and are operated by means of a lever, functioning through universal joints, which disengages a pin at each end, releasing the hooks. Some types of disengaging apparatus are arranged for independent release by hand instead of simultaneous release.

All lifeboats constructed after January 1, 1944, for use on ocean and coastwise vessels of over 3,000 gross tons shall be fitted with an approved disengaging apparatus so arranged as to make it possible for the lifeboats to be launched while such vessels are under way or stopped, and for both ends of the boat to be released simultaneously by one person. The gears shall be capable of being released from one position in the boat while the boat is fully loaded with allowed persons and equipment. Simultaneous release shall be effected by partially rotating a shaft which shall be continuous and extend from point of contact with the hooks. The releasing gear shall be designed and installed so as to afford the least interference with stowage arrangements and the comfort of the occupants of the boat.

Care should be exercised when lowering a lifeboat to insure that the releasing gear lever is not thrown until the boat is water-borne. If the releasing gear is tripped before the boat is water-borne, it will drop to the water with the probable result of injury to occupants and damage to the boat. In the case of emergency, boats manned by the crew only, the releasing gear may be tripped as the boat is about to become water-borne.

The grips should be properly secured when working in the boat in the stowed position to prevent the possibility of dropping the boat in case of accidental tripping of the releasing gear. Under these circumstances the releasing gear lever should be lashed in the secure position before starting to work in the boat.

NOTE: Approval of all lifeboat disengaging apparatus installed on ocean and coastwise vessels of over 3,000 gross tons which does not conform with the above features is withdrawn effective January 1, 1944. This withdrawal of approval shall not affect existing installations or replacements.

LIKE AN ICEBERG

Like an iceberg, the hidden costs of an accident far exceed those which are visible on the surface—the costs of medical care and compensation. Some of these hidden costs are:

1. Time lost from work by injured.
2. Time lost by fellow workmen.
3. Time lost by supervisors.
4. Damage to tools, equipment and gear.
5. Damage to cargo.
6. Time lost by vessel due to gear failure or other delay.
7. Economic loss to injured and his family.
8. Stevedoring overhead during delay.
9. Cost of making reports and processing claims.
10. Lower production following accident.

The man, the ship, and the stevedore all lose. No one gains by an accident.

The insurance loss ratio is not the whole story. Look for these hidden costs. Then see whether more attention to accident prevention is not worth the effort. *Stevedores' Guide, Accident Prevention Bureau of Pacific Maritime Association.*

A young deck maintenance man was ordered to paint some bulkheads. In the absence of any safety instructions from the chief mate, no rope lashings were provided to hold the ladder in place; result: the young man fell overboard and drowned.

CASUALTY STATISTICS

A compilation of the casualty statistics for the fiscal year 1950 (July 1, 1949, to June 30, 1950) is reprinted in tabular form below. This tabulation is made on the basis of casualty cases closed as of September 30, 1950. A similar tabulation of casualty statistics for the fiscal year 1949 was printed in the May 1950 issue of the Proceedings of the Merchant Marine Council.

Casualties to Vessels, Fiscal Year 1950

[July 1, 1949–June 30, 1950]

	Groundings and founderings	Collisions with other vessels	Collisions with miscellaneous objects	Fires and explosions	Damage to lifesaving equipment	Heavy weather and matériel damage	Totals
Number of casualties	623	389	429	237	23	242	1,943
Number of vessels involved	623	790	429	237	23	242	2,344
Gross tonnage of United States merchant vessels involved	2,370,438	1,447,170	1,918,970	271,241	175,742	1,607,762	8,151,323
Number of inspected vessels involved	375	356	334	52	23	221	1,361
Number of uninspected vessels involved	248	434	95	185		21	983
Type of vessels involved:							
Passenger	18	23	16	9	3	8	77
Freight	243	177	190	46	18	132	806
Tank	118	142	111	14	2	71	458
Public vessels	1	21					22
Ferry	9	30	21	2		3	65
Towing	40	94	48	12		15	209
Fishing	95	73	18	99		2	287
Foreign flag		76					76
Miscellaneous	99	154	25	55		11	344
Persons on board:							
Passengers	3,245	8,677	4,770	879	239	2,219	20,029
Crew	14,200	9,930	12,982	2,381	1,294	9,443	50,230
Value of property lost or damaged:							
Vessels	$6,122,590	$3,973,060	$2,382,029	$3,430,381	$89,200	$2,190,815	$18,188,075
Cargoes	$952,836	$349,148	$246,535	$2,090,011	0	$402,200	$4,040,730
Number of vessels with damage unreported	26	76	6	25		11	144
Number of cargoes with damage unreported	11	74	1	26		5	117
Vessels totally lost:							
Inspected	3	1		6			10
Gross tonnage	1,816	38		1,169			3,023
Uninspected	108	21	18	118			265
Gross tonnage	5,895	700	705	8,244			15,544
Number of casualties due to personnel fault:							
Employed under license or certificate	38	41	20			13	121
Others	42	104	22	10		8	186
Lives lost in casualties:							
Passengers	70	12	1	5			[1] 88
Crew	107	22	8	[2] 47	3	2	[2] 189
Assistant rendered by U. S. Coast Guard	86	13	12	49		10	170
Deaths not involving casualty to vessel:							
Passengers							62
Crew							218
Others							30
Injuries to personnel not involving casualty to vessel:							
Number of personnel incapacitated for more than 72 hours							320

[1] 6 passengers lost off of inspected vessels.
[2] 31 lives lost in the South Amboy explosion.
[3] 7 crew members, 6 workmen, and 1 stowaway lost off of inspected vessels.

Note.—Tabulation made on basis of casualty cases closed as of Sept. 30, 1950.

AMMONIA, ANHYDROUS

WARNING: HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE

LIQUID CAUSES BURNS
GAS EXTREMELY IRRITATING

Do not breathe gas.

Do not get in eyes, on skin, on clothing.

In case of contact, immediately flush skin and eyes with plenty of water for at least 15 minutes. Call a physician at once in case of burns, especially to the eyes, nose and throat, or if the victim is unconscious.

CYLINDER HANDLING AND STORAGE

Keep away from heat.
Do not store in sunlight.
Never drop cylinder.
Be sure connections are tight.
Never refill cylinder. I. C. C. Regulations prohibit refilling without permission of owner.
Have gas mask approved by U. S. Bureau of Mines specifically for ammonia service available for emergency.

BE NOT ASHAMED OF SPECS

Sometime in his career, every merchant skipper will become chairborne. In such a job he will have to do a tremendous amount of reading.

As he approaches 40, he finds it increasingly difficult to read with his book close to his face. He holds it farther away and has to concentrate harder.

His tendency is to blame "too much close work." His pride in a good pair of eyes makes him keep quiet about the condition longer than he should. Close work as such, however, does no damage. The Coast Guard knows what will happen and makes no penalty for it.

Actually, far-sightedness is as inevitable as death and taxes.

Every merchant skipper has eyesight above average, but even with a perfect pair of eyes, age starts to take its toll. It all stems from the ciliary muscle which controls the iris of the eye.

In reading, the iris has to stop down just as it does for a bright light. As a man grows older, the muscle which does the stopping down grows increasingly stiff in its action. As a result the point of focus grows farther from the eye. Remember the test in which a ruler is held straight out from the nose and a little card is pulled away from the eye until a line can be read? That's the test which shows how well that muscle does its job. It is an infallible indication of age. That ruler will always tell age within a year or two.

This progressive far-sightedness, or presbyopia, is normal, and the Coast Guard allows for it. It is not disqualifying, nor is it a mark of poor eyes that a man has to use glasses for close reading as he grows older. Glasses allow the ciliary muscle to stop down only part way for close work.

Temporary visual difficulties can come from a variety of causes. Medical doctors emphasize that disturbances are only temporary.

Fatigue can play a part in temporary loss of acuity. Other factors are unbalanced diet, excesses in alcohol or tobacco, loss of sleep, excesses in reading or poor light.

All the diminution of acuity as a result of above factors will disappear after adequate rest. Vision will be restored to normal for the individual concerned.

So it isn't the desk job in Washington, old timer, it's just the man with the scythe. You can count on the glasses between 40 and 45.

When you young "squirts" see the skipper put on his glasses when you hand him a dispatch to read, just remember the old epitaph, freely paraphrased:

Hearken, stranger, as you pass by,
As you are now, so once was I,
As I am now, so you will be,
And so be warned by thought of me.

Observations of the Old Mariner

Select the right tool for the job—never use a makeshift.

Use only tools in good condition—no cracked or broken handles, none without handles, no tools with mushroomed or broken heads.

Keep cutting tools sharp; store them safely when not in use.

Do not use a hammer with a hardened face on a highly tempered tool such as a drill, die, or jig. Chips may fly.

Use wrenches of the right size for the job. Face the jaws of an adjustable wrench in the direction of the pull.

Never apply a wrench to moving machinery; stop the machine; then remove all tools before starting it again.

See that pipe wrench jaws are sharp and chains in condition so they will not slip.

Never use any tool in such a way that you will be injured if it slips.

See that all hammer heads are well wedged to prevent their flying off when used.

When a sledge hammer is being used on open pins safety tongs should be used to hold the pins to prevent hand injury.

Eight Easy Ways to Fall:

- *Loose objects on deck.
- *Not watching your step on ladders.
- *Tripping over objects.
- *Slipping on oil.
- *Failing to use a grab rail.
- *Unguarded openings.
- *Cluttered ladders.
- *Between loose planks.

Don't jump, use steps or ladder.

Accidents involve people and they can involve YOU! Be wise—Be CAREFUL.

APPENDIX

Amendments to Regulations

Title 3—The President

EXECUTIVE ORDER 10173

REGULATIONS RELATING TO THE SAFEGUARDING OF VESSELS, HARBORS, PORTS, AND WATERFRONT FACILITIES OF THE UNITED STATES

By virtue of the authority vested in me by Public Law 679, 81st Congress, 2d Session, approved August 9, 1950, which amended section 1, Title II of the act of June 15, 1917, 40 Stat. 220 (50 U. S. C. 191), and as President of the United States, I hereby find that the security of the United States is endangered by reason of subversive activity, and I hereby prescribe the following regulations relating to the safeguarding against destruction, loss, or injury from sabotage or other subversive acts, accidents, or other causes of similar nature, of vessels, harbors, ports, and waterfront facilities in the United States, and all territory and water, continental or insular, subject to the jurisdiction of the United States, exclusive of the Canal Zone, and the said regulations shall constitute Part 6, Subchapter A, Chapter I, Title 33 of the Code of Federal Regulations; and all agencies and authorities of the Government of the United States shall, and all state and local authorities and all persons are urged to support, conform to, and assist in the enforcement of these regulations and all supplemental regulations issued pursuant thereto:

Subchapter A—General

PART 6—PROTECTION AND SECURITY OF VESSELS, HARBORS, AND WATERFRONT FACILITIES

SUBPART 6.01—DEFINITIONS

Sec.
6.01–1 Commandant.
6.01–2 District Commander.
6.01–3 Captain of the Port.
6.01–4 Waterfront facility.

SUBPART 6.04—GENERAL PROVISIONS

6.04–1 Enforcement.
6.04–5 Preventing access of persons, articles or things to vessels or waterfront facilities.
6.04–7 Visitation and search.
6.04–8 Possession and control of vessels.
6.04–11 Assistance of other agencies.

SUBPART 6.10—IDENTIFICATION AND EXCLUSION OF PERSONS FROM VESSELS AND WATERFRONT FACILITIES

Sec.
6.10–1 Issuance of documents and employment of persons aboard vessels.
6.10–3 Special validation of merchant marine documents.
6.10–5 Access to vessels and waterfront facilities.
6.10–7 Identification credentials.
6.10–9 Appeals.

SUBPART 6.12—SUPERVISION AND CONTROL OF EXPLOSIVES OR OTHER DANGEROUS CARGO

6.12–1 General supervision and control.
6.12–3 Approval of facility for dangerous cargo.

SUBPART 6.16—SABOTAGE AND SUBVERSIVE ACTIVITY

6.16–1 Reporting of sabotage and subversive activity.
6.16–3 Precautions against sabotage.

SUBPART 6.18—PENALTIES

6.18–1 Violations.

AUTHORITY: §§ 6.01–1 to 6.18–1, inclusive, issued under the act of June 15, 1917, 40 Stat. 220, 50 U. S. C. 191, as amended by Pub. Law 679, 81st Cong., 2d Session, approved August 9, 1950.

SUBPART 6.01—DEFINITIONS

§ 6.01–1 *Commandant.* "Commandant" as used in this part, means the Commandant of the United States Coast Guard.

§ 6.01–2 *District Commander.* "District Commander" as used in this part, means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District.

§ 6.01–3 *Captains of the Port.* "Captain of the Port" as used in this part, means the officer of the Coast Guard, under the command of a District Commander, so designated by the Commandant for the purpose of giving immediate direction to Coast Guard law enforcement activities within the general proximity of the port in which he is situated.

§ 6.01–4 *Waterfront facility.* "Waterfront facility" as used in this part, means all piers, wharves, docks, and similar structures to which vessels may be secured, buildings on such structures or contiguous to them, and equipment and materials on such structures or in such buildings.

SUBPART 6.04—GENERAL PROVISIONS

§ 6.04–1 *Enforcement.* (a) The rules and regulations in this part shall be enforced by the captain of the port under the supervision and general direction of the District Commander, and all authority and power vested in the captain of the port by the regulations in this part shall be deemed vested in and may be exercised by the District Commander.

(b) The rules and regulations in this part may be enforced by any other officer of the Coast Guard designated by the Commandant or the District Commander.

§ 6.04–5 *Preventing access of persons, articles or things to vessels or waterfront facilities.* The captain of the port may prevent any person, article or thing from boarding or being taken on board any vessel or entering or being taken into any waterfront facility when he deems that the presence of such person, article or thing would be inimical to the purposes set forth in § 6.04–8.

§ 6.04–7 *Visitation and search.* The captain of the port may cause to be inspected and searched at any time any vessel or waterfront facility or any person, article or thing thereon, within the jurisdiction of the United States, may place guards upon any such vessel and waterfront facility and may remove therefrom any or all persons, articles or things not specifically authorized by him to go or to remain thereon.

§ 6.04–8 *Possession and control of vessels.* The captain of the port may supervise and control the movement of any vessel and shall take full or partial possession or control of any vessel or any part thereof, within the territorial waters of the United States under his jurisdiction, whenever it appears to him that such action is necessary in order to secure such vessel from damage or injury, or to prevent damage or injury to any vessel or waterfront facility or waters of the United States, or to secure the observance of rights and obligations of the United States.

§ 6.04–11 *Assistance of other agencies.* The captain of the port may enlist the aid and cooperation of Federal, State, county, municipal, and private agencies to assist in the enforcement of regulations issued pursuant to this part.

SUBPART 6.10—IDENTIFICATION AND EXCLUSION OF PERSONS FROM VESSELS AND WATERFRONT FACILITIES

§ 6.10–1 *Issuance of documents and employment of persons aboard vessels.* No person shall be issued a document required for employment on a merchant vessel of the United States nor shall any licensed officer or certificated man be employed on a

merchant vessel of the United States if the Commandant is satisfied that the character and habits of life of such person are such as to authorize the belief that the presence of the individual on board would be inimical to the security of the United States: *Provided*, That the Commandant may designate categories of merchant vessels to which the foregoing shall not apply.

§ 6.10–3 *Special validation of merchant marine documents.* The Commandant may require that all licensed officers and certificated men who are employed on other than the exempted designated categories of merchant vessels of the United States be holders of specially validated documents. The form of such documents, the conditions, and the manner of their issuance shall be as prescribed by the Commandant. The Commandant shall revoke and require the surrender of a specially validated document when he is no longer satisfied that the holder is entitled thereto.

§ 6.10–5 *Access to vessels and waterfront facilities.* Any person on board any vessel or any person seeking access to any vessel or any waterfront facility within the jurisdiction of the United States may be required to carry identification credentials issued by or otherwise satisfactory to the Commandant. The Commandant may define and designate those categories of vessels and areas of the waterfront wherein such credentials are required.

§ 6.10–7 *Identification credentials.* The identification credential to be issued by the Commandant shall be known as the Coast Guard Port Security Card, and the form of such credential, and the conditions and the manner of its issuance shall be as prescribed by the Commandant after consultation with the Secretary of Labor. The Commandant shall not issue a Coast Guard Port Security Card if he is satisfied that the character and habits of life of the applicant therefor are such as to authorize the belief that the presence of such individual on board a vessel or within a waterfront facility would be inimical to the security of the United States. The Commandant shall revoke and require the surrender of a Coast Guard Port Security Card when he is no longer satisfied that the holder is entitled thereto. The Commandant may recognize for the same purpose such other credentials as he may designate in lieu of the Coast Guard Port Security Card.

§ 6.10–9 *Appeals.* Persons who are refused employment or who are refused the issuance of documents or who are required to surrender such documents, under this subpart, shall have the right of appeal, and the Commandant shall appoint Boards for acting on such appeals. Each such Board shall, so far as practicable, be composed of one Coast Guard officer, one member drawn from management, and one member drawn from labor. The members drawn from management and labor shall, upon suitable security clearance, be nominated by the Secretary of Labor. Such members shall be deemed to be employees of the United States and shall be entitled to compensation under the provisions of section 15 of the act of August 2, 1946 (5 U. S. C. 55a) while performing duties incident to such employment. The Board shall consider each appeal brought before it and, in recommending final action to the Commandant, shall insure the appellant all fairness consistent with the safeguarding of the national security.

SUBPART 6.12—SUPERVISION AND CONTROL OF EXPLOSIVES OR OTHER DANGEROUS CARGO

§ 6.12–1 *General supervision and control.* The captain of the port may supervise and control the transportation, handling, loading, discharging, stowage, or storage of explosives, inflammable or combustible liquids in bulk, or other dangerous articles or cargo covered by the regulations entitled "Explosives or Other Dangerous Articles on Board Vessels" (46 CFR Part 146) and the regulations governing tank vessels (46 CFR Parts 30 to 38, inclusive).

§ 6.12–3 *Approval of facility for dangerous cargo.* The Commandant may designate waterfront facilities for the handling and storage of, and for vessel loading and discharging, explosives, inflammable or combustible liquids in bulk, or other dangerous articles or cargo covered by the regulations referred to in § 6.12–1, and may require the owners, operators, masters, and others concerned to secure permits for such handling, storage, loading, and unloading from the captain of the port, conditioned upon the fulfillment of such requirements for the safeguarding of such waterfront facilities and vessels as the Commandant may prescribe.

SUBPART 6.16—SABOTAGE AND SUBVERSIVE ACTIVITY

§ 6.16–1 *Reporting of sabotage and subversive activity.* Evidence of sabotage or subversive activity involving or endangering any vessel, harbor, port, or waterfront facility shall be reported immediately to the Federal Bureau of Investigation and to the captain of the port, or to their respective representatives.

§ 6.16–3 *Precautions against sabotage.* The master, owner, agent, or operator of a vessel or waterfront facility shall take all necessary precautions to protect the vessel, waterfront facility, and cargo from sabotage.

SUBPART 6.18—PENALTIES

§ 6.18–1 *Violations.* Section 2, Title II of the act of June 15, 1917, as amended, 50 U. S. C. 192, provides as follows:

If any owner, agent, master, officer, or person in charge, or any member of the crew of any such vessel fails to comply with any regulation or rule issued or order given under the provisions of this title, or obstructs or interferes with the exercise of any power conferred by this title, the vessel, together with her tackle, apparel, furniture, and equipment, shall be subject to seizure and forfeiture to the United States in the same manner as merchandise is forfeited for violation of the customs revenue laws; and the person guilty of such failure, obstruction, or interference shall be punished by imprisonment for not more than ten years and may, in the discretion of the court, be fined not more than $10,000.

(a) If any other person knowingly fails to comply with any regulation or rule issued or order given under the provisions of this title, or knowingly obstructs or interferes with the exercise of any power conferred by this title, he shall be punished by imprisonment for not more than ten years and may, at the discretion of the court, be fined not more than $10,000.

HARRY S. TRUMAN

THE WHITE HOUSE,
October 18, 1950.

[F. R. Doc. 50–9317; Filed, Oct. 18, 1950; 4:19 p. m.; 15 F. R. 7005–7008]

Title 33—Navigation and Navigable Waters

Chapter I—Coast Guard, Department of the Treasury

NOTE: In order that the regulations for security of vessels and waterfront facilities may be presented in one group, two Federal Register Documents CGFR 50–32 and 50–37, signed by the Commandant, United States Coast Guard, on November 7 and December 6, 1950, have been consolidated. These regulations are in effect on and after December 27, 1950.

SECURITY OF VESSELS AND WATERFRONT FACILITIES

A notice regarding proposed regulations covering the security of vessels and waterfront facilities was published in the Federal Register dated November 9, 1950 (15 F. R. 7527

et seq.), and a public hearing was held by the Merchant Marine Council on November 27 and 28, 1950, at Washington, D. C.

All comments submitted were considered by the Merchant Marine Council and changes in the regulations have been made.

The regulations below shall become effective immediately upon publication of this document in the Federal Register and the effective date requirement of the Administrative Procedure Act is hereby found to be contrary to the public interest. This urgency is due to the fact that the President has found the security of the United States is endangered by subversive activities. The regulations in 33 CFR Part 125 below will be invoked at such ports as the Commandant may from time to time direct.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order No. 10173, the following regulations are added to chapter I of 33 CFR:

SUBCHAPTER K—SECURITY OF VESSELS

PART 121—SECURITY CHECK AND CLEARANCE OF MERCHANT MARINE PERSONNEL

Sec.

AUTHORITY: §§ 121.01 to 121.31 issued under E. O. 10173, Oct. 18, 1950; 15 F. R. 7005, 33 CFR Part 6. Interpret or apply 40 Stat. 220, as amended; 50 U. S. C. 191.

§ 121.01 *Basis and purpose of subchapter.* By virtue of authority vested in the Commandant of the Coast Guard, under Executive Order No. 10173 to make effective Public Law 679, 81st Congress, 2d Session, approved August 9, 1950, the rules and regulations in this subchapter are prescribed for the security of vessels in accordance with the intent of the law and Executive order and to obtain their correct and uniform administration.

§ 121.03 *Commandant.* The term "Commandant" means Commandant of the Coast Guard.

§ 121.05 *Security check.* By security check is meant the processes or actions taken by the Commandant to determine (a) whether the holder of a license or certificate is a safe and suitable person to be employed on a vessel under the authority of his license or certificate, and (b) whether an applicant for a license or certificate is a safe and suitable person to be issued such a document.

§ 121.07 *Security clearance.* By security clearance is meant the approval by the Commandant for a person to be employed as a licensed officer or certificated man on vessels of the United States requiring such licensed or certificated personnel. This security clearance may be given in the form of permission for employment for one voyage, or for a specific length of time, or by the issuance of a document bearing evidence of security clearance.

§ 121.09 *Safe and suitable person.* A safe and suitable person is one whose character and habits of life are such as to authorize the belief that his presence aboard vessels of the United States is not inimical to the security of the United States.

§ 121.11 *Security check at time of crew sign-on.* Each licensed officer and certificated man may be checked by the Coast Guard prior to signing the particulars of engagement of the shipping articles. Only those who are temporarily cleared or who are in possession of a document bearing evidence of clearance may be so employed.

§ 121.13 *Application for security clearance*—(a) *General.* (1) Any person legally holding a currently valid license or certificate may make application at any Coast Guard Marine Inspection Office for the issuance of a document bearing a special validation indorsement for emergency service. He will be required to meet the other requirements of the regulations for exchange of documents, such as, furnishing a photograph, signing, thumbprint, etc., as set forth in 46 CFR 12.02-23.

(2) Persons who make application for the issuance of original documents or for duplicate documents will be checked for security prior to issuance of the documents applied for, and no documents will be issued without security clearance and authorization by the Commandant.

(b) *Form of application.* Each application for security clearance shall be in writing and contain the following information:

(1) The full name of the applicant.

(2) The number of the applicant's Certificate of Identification, Continuous Discharge Book, or Merchant Mariner's Document.

(3) The applicant's date of birth.

(4) The location of the Marine Inspection Office at which the applicant will call approximately 30 days later for the document evidencing security clearance.

(c) *Approval of Commandant required.* No document bearing an indication of security clearance shall be issued except upon prior approval of the Commandant. No applicant shall be issued any evidence of security clearance without the Commandant's authorization.

(d) *Basis for rejection.* The Commandant will deny a security clearance to any person if, upon full consideration, he is satisfied that the applicant's character and habits of life are such as to authorize the belief that the presence of the person aboard vessels of the United States would be inimical to the security of the United States; and the basis of rejection as above will be if, on all the evidence and information available, reasonable grounds exist for the belief that the individual:

(1) Has committed acts of treason or sedition, or has engaged in acts of espionage or sabotage; has actively advocated or aided the commission of such acts by others; or has knowingly associated with persons committing such acts; or,

(2) Is employed by, or subject to the influence of, a foreign government under circumstances which may jeopardize the security interests of the United States; or,

(3) Has actively advocated or supported the overthrow of the government of the United States by the use of force or violence; or,

(4) Has intentionally disclosed military information classified confidential or higher without authority and with reasonable knowledge or belief that it may be transmitted to a foreign government, or has intentionally disclosed such information to persons not authorized to receive it; or,

(5) Is or recently has been a member of, or affiliated, or sympathetically associated with, any foreign or domestic organization, association, movement, group, or combination of persons (i) which is, or which has been designated by the Attorney General as being, totalitarian, fascist, communist, or subversive, (ii) which has adopted, or which has been designated by the Attorney General as having adopted, a policy of advocating or approving the commission of acts of force or violence to deny other persons their rights under the Constitution of the United States, or (iii) which seeks, or which has been designated by the Attorney General as seeking, to alter the form of the Government of the United States by unconstitutional means: *Provided,* That access may be granted, notwith-

standing such membership, affiliation, or association, if it is demonstrated, by more than a mere denial, that the security interests of the United States will not thereby be jeopardized.

(e) *Professional or physical examination not required.* No further professional or physical examination of persons already licensed or certificated will be required for the issuance of a document evidencing security clearance provided no additional grade or rating is applied for at the same time.

§ 121.15 *Issuance of documents bearing security clearance indorsement*—(a) *Form of document.* The document evidencing security clearance shall be in the form of a Merchant Mariner's Document and no other document held by a licensed officer or certificated man will be accepted as evidence of security clearance, nor shall any other document be indorsed to show security clearance. A person holding a Continuous Discharge Book, or Merchant Mariner's Document, or Certificate of Identification will, when entitled to a document evidencing a security clearance, be issued a Merchant Mariner's Document bearing the Continuous Discharge Book, Merchant Mariner's Document or Certificate of Identification number and he will not be required to surrender the documents presently held by him.

(b) *Photograph required.* The applicant shall furnish one unmounted, dull finish photograph, 2 inches by 1½ inches, of passport type taken within one year of the date of application. Photographs shall show the full face, at least one inch in height, with the head uncovered, and shall be a clear and satisfactory likeness of the applicant.

(c) *No charge for exchange.* No charge shall be made for the issuance of a Merchant Mariner's Document evidencing security clearance when it is exchanged for a currently held valid document.

(d) *Duplicates of documents bearing clearance indorsement.* Any person to whom a document evidencing security clearance is issued may be issued a duplicate thereof but only after a full explanation of the loss of the document is made in writing to the Coast Guard and after a full check is made and authorization granted by the Commandant. The requirements of 46 CFR 12.02–23 shall also apply.

(e) *Denial or revocation of clearance indorsement.* When it is determined by the Commandant that a person to whom security clearance has been denied or to whom a document evidencing security clearance has been granted is not eligible therefor, within the meaning of § 121.13 (d), such person shall be notified in writing and, in the latter event, he shall immediately surrender to the Coast Guard any document held by him which evidences security clearance.

§ 121.17 *Right of appeal.* Any person who has been denied a security clearance, or who is required to surrender any document evidencing security clearance, shall have the right to appeal from such action in the manner described in this part.

§ 121.19 *Local Appeal Boards.* (a) The Commandant will appoint a Local Appeal Board in each coastal Coast Guard District. Each board will be composed of three members, one to be designated as Chairman who shall represent the Coast Guard in the public interest; the other members of the Board shall, so far as practicable, represent management and labor and shall be drawn from a panel containing such representatives. The Chairman of the Board shall designate from these panels the individual members to hear each appeal. In addition to the management and labor representatives, other reputable citizens in the community will be appointed to these panels; they will act as alternates in the event of sustained challenge or other unavailability of management and labor representatives. If practicable, at least one member of each Board should be an attorney.

(b) The aforesaid management, labor, and alternate members will be nominated by the Secretary of Labor pursuant to § 6.10–9 of Subchapter A of this chapter. Such members shall be deemed to be employees of the United States and shall be entitled to compensation under the provisions of section 15 of the act of August 2, 1946 (5 U. S. C. 55a) while performing duties as Board members.

(c) The Board shall consider fairly each appeal brought before it. Its proceedings shall be conducted with due regard to the National Security.

§ 121.21 *Chairman of the Board: duties and responsibilities.* (a) The Chairman of the Board shall keep a list of the names and addresses of the members of the panel and maintain current data with respect to their availability. He shall also make all necessary arrangements incidental to the business of the Board. These arrangements shall include the designation of management and labor panel members to hear each specific appeal, and the designation of alternate panel members when necessary. In carrying out these duties the Chairman of the Board shall:

(1) Accept an appeal from any appellant denied security clearance;

(2) Obtain from the Commandant the complete record in the case;

(3) Furnish the appellant with a written statement which shall contain, as specifically as considerations of security will permit, the basis upon which security clearance was denied, and notification:

(i) That, within a period of 10 days from the receipt of the statement, he may file, if he so desires, a written answer with the Chairman;

(ii) That, within 15 days after receipt of such statement, unless the appellant tenders a timely request for a postponement, the Local Appeal Board will meet to hear such evidence as the appellant desires to submit;

(iii) That, unless otherwise requested by the appellant, at least 48 hours' notice will be given of the date and place of hearing;

(iv) That the appellant may appear personally before such Board; be present during the entire hearing; be represented by counsel, or other representative, of his own choosing; and present evidence in his own behalf, through witnesses, or by documents, or both;

(v) Of the names of the prospective members of the Board, their occupations, and the names of business or labor organizations or associations with which such persons are affiliated; and

(vi) Of the appellant's privilege, for good cause shown, of challenging any member of the Board.

(b) Within 5 days after receipt of the statement described in paragraph (a) (3) of this section, an appellant may request disqualification of any member of the Board on the grounds of personal bias or other cause. The appellant shall accompany his request with an affidavit setting forth in detail the facts alleged to constitute grounds for disqualification. The appellant may supplement his affidavit with an oral presentation if he so desires. If after due consideration the Chairman believes a challenged member qualified notwithstanding the challenge, he shall notify the appellant and arrange to proceed to hearing. If the appellant excepts to the ruling of the Chairman, such exception and data relating to the claim of disqualification shall be made a matter of record. If the Chairman finds that there is reasonable ground for disqualification he shall furnish the appellant with the name of an alternate in lieu of the challenged member and arrange to proceed to hearing. In the event the Chairman of the Board is challenged, he shall forthwith notify the Commandant, furnishing the grounds for the claim of disqualification whereupon a new Chairman will be appointed if reasonable grounds for

disqualification exist, who shall arrange to proceed to hearing. In addition to the right of challenge for cause, the appellant shall have 2 preemptory challenges; 1 challenge for the management member and 1 challenge for the labor member of the board. Should the management member be so challenged, the appellant may elect to have the management member replaced by another management member or by a member not representing either management or labor; if the member preemptorily challenged represents labor, the appellant may elect to have the labor member replaced by another labor member or by a member not representing either management or labor.

§ 121.23 *Hearing of appeals.* (a) Members of Appeal Boards shall be guided by the regulations in this subchapter and Subchapters A and L of this chapter, together with such supplementary instructions as may be issued by the Commandant.

(b) The proceedings shall be presided over by the Chairman of the Board and shall be conducted in an orderly and decorous manner with every effort made to protect the interests of the United States and of the appellant. In performing these duties, the members of the Board should at all times avoid the attitude of prosecutor.

(c) Hearings may be conducted in open or closed session at the option of the appellant: *Provided, however,* That if it appears during the course of the hearing that data whose disclosure would be inimical to the security of the United States or to the interests of the appellant might be divulged, the Chairman shall see that such disclosure is not made to persons who are not authorized to receive it.

(d) During the course of the proceedings the Chairman shall rule in open session on all questions presented to the Board for its determination, subject to objection by any member of the Board. In case of such objection, majority vote of the members of the Board will control.

(e) The Board may ask the appellant or witness any questions calculated to obtain the fullest possible disclosure of relevant and material facts.

(f) The members of the Board shall not engage in any arguments with the appellant, his counsel or witnesses.

(g) The technical rules of evidence shall not apply.

(h) A verbatim record will be made of the hearing and will be retained as a permanent part of the file in the case. In case the decision is adverse, and upon request of the appellant, the Board will furnish to him a copy of the transcript of the hearing, after deleting any classified information.

§ 121.25 *Recommendations of the Board.* (a) The Board shall carefully consider all material before it, including the data furnished upon which denial of security clearance was based, together with the data presented by the appellant. In making such determination the Board will consider the manner in which the witnesses have testified before the Board, their demeanor on the witness stand, the probability of their testimony, their credibility, the authenticity of documentary evidence or lack of evidence upon some material fact in issue.

(b) Should the Board feel that further investigation should be made on any material matter, it may so recommend, identifying, when possible, the persons or sources from which additional data should be sought. If, after considering all relevant factors, the Board is of the opinion that the national security will not be endangered by security clearance, it shall so recommend; otherwise, an adverse recommendation shall be made.

(c) The recommendation of the Board shall be determined by a majority vote and each vote shall have equal weight. In the event of a dissent, each separate recommendation shall be made a matter of record.

(d) The recommendation of the Board together with all documentary data shall be transmitted by the Chairman of the Board directly to the Commandant for his determination. A complete but concise statement of the reasons or basis upon which the Board and the dissenting member if any arrived at its or his recommendation shall accompany the record. The Commandant may either aprove or reject the recommendation of the Board or remand the case for further proceedings.

(e) The appellant will be notified in writing of the decision of the Commandant. Should the decision be adverse to the appellant, he will be advised of his right further to appeal and of the procedure for taking such an appeal.

§ 121.27 *National Appeal Board.* (a) For the purpose of considering further appeals, there shall be established at Coast Guard Headquarters, Washington, D. C., a National Appeal Board which shall be composed of three members, one to be designated as Chairman who shall represent the Coast Guard.

(b) The management, labor, and alternate members of the Board shall be nominated, appointed, designated, and compensated in the same manner and with like procedures as is provided for under the provisions of § 121.19 (b).

(c) The privilege of challenge by the appellant may be exercised in like manner as is provided for under the provisions of § 121.21 (b).

§ 121.29 *Hearing of appeals before National Appeal Board.* (a) In proceedings before the National Appeal Board, the appellant may appear personally before such Board; be present during the entire hearing; be represented by counsel, or other representative, of his own choosing; and present evidence in his own behalf, through witnesses, or by documents, or both.

(b) The Chairman of the Board shall make all arrangements incidental to the business of the Board and shall preside over the hearing.

(c) Hearings may be conducted in open or closed session at the option of the appellant: *Provided, however,* That if it appears during the course of the hearing that data whose disclosure would be inimical to the security of the United States or to the interests of the appellant might be divulged, the Chairman shall see that such disclosure is not made to persons who are not authorized to receive it.

(d) In the conduct of an appeal before the National Appeal Board, the appellant and the members of such Board shall comply with the regulations in §§ 121.21, 121.23, and 121.25.

§ 121.31 *Final action on appeal.* (a) The Commandant is the final authority to grant or deny security clearance.

(b) Upon receipt of the recommendation of the National Appeal Board and after careful consideration of the case, the Commandant will notify the appellant in writing of his final decision.

SUBCHAPTER L—SECURITY OF WATERFRONT FACILITIES

Part 125—Identification Credentials for Persons Requiring Access to Waterfront Facilities or Vessels

Sec.

Sec.
125.33 Right of appeal.
125.35 Replacement of lost Coast Guard Port Security Card.

AUTHORITY: §§ 125.01 to 125.35, issued under E. O. 10173, Oct. 18, 1950, 15 F. R. 7005, 33 CFR Part 6. Interpret or apply 40 Stat. 220, as amended; 50 U. S. C. 191.

§ 125.01 *Basis and purpose of subchapter.* By virtue of authority vested in the Commandant of the Coast Guard, under Executive Order No. 10173 to make effective Public Law 679, 81st Congress, 2d Session, approved August 9, 1950, the rules and regulations in this subchapter are prescribed for the security of waterfront facilities in accordance with the intent of the law and Executive order and to obtain their correct and uniform administration.

§ 125.03 *Commandant.* The term "Commandant" means Commandant of the Coast Guard.

§ 125.05 *District Commander.* The term "District Commander" means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District.

§ 125.07 *Captain of the Port.* The term "Captain of the Port" means the officer of the Coast Guard, under the command of a District Commander, so designated by the Commandant for the purpose of giving immediate direction to Coast Guard law enforcement activities within the general proximity of the port in which he is situated.

§ 125.09 *Waterfront facility.* The term "waterfront facility," as used in this subchapter, means all piers, wharves, docks, and similar structures to which vessels may be secured, buildings on such structures or contiguous to them, and equipment and materials on such structures or in such buildings.

§ 125.11 *Identification credentials.* Pursuant to the authority conferred by § 6.10–5 of Subchapter A of this chapter, the following are prescribed as identification credentials satisfactory to the Commandant:

(a) Coast Guard Port Security Card (Form CG 2514).

(b) Merchant Mariner's Document evidencing security clearance.

(c) Armed Forces Identification Card.

(d) Identification credentials issued by Federal law enforcement and intelligence agencies to their officers and employees (e. g., Department of the Treasury, Department of Justice, Federal Communications Commission).

(e) Identification credentials issued to public safety officials (e. g., police, firemen) when acting within the scope of their employment.

(f) Such other identification as may be approved by the Commandant from time to time.

§ 125.12 *Captain of the Port Identification Cards.* Captain of the Port Identification Cards issued under the form designation "Form CG 2514" prior to the revision of August 1950 were declared invalid by a notice published in the Federal Register on September 11, 1946 (11 F. R. 10103), which declaration is hereby reaffirmed.

§ 125.13 *Requirements for credentials.* (a) The Commandant will, from time to time, direct Captains of the Port of certain ports to prevent access of persons who do not possess one or more of the identification credentials mentioned in § 125.11 to those waterfront facilities and port and harbor areas, including vessels and harbor craft therein, where the following shipping activities are conducted:

(1) Those vital to the Military Defense Assistance Program.

(2) Those pertaining to the support of U. S. military operations.

(3) Those pertaining to loading and unloading explosives and other dangerous cargo.

(b) No person who does not possess one of the identification credentials aforesaid shall enter or remain in such facilities or areas or vessels and harbor craft therein. The Captain of the Port shall give local public notice of the restriction of access to waterfront facilities and port and harbor areas as aforesaid as far in advance thereof as practicable, and shall cause such facilities and areas to be suitably marked as to such restriction.

§ 125.15 *Persons eligible for Coast Guard Port Security Cards.* Only the following persons may be issued Coast Guard Port Security Cards:

(a) Persons regularly employed on vessels or on waterfront facilities.

(b) Persons having regular public or private business connected with the operation, maintenance, or administration of vessels, their cargoes, or waterfront facilities.

§ 125.17 *Coast Guard Port Security Card.* The Coast Guard Port Security Card (Form CG 2514), authorized in § 6.10–7 of Subchapter A of this chapter, shall be a laminated card bearing photograph, signature, fingerprint, personal description of the holder, and other pertinent data.

§ 125.19 *Application for Coast Guard Port Security Card.* (a) A person applying for a Coast Guard Port Security Card shall complete an "Application for Coast Guard Port Security Card" (Form CG 2685), which requires the applicant's complete identification, citizenship record, personal description, military record if any, and a certifying statement of the applicant, as well as a certification of sponsor certifying the applicant's employment or union membership and that applicant's statements are true and correct to the best of sponsor's knowledge.

(b) The application shall be accompanied by two unmounted, dull finish photographs, 1 inch x $1\frac{5}{16}$ inches, of passport type, taken within one year of the date of application. The photograph shall show the full face with the head uncovered and shall be a clear and satisfactory likeness of the applicant. It shall portray the largest image of the head and upper shoulders possible within the dimensions specified.

(c) Fingerprint records on each applicant shall be taken by the Coast Guard at the time application is submitted.

(d) The applicant shall present satisfactory proof of his citizenship.

(e) The applicant shall present his completed application, in person, to a Coast Guard Port Security Unit designated to receive such applications. Such units will be located in or near each port where Coast Guard Port Security Cards are required.

(f) The applicant shall indicate the address to which his Coast Guard Port Security Card can be delivered to him by registered mail. Under special circumstances the applicant may arrange to call in person for the Coast Guard Port Security Card.

§ 125.21 *United States citizens.* Acceptable evidence of United States citizenship is described herein in the order of its desirability; however, the Coast Guard will reject any evidence not believed to be authentic:

(a) Birth certificate or certified copy thereof.

(b) Certificate of Naturalization. This shall be presented by all persons claiming citizenship through naturalization.

(c) Baptismal certificate or parish record recorded within one year after birth.

(d) Statement of a practicing physician certifying that he attended the birth and that he has a record in his possession showing the date and place of birth.

(e) United States passport.

(f) A commission in one of the Armed Forces of the United States, either regular or reserve; or satisfactory documentary evidence of having been commissioned in one of the Armed Forces subsequent to January 1, 1936, provided such commission or evidence shows the holder to be a citizen.

(g) A continuous discharge book, or merchant mariner's document issued by the Coast Guard which shows the holder to be a citizen of the United States.

(h) Delayed certificate of birth. If an applicant claiming to be a citizen of the United States submits a delayed certificate of birth issued under a State's seal, it may be accepted as prima facie evidence of citizenship if no one of the requirements in paragraphs (a) to (g) of this section can be met by the applicant and in the absence of any collateral facts indicating fraud in its procurement.

(i) If no one of the requirements in paragraphs (a) to (h) of this section can be met by the applicant, he should make a statement to that effect, and in an attempt to establish citizenship, he may submit for consideration data of the following character:

(1) Report of the Census Bureau showing the earliest record of age or birth available. Request for such information should be addressed to the Director of the Census, Washington 25, D. C. In making such request, definite information must be furnished the Census Bureau as to the place of residence when the first census was taken after the birth of the applicant, giving the name of the street and the number of the house, or other identification of place where living, etc.; also names of parents or the names of other persons with whom residing on the date specified.

(2) School records, immigration records, or insurance policies (the latter must be at least 10 years old).

§ 125.23 *Aliens.* Alien registration records, together with other papers and documents which indicate the country of which the applicant is a citizen, shall be accepted as evidence of citizenship in a foreign nation.

§ 125.25 *Sponsorship of applicant.* An application (Form CG 2685) for a Coast Guard Port Security Card shall not be accepted unless sponsored. The applicant should be sponsored by an authorized official of the employer or by an authorized official of his labor union. Each company and each labor union concerned shall file with the appropriate Captain of the Port a list of officials of the company or union authorized so to sponsor personnel. Other sponsorship may be accepted where the circumstances warrant.

§ 125.27 *Notification of denial or revocation of Coast Guard Port Security Card.* When it is determined by the Commandant that a person who has applied for a Coast Guard Port Security Card or a person to whom a Coast Guard Port Security Card has been issued is not eligible therefor within the meaning of § 125.29 or § 125.31, such person shall be so notified in writing, and in the latter event he shall immediately surrender to the Coast Guard any Temporary Identification or Coast Guard Port Security Card held by him.

§ 125.29 *Basis for denial.* The Commandant will deny a Coast Guard Port Security Card to any person if, upon full consideration, he is satisfied that the applicant's character and habits of life are such as to authorize the belief that the presence of the person on waterfront facilities and port and harbor areas, including vessels therein, would be inimical to the security of the United States; and the basis of rejection as above will be if, on all the evidence and information available, reasonable grounds exist for the belief that the individual:

(a) Has committed acts of treason or sedition, or has engaged in acts of espionage or sabotage, has actively advocated or aided the commission of such acts by others; or has knowingly associated with persons committing such acts; or,

(b) Is employed by, or subject to the influence of, a foreign government under circumstances which may jeopardize the security interests of the United States; or,

(c) Has actively advocated or supported the overthrow of the government of the United States by the use of force or violence; or,

(d) Has intentionally disclosed military information classified confidential or higher without authority and with reasonable knowledge or belief that it may be transmitted to a foreign government, or has intentionally disclosed such information to persons not authorized to receive it; or,

(e) Is or recently has been a member of, or affiliated or sympathetically associated with, any foreign or domestic organization, association, movement, group, or combination of persons (1) which is or which has been designated by the Attorney General as being, totalitarian, fascist, communist or subversive, (2) which has adopted, or which has been designated by the Attorney General as having adopted, a policy of advocating or approving the commission of acts of force or violence to deny other persons their rights under the Constitution of the United States, or (3) which seeks, or which has been designated by the Attorney General as seeking, to alter the form of the Government of the United States by unconstitutional means: *Provided*, That access may be granted, notwithstanding such membership, affiliation, or association, if it is demonstrated, by more than a mere denial, that the security interests of the United States will not thereby be jeopardized; or,

(f) That such person is otherwise not a suitable and safe person to have access to such waterfront facilities and port and harbor areas, including vessels therein, by reason of:

(1) Having been adjudged insane, having been legally committed to an insane asylum, or treated for serious mental or neurological disorder, without evidence of cure;

(2) Having been convicted of any of the following felonies, indicative of a criminal tendency potentially dangerous to the security of such waterfront facilities and port and harbor areas, including vessels therein: arson, unlawful trafficking in drugs, espionage, sabotage, or treason.

(3) Drunkenness on the job or addiction to the use of narcotic drugs, without adequate evidence of rehabilitation.

§ 125.31 *Basis for revocation.* The Commandant will revoke a Coast Guard Port Security Card, if, upon full consideration, he is satisfied that the holder is not eligible therefor within the meaning of § 125.29.

§ 125.33 *Right of appeal.* Any person who has been denied a Coast Guard Port Security Card or who has been required to surrender his Coast Guard Port Security Card shall have the right to appeal from such action in the manner described and under the same conditions as set forth in Part 121 of Subchapter K of this chapter.

§ 125.35 *Replacement of lost Coast Guard Port Security Card.* (a) Any person whose Coast Guard Port Security Card has been stolen, lost, or destroyed shall report that fact to a Coast Guard Port Security Unit or Captain of the Port as soon thereafter as possible.

(b) A person who has lost a Coast Guard Port Security Card may apply for a replacement card by submitting "An Application for Replacement of Lost Port Security Card" (Form CG 2685A) to a Coast Guard Port Security Unit. A replacement will be issued only after a full explanation of the loss of the Coast Guard Port Security Card is made in writing to the Coast Guard and after a full check is made and authorization is granted by the Commandant.

(c) Any person to whom a Coast Guard Port Security Card has been issued as a replacement for a lost card, shall immediately surrender the original card to the nearest Coast Guard Port Security Unit or Captain of the Port if the original card should be recovered.

MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard, Commandant.

A fool isn't a man who makes mistakes but rather a man who, once he realizes his mistakes, continues to make them.

Title 46—Shipping

Chapter I—Coast Guard, Department of the Treasury

[CGFR 50-40]

PORTABLE FIRE EXTINGUISHERS; EDITORIAL REVISION

The regulations for portable fire extinguishers on passenger and cargo vessels were published in the 1938 edition of the Code of Federal Regulations as 46 CFR 61.13 and 46 CFR 77.13, 95.13, and 114.15 referred back to § 61.13 for the text of the regulations. In the original codification of 46 CFR 61.13 in the 1938 edition of the Code of Federal Regulations the various paragraphs, subparagraphs, and subdivisions of subparagraphs were not designated. The regulations of the Administrative Committee of the Federal Register published in 1 CFR 1.115 and made effective October 12, 1948, required the internal divisions of sections, when unavoidable, shall be subdivided into paragraphs, paragraphs into subparagraphs, and subparagraphs into subdivisions. In the preparation of the 1949 edition of the Code of Federal Regulations the subdivisions of 46 CFR 61.13 were assigned paragraph, subparagraph, and subdivision designations in accordance with 1 CFR 1.115. Because the original material in 46 CFR 61.13 was not properly arranged the assignment of subdivision designations has created misunderstandings regarding the intent of the regulations. For that reason the requirements in 46 CFR 61.13, 77.13, 95.13, and 114.15 have been editorially revised by rearranging paragraphs, subparagraphs, and subdivisions in order to clearly indicate the applicability of the regulations to various passenger, cargo, and towing vessels.

The requirements for portable fire extinguishers have not been changed. These editorial amendments shall become effective immediately upon publication of this document in the FEDERAL REGISTER. These regulations are published without prior general notice of their proposed issuance for the reason that notice, public rule making procedure thereon, and effective date requirements in connection therewith are hereby found to be impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Order No. 120, dated July 31, 1950 (15 F. R. 6521), to promulgate regulations in accordance with the statutes cited with the regulations below, the following amendments to the regulations are prescribed which shall become effective upon the date of publication of this document in the FEDERAL REGISTER.

Subchapter G—Ocean and Coastwise: General Rules and Regulations

PART 61—FIRE APPARATUS; FIRE PREVENTION

Section 61.13 is amended to read as follows:

§ 61.13 *Portable fire extinguishers.* (a) All vessels carrying passengers, including pleasure vessels, shall be provided with such number of good and efficient portable fire extinguishers, approved by the Commandant as follows:

(1) Vessels less than 150 feet in length shall have at least two fire extinguishers on each passenger deck.

(2) Vessels 150 feet and over in length shall be provided with at least one fire extinguisher for every 150 linear feet of corridor length or fraction thereof, in the spaces occupied by passengers and crew.

(3) In all public spaces fire extinguishers shall be located not more than 150 feet apart.

(b) All vessels carrying passengers, which transport automobiles or motor vehicles, the motive power of which is generated by any of the products of petroleum or other inflammable liquids shall carry, in addition to the chemical fire extinguishers required by paragraph (a) of this section for vessels carrying passengers, an approved carbon dioxide, foam type or carbon tetrachloride fire extinguisher which has demonstrated a capacity for extinguishing burning oils, burning gasoline, and other burning products of petroleum, in accordance with the following table:

Automobiles or motor vehicles carried	Carbon dioxide or foam-type fire extinguishers	Carbon tetrachloride fire extinguishers
1 and not over 5	1	4
6 and not over 10	2	5
11 and not over 20	3	6
21 and not over 30	4	8
31 and not over 40	5	10
41 and not over 50	6	12

(1) For each additional 20 automobiles or motor vehicles, or fraction thereof, add one carbon dioxide or one foam or two carbon tetrachloride fire extinguishers.

(2) The requirements may be reduced to 25 percent, but not less than one of either, when an efficient overhead water sprinkling system, a carbon dioxide, or a foam system with sufficient hose to reach all parts of the deck where automobiles or motor vehicles are carried is installed, said systems to be installed in accordance with drawings or blueprints and specifications approved by the Coast Guard District Commander of the district having original jurisdiction.

(3) When a vessel is provided with enough fire extinguishers to take care of all the automobiles or motor vehicles that can be carried, no extra fire extinguishers shall be required for any number of motorcycles carried.

(c) Freight and towing vessels shall be provided with chemical fire extinguishers as follows:

	Minimum number of fire extinguishers
Vessels of over 15 and not over 50 gross tons	1
Vessels of over 50 and not over 100 gross tons	2
Vessels of over 100 and not over 500 gross tons	3
Vessels of over 500 and not over 1,000 gross tons	6
Vessels of over 1,000 gross tons	8

(d) The number of required fire extinguishers is based on the capacity of the ordinary fire extinguisher, which is about 2½ gallons, and no fire extinguisher of larger capacity shall be allowed a greater rating than that of the ordinary fire extinguisher. Fire extinguishers of approved types of less capacity are allowable when their total contents equal the required quantity.

(e) Extra safety-valve units shall be carried on board for 50 percent of hand fire extinguishers of the foam type, and extra charges shall be carried on board for 50 percent of each class of fire extinguishers provided. If 50 percent of each class of fire extinguishers carried gives a fractional result, extra charges and extra safety-valve units shall be provided for the next largest whole number.

(1) The following table is an example:

Fire extinguishers carried	*Extra charges required*
1	1
2	1
3	2
4	2
5	3

(2) When a vessel is provided with carbon-dioxide type of fire extinguishers, it may be furnished with either an additional carbon dioxide fire extinguisher or a 2½-gallon foam fire extinguisher in lieu of carrying extra charges. For that 2½-gallon foam fire extinguisher no extra charge will be required.

(f) Recharges, particularly the acid, used in charging soda-and-acid type of fire extinguishers, shall be packed in such manner that the filling operation (i. e., in recharging the extinguisher) can be performed without

subjecting the person doing the recharging to undue risk of acid burns and shall be contained in Crown stopper type of bottle.

(g) There shall also be carried on board a complete recharge for any fixed or built-in fire-extinguishing system that has been approved by the Commandant, except systems for engine rooms, firerooms, and cargo holds.

(h) Fire extinguishers shall be located in such parts of the vessels as in the judgment of the Officer in Charge, Marine Inspection, will be most convenient and serviceable in case of emergency, and so arranged that they may be easily removed from their fastenings. Every fire extinguisher thus provided for shall be discharged and examined at each annual inspection: *Provided*, That carbon tetrachloride fire extinguishers shall be tested for their pumping efficiency and the liquid discharged with proper care so that it may be replaced in the extinguishers. Carbon dioxide fire extinguishers shall be checked by weighing to determine contents, and, if found to be more than 10 percent under required contents of carbon dioxide, shall be recharged.

(i) Every fire extinguisher provided for and required by this section shall be tested by the Bureau of Standards, Department of Commerce, and a report made by that bureau to the Commandant, which shall then determine whether the said extinguisher shall be approved for use on vessels subject to inspection.

(j) Every fire extinguisher approved after September 5, 1933, for use on vessels under the jurisdiction of the Coast Guard, shall have affixed thereto a metallic name plate having plainly stamped thereon the name of the fire extinguisher, the rated capacity in gallons, quarts, or pounds, and the name and address of person or firm for whom approved, and the identifying mark of the actual manufacturer.

(R. S. 4405, as amended, secs. 1, 2, 49 Stat. 1544, sec. 5, 55 Stat. 244, as amended; 46 U. S. C. 375, 367, 50 U. S. C. 1275. Interprets or applies R. S. 4426, as amended, 4471, as amended, 4478, 4479, sec. 2, 54 Stat. 1028; 46 U. S. C. 404, 464, 471, 472, 463a)

Subchapter H—Great Lakes: General Rules and Regulations

PART 77—FIRE APPARATUS; FIRE PREVENTION

Section 77.13 is amended to read as follows:

§ 77.13 *Portable fire extinguishers.* (See § 61.13 of this chapter, as amended, which is identical with this section.)

(R. S. 4405, as amended; 46 U. S. C. 375. Interprets or applies R. S. 4470–4472, 4474; 46 U. S. C. 463–465, 467)

Subchapter I—Bays, Sounds, and Lakes Other Than the Great Lakes: General Rules and Regulations

PART 95—FIRE APPARATUS; FIRE PREVENTION

Section 95.13 is amended to read as follows:

§ 95.13 *Portable fire extinguishers.* (See § 61.13 of this chapter, as amended, which is identical with this section.)

(R. S. 4405, as amended; 46 U. S. C. 375. Interprets or applies R. S. 4470, 4472, as amended; 46 U. S. C. 463, 465)

Subchapter J—Rivers: General Rules and Regulations

PART 114—FIRE APPARATUS; FIRE PREVENTION

Section 114.15 is amended to read as follows:

§ 114.15 *Portable fire extinguishers.* (See § 61.13 of this chapter, as amended, which is identical with this section.)

(R. S. 4405, as amended; 46 U. S. C. 375)

Dated: December 22, 1950.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 50-12364; Filed, Dec. 27, 1950; 8:49 a. m. 15 F. R. 9356-12/28/50]

"They Said It..."

". . . because we know that the modern weapons of mass destruction could bring about large-scale movements never before attempted, we must not put our hopes in a fast-moving conversion of the nearest vessel at hand, usually of the existing dry-cargo variety, and thus wrestle futility with grave questions of design safety."

Merchant Marine Personnel Statistics

INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 541 cases during the month of November 1950. From this number, charges were filed with the Civilian Hearing Examiners involving 24 officers and 61 unlicensed men. As a result of said hearings, in the case of officers, no licenses were revoked, 4 were suspended, 4 were suspended with probation granted, 1 was voluntarily surrendered, 4 cases were dismissed after hearing and no hearings were closed with an admonition. For unlicensed personnel, 9 certificates were revoked, 19 were suspended, 17 were suspended with probation granted, 10 were voluntarily surrendered, 2 were closed with an admonition and 11 were dismissed after hearing.

CREW SHORTAGE REPORTS FROM NOV. 1, TO NOV. 30, 1950

Region	Number of vessels	Ratings in which shortages occurred												Total
		Chief mate	Second mate	Third mate	Radio	Able seamen	Ordinary seamen	Chief engineer	First engineer	Second engineer	Third engineer	Qualified member engine department	Wiper or coal passer	
Atlantic coast														
Gulf coast														
Pacific coast	2					2								2
Great Lakes	190	2	3	11		71	20		5	19	18	100	20	269
Total	192	2	3	11		73	20		5	19	18	100	20	271

MERCHANT MARINE LICENSES ISSUED DURING NOVEMBER 1950

DECK OFFICERS

		Region								Total	
		Atlantic coast		Gulf coast		Great Lakes and rivers		Pacific coast			
		O	R	O	R	O	R	O	R	O	R
Master	Ocean	10	77	5	17	0	15	4	27	19	136
	Coastwise	2	9	1	3	0	0	1	0	4	12
	Great Lakes	0	0	0	1	0	3	0	0	0	4
	B. S. & L.	5	16	0	1	0	0	1	11	6	28
	Rivers	1	1	0	4	1	13	1	1	3	19
Chief mate	Ocean	12	27	3	2	2	9	1	13	18	51
	Coastwise	0	0	1	0	0	0	0	0	1	0
Second mate	Ocean	11	24	3	12	0	9	8	15	22	60
	Coastwise	0	0	0	0	0	0	0	0	0	0
Third mate	Ocean	1	20	5	5	1	10	12	24	19	59
	Coastwise	0	1	0	0	0	0	0	0	0	1
Mate	Great Lakes	0	0	0	0	0	0	0	0	0	0
	B. S. & L.	2	2	0	0	0	0	2	1	4	3
	Rivers	0	0	0	1	9	5	0	0	9	6
Pilots	B. S. L. & R.	39	77	12	21	30	30	12	29	93	157
Master	Uninspected vessels	0	1	0	0	3	4	0	0	3	5
Mate	Uninspected vessels	0	0	0	0	1	0	0	0	1	0
Total		83	255	30	67	47	98	42	121	202	541
Grand total		338		97		145		163		743	

ENGINEER OFFICERS

Steam	Chief engineer: Unlimited	7	107	3	24	2	19	4	45	16	195
	Chief engineer: Limited	5	28	0	2	1	1	0	3	6	41
	First assistant engineer: Unlimited	12	32	3	5	2	15	2	12	19	64
	First assistant engineer: Limited	2	0	0	0	0	6	0	2	2	8
	Second assistant engineer: Unlimited	12	45	5	12	0	17	1	26	18	100
	Second assistant engineer: Limited	0	1	0	0	0	1	0	0	0	2
	Third assistant engineer: Unlimited	14	64	1	18	1	33	7	26	23	141
	Third assistant engineer: Limited	0	0	0	0	1	0	0	0	1	0
Motor	Chief engineer: Unlimited	2	25	0	5	0	7	0	16	2	53
	Chief engineer: Limited	9	24	2	2	2	13	3	7	16	46
	First assistant engineer: Unlimited	1	4	0	0	0	1	0	0	1	5
	First assistant engineer: Limited	1	2	1	0	2	1	1	0	5	3
	Second assistant engineer: Unlimited	1	2	0	1	0	2	1	0	2	5
	Second assistant engineer: Limited	0	0	0	0	0	0	0	0	0	0
	Third assistant engineer: Unlimited	3	67	0	17	0	29	0	21	3	134
	Third assistant engineer: Limited	0	0	1	0	0	0	0	0	1	0
Uninspected vessels	Chief engineer	0	0	0	0	3	4	0	1	3	5
	Assistant engineer	0	1	0	0	1	0	0	0	1	1
Total		69	402	16	86	15	156	19	159	119	803
Grand total		471		102		171		178		922	

RADIO OFFICERS

Total	16

ORIGINAL SEAMEN'S DOCUMENTS ISSUED MONTH OF NOVEMBER 1950

Region	(1) Staff officer	(2) Continuous discharge book	(3) U. S. merchant mariner's documents	(4) AB any waters unlimited	(5) AB any waters 12 months	(6) AB Great Lakes 18 months	(7) AB tugs and towboats any waters	(8) AB bays and sounds [1]	(9) AB seagoing barges	(10) Lifeboatman	(11) Q. M. E. D.	(12) Radio operators	(13) Certificate of service	(14) Tankerman
Atlantic coast	17		390	113	31		1		1	109	68	1	314	6
Gulf coast	2	14	147	23	3					12	24		150	16
Pacific coast	14	1	311	45	21					32	37	2	279	2
Great Lakes and rivers			523	11	26	13				22	58		492	28
Total	33	15	1,371	192	81	13	1	0	1	175	187	3	1,235	52

[1] 12 months, vessels 500 gross tons or under not carrying passengers.

NOTE.—Columns 4 through 14 indicate endorsements made on United States merchant mariner's documents.

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