PROCEEDINGS OF THE
MERCHANT MARINE COUNCIL
UNITED STATES COAST GUARD

The printing of this publication has been approved by the Director of the Bureau of Budget, March 17, 1949.

This copy for not less than 20 readers. PASS IT ALONG

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Proceedings of the

MERCHANT MARINE COUNCIL

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THE LIFE SAVING SERVICE 1785—1915

In 1785 there was organized the Massachusetts Humane Society patterned after the Royal Humane Society of England which dated from 1774 and followed a broad policy of relief to persons on vessels in distress. This organization established the first lifeboat station at Cohasset, Mass., in 1807. Boats were manned on a voluntary basis just as volunteer fire departments function in many towns today.

It was not until March 3, 1847, that Congress made the first $5,000 appropriation for saving of life from shore, and this, after 2 years had elapsed, was turned over to the collector of customs at Boston to be used in acquiring boathouses and equipment on Cape Cod for the Massachusetts Humane Society. After a series of wrecks on the coasts of Long Island and New Jersey, totaling some 300 in 9 years, an appropriation of $10,000 was made in 1848 for the purpose of "providing surf boats, rockets, carronades, and other apparatus for the better preservation of life and property from shipwrecks on the coast between Sandy Hook and Egg Harbor." The funds were expended in cooperation with insurance underwriters under the supervision of the Captain of the Revenue-Marine Service, and eight boathouses, each about 16 by 28 feet, were constructed. These were the first stations built with Federal funds. One still stands at Spermaceti Cove, on Sandy Hook, N. J.

During the following year, 1849, 14 more boathouses were provided by congressional funds along the New Jersey and Long Island coasts, the latter being spent under the direction of the Life-Saving Benevolent Association of New York. Following this, more boats and equipment were provided by Congress to be used by volunteers, but there was no accounting for the property furnished. After the boathouses were built and equipped by the Government, its responsibility ceased. Then in 1854 the appointment of keepers at $200 per year was authorized and more appropriations made for the support of stations. Improvements, made as a result of reports made by officers of the Revenue-Marine Service, were spasmodic and temporary. Finally in 1871, Congress authorized the Secretary of the Treasury to employ experienced surfmen at these stations for such periods as he deemed proper. A governmentally supervised system began to take the place of the loosely administered volunteer system.

In an article on "Life-Saving Stations" by Rebecca Harding Davis in Lippincott's Magazine, volume XVII, page 305 (1876), an interesting light is shed upon the forces which must have

motivated the continuing interest of Congress in providing funds for these stations. These forces were influenced by what were known as the Jersey wreckers. Asked about the operations of the Barnegat pirates "in old times" drawing vessels ashore by false lights and plundering the shipwrecked people a fisherman replied: "Well, sir, them stories is unjust, the men as is called Barnegat pirates are not us fishermen—never were; they're from the main-colliers and sech—as come down to a wreck, and they will have something to kerry home when they're kept up all night. They do their share of stealing, I"ll confess; but from Sandy Hook to Cape May it's innocent to what is done on Long Island. No man or woman was ever robbed on this beach till they was dead. Of course, I don't mean their trunks and sech, but not the body. The Long Islanders cut off fingers of living people for rings, but the Barnegat man never touch the body till it's dead, no, sir."

As a result of congressional action, the Life-Saving Service was set up within the Revenue-Marine Service, of which Sumner I. Kimball was Chief in 1871. Kimball received $200,000 from Congress, 10 times as much as had ever before been appropriated for lifesaving. More stations were built and by 1874 they extended to many New England points, to the southern part of the Atlantic coast, to the Great Lakes, and the Pacific coast. Lifesaving medals were authorized, personnel reorganized, beach patrols and signals introduced, and the technique of using the breeches buoy developed. Regular inspection and reconditioning of equipment was provided for, masters of American ships were required to notify the collectors of customs at their home districts of the nature and probably cause of casualties involving loss of life, serious personal injury, or substantial loss of property. These casualty reports are still made and have always provided an important basis in determining the location, not only of lifesaving stations, but of lighthouses and other aids to navigation, as well.

In 1878 the service was established as a separate bureau in the Treasury Department, with a general superintendent of its own. Kimball left the Revenue-Marine Division to become head of the Life-Saving Service on its formal establishment and served continuously until the act of January 28, 1915, again consolidated the two services to form the Coast Guard. While the services were separated, provision was made for the inspection, drilling, and disciplining of the crews of lifesaving stations by officers of the Revenue Cutter Service and in 1904 as many as 14 officers of the Revenue Cutter Service were on duty with the Life-Saving Service. The efficiency of the Life-Saving Service at that time was attributed, in fact, in all that related to its technical features, to the energetic and capable officers of the Revenue Cutter Service who had made the inspections, formulated the frills, and practiced and drilled the lifesaving crews.

FIRST LIFE SAVING STATION

A far cry from the present day lifeboat stations of the United States Coast Guard is this shingled garage like building, first lifeboat station authorized by Congress in 1848. Built at Spermaceti Cove, Sandy Hook, N. J., it is still preserved.

The story of the Life-Saving Service is a story of daring and skill. Coast guardsmen assigned to lifesaving stations learn early the "Regulations say you have to go out, but they don't say you have to come back." Statistics show that through the combined efforts of the Life-Saving Service and the Revenue Cutter Service, 203,609 lives had been saved in the 70 years between 1871 and 1941. Property valued at $1,784,738,124 was saved from "Davy Jones' Locker." In addition succor was afforded to 48,023 persons. A little arithmetic will indicate that this means 2,868 lives saved, $25,137,157 worth of property and 676 persons afforded succor, on the average, for each of these 70 years.

LIFE SAVING UNDER COAST GUARD 1915–1946

Only men of a special breed can take rescues in their stride, and as a good surfman requires particular qualities and abilities, best expressed, perhaps, as boatmanship rather than seamanship, the lifesaving branch of the Coast Guard was until recently, even after the amalgamation of 1915, administered almost entirely as a separate unit. While specialization has since been broken down, there has been no relaxation of training and one of the most valuable contributions of the Coast Guard in its development of men is that its men are unsurpassed anywhere in the handling of small boats. On January 1, 1943, the Coast Guard had 202 active lifeboat stations and 62 inactive. By June 30, 1946, this number had been reduced to 189, only 59 of which were active on 23 August 1946, 32 in limited status, 92 in caretaker status and 6 altogether closed. Shortage of personnel during the period of demobilization and deployment had thus brought this once splendid facility for maritime safety temporarily to a low state of activity.

Replacement of wooden vessels by steel ships indicated that wrecks would take place farther offshore than formerly, and that more time would be available for rescue. The use of the breeches buoy, designed to bring survivors ashore from wooden wrecks comparatively close ashore, was ex-

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pected to show a decline. The newer stations, therefore, have been built on inlets in order to take advantage of the latest equipment. There have been more lifeboats and picket boats and fewer pulling boats used in recent times. There is a lookout tower at every station and a 75-foot signal tower. All stations are part of the chain of coastal communications, and so are able speedily to report disasters and to summon assistance. In recent years complements have been doubled to 16 or more surfmen under command, usually, of a warrant officer.

During World War II, the lifeboat and light stations of the Coast Guard became the nucleii around which the Beach Patrol was created. This force of 24,000 officers and men patrolled some 50,000 miles of our coasts. In addition to stationary lookouts and foot and vehicle patrols, with small boat forces at inlets, mounted patrolmen and sentry dogs were extensively used. It was a young Coast Guardsman, John C. Cullen, Seaman2/c, who in the summer of 1942, discovered Nazi saboteurs landing on the beach at Amagansett, L. I., and sounded the alarm that led to their eventual capture. This incident gave the necessary impetus to the organization of the Beach Patrol that kept our shores under vigilant and thorough surveillance until all danger of invasion had passed.

COVER PICTURE

The Point Judith Lifeboat Station is located at the northernmost entrance to Long Island Sound, R. I. It is equipped with a 38-foot picket boat and a 36-foot motor lifeboat for search and rescue operations in the Block Island area, and functions as a group office for several light stations in the vicinity of Port Judith. An additional duty is that of attending the Point Judith light which is a major seacoast light used for marine navigation.

COAST GUARD STATISTICS

The operations of the Coast Guard during the fiscal year ended June 30, 1950, embraced in general terms: Maritime law enforcement; saving of life and property at sea; providing navigational aids to maritime commerce and to transoceanic air commerce; promoting the efficiency and safety of the American merchant marine; and maintenance of a state of military readiness.

Throughout the year the Coast Guard utilized its available personnel and facilities to the best advantage in carrying out these activities.

MARINE INSPECTION AND SAFETY MEASURES

Among the duties which the Coast Guard performed in promoting safety in the merchant marine and on navigable waters were approval of plans for the construction, repair, and alteration of vessels; approval of materials, equipment, and appliances; issuance of certificates of inspection; administration of loadline requirements; licensing and certificating of officers, pilots, and seamen; investigation of marine casualties; enforcement of manning requirements, citizenship requirements, and requirements for the mustering and drilling of crews; control of logbooks; shipment, discharge, protection, and welfare of merchant seamen; promulgation and enforcement of rules for lights, signals, speed, steering, sailing, passing, anchorage, movement, and towlines of vessels, and of regulations governing the transportation of explosives and other dangerous cargoes aboard vessels; numbering of undocumented vessels; prescription and enforcement of regulations for outfitting and operation of motorboats; licensing of motorboat operators; and the regulation of regattas and marine parades.

A digest of certain phases of the marine inspection activities follows:

	Number of vessels	Gross tonnage of vessels
Annual inspections completed [1]	6,125	16,847,851
Dyrdock examinations	5,090	19,610,185
Reinspections	2,949	12,146,075
Special surveys (passenger vessels)	176	
Special examinations by traveling inspectors on passenger vessels and ferries	90	
Miscellaneous inspections	12,586	
Undocumented vessels numbered under provisions of the act of June 7, 1918, as amended (46 U. S. C. 288) (this is an increase of 6,219 over the previous fiscal year)	452,327	

[1] Includes 234 vessels, totaling 490,004 gross tons, which were conversions or new construction completed during the year.

There were 2,731 marine casualties reported of which 2,239 were investigated, 18 of these by formal Marine Casualty Investigation Boards. Of the 272 lives lost in 119 casualties, five passengers lost their lives on inspected and certificated vessels and no vessels of over 1,000 gross tons were lost as a result of marine hazards.

Two serious marine casualties occurred and were investigated by the Coast Guard. The first of these was the explosion of munitions while being loaded on barges at South Amboy, N. J., which caused 31 persons to lose their lives. The second was the collision between the Norwegian freight ship *Ravnefjell* and the Great Lakes passenger steamer *City of Cleveland III*, which resulted in the death of four passengers on the steamer.

Under the provisions of the act of May 27, 1936, as amended (46 U. S. C. 369), requiring approval by the Commandant of the Coast Guard of all contract plans and specifications for building or altering passenger vessels of the United States of 100 gross tons and over, 13,388 vessel plans were examined to determine conformance with applicable regulations. Plans covering items of equipment which require approval by the Commandant for use on merchant vessels were reviewed and 178 such items were approved.

In order to assess the fire hazard which exists with modern types of stateroom construction, a fire test, using an actual size stateroom, was conducted with the National Bureau of Standards. The stateroom was constructed of aluminum and was furnished with metal beds and metal furniture. The draperies, bedspreads, mattresses, and chair upholstery were given a fire retardant treatment, and in the room was placed actual baggage such as might be brought aboard by the passengers. The fire severity obtained during the test was measured and recorded, and the results will provide a factual basis for use in the development of standards for fireproof construction to safeguard properly a vessel against fire in this type of space.

MERCHANT MARINE PERSONNEL

The licensing and certificating of merchant marine personnel covered the issuance of 75,148 documents. Of this number, 15,246 were issued to men who had not previously served in the merchant marine, and 1,264 were licenses issued to radio officers under the provisions of the act of May 12, 1948 (62 Stat. 232). In the process of regulating the orderly conversion of the merchant marine from wartime to peacetime operation, 236 individual waivers of manning requirements were issued. Shipping commissioners supervised the execution of 13,699 sets of shipment and discharge shipping articles.

Merchant Marine Investigating Units in major domestic ports and Merchant Marine Details in certain

foreign ports continued to operate in the administration of discipline in the merchant marine as required by the act of February 28, 1871, as amended (46 U. S. C. 239). Merchant Marine Details in London, Antwerp, Bremerhaven, Naples, Trieste, and Piraeus operated throughout the year. The detail in Antwerp was reestablished July 1, 1950, after having been closed for about 2 years. During the year, 6,050 investigations of cases involving negligence, incompetence, and misconduct were made. As a result of these investigations charges were preferred and hearings held on 806 cases by civilian examiners.

NAVY RELEASES RADAR PLOTTER TO MERCHANT VESSELS

The United States Navy has released for Merchant Marine use a plastic maneuvering board that can be operated at the radar that is expected to help prevent collisions by reducing the time and work of evaluating radar information.

The maneuvering board was released in response to an appeal for it's use by the United States Coast Guard.

Many ship collisions reported last year by the Coast Guard involved vessels equipped with radar. It has been pointed out by many sources that the majority of such collisions were caused by failure to interpret radar screens properly.

In many instances there is too much guessing about course changes when collisions are potential. In order to use the radar data intelligently a plot must be maintained on all pips as they appear on the radar screen.

The plastic, easily handled, maneuvering board will enable a navigator to maintain regular and continuous plottings of pips and to determine relative motion and true course and speed in a few seconds. Plots generally have been made on paperboards located in a chartroom and require the use of parallel rules, dividers, and logarithm tables.

The instrument is called Maneuvering Board Plastic Mark No. 1, Model O, and is manufactured by G. Felsenthal & Sons, Chicago, Ill.

The use of this plastic maneuvering board will not eliminate the necessity of a radar operator being grounded in the fundamentals of radar operation and the theory of evaluating radar information. Ship operators recognize the importance of schooling in radar and are encouraging their officers to attend the various radar schools now open to them.

Let Safety Be Your Anchor to Windward

MOPE and DOPE

"Shall we paint that SAFETY FIRST sign now, Sir?"

Seamen, like aviators and cowboys, do their work on a moving platform. A seaman must always be prepared for an unexpected movement of the ship. The experienced man does this instinctively; he uses handrails, balances against the ship's movements, leans against bulkheads or other parts of the ship when not moving around, balances his soup plate adroitly in one hand, puts a spot of water on the tablecloth under his dinner plate, lashes ladders, places tools where they won't roll, doesn't balance on precarious perches. The new hand must learn these things; some from observation, some from the orders of his officers and advice of his shipmates.

Safety measures are all confining and applicable to all work in progress. All outfitting, rigging and construction in the present-day shipyard is geared to a comprehensible and workable safety program.

life line

FOR VESSELS AND PLANES AT SEA

Among the routine calls that come through are messages from the skippers of the large trawlers to their owners asking where to land their fish for the best price, wives calling vessels to find out when the boat will dock, and skippers and crewmen calling their wives and children to see how they are.

The men at Marshfield monitor all these calls, and handle most of the requests for Coast Guard aid. A captain calls from the Grand Banks to say that one of his men caught his arm in the trawl winch. Asking the position, length, color, distinguishing features of the boat, the WOU staff man teletypes the information to the Coast Guard at the Boston Custom House. There the Air Sea Rescue watch relays the facts to the cutter or plane nearest the dragger's position.

Vessels in distress are handled frequently. On some days three or four such calls come in . . . a lobsterman is broken down with engine trouble off Ipswich . . . a small dragger off Nomansland is rolling helplessly with a net caught in the wheel . . . a dragger running before a storm into Halifax is icing up badly and needs assistance. Though not always in time, help comes as quickly as the nearest ship or plane can get there.

Courtesy Maine Coast Fisherman.

Help is on the way.

Although their voices are known to hundreds of the fishermen along the coast, the marine operators at Boston always remain anonymous.

A Coast Guardsman inspects the elaborate array of meters and switches at the Marshfield station.

A Coast Guard picket boat goes to the rescue and takes in tow a fishing boat whose engine has failed.

The shack at Marshfield, Mass., where WOU broadcasts to vessels at sea from three 165-foot towers are in the process of being repainted.

In the Coast Guard's search and rescue office operators taking calls relayed by WOU can dispatch help from the nearest station.

Plotting the position of a disabled fishing craft while a check is made to see what vessel can get there first.

This skipper can not only keep up with prices ashore, but he can have help on the way in a matter of minutes in case of a breakdown.

LESSONS FROM CASUALTIES

PRISONER 58213

"No person shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person. Any person who shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person shall be deemed guilty of a misdemeanor and on conviction thereof by any court of competent jurisdiction shall be punished by a fine not exceeding $2,000 or by imprisonment for a term not exceeding one year or by both such fine and imprisonment at the discretion of the court."

After approximately 2 years of legal struggling to defeat the ends of justice, Mr. Phil Davis surrendered himself to a United States Deputy Marshal. Mr. Davis will be imprisoned for a period of 6 months in a penal institution because he recklessly and negligently operated a motorboat on Lake Tahoe in El Dorado County, Calif., in violation of the Federal Motor Boat Act of 1940 herein set forth above. As a result of his gross negligence, Miss Imogene Whittsche lost her feet.

Mr. Davis, a wealthy Oakland automobile dealer, found to his sorrow that his deliberate disregard for the rights of others by his reckless and negligent operation of a motorboat was extremely expensive. In addition to his 6 months' term in a penal institution, he must pay a fine of $1,500. The civil suit for damages was reported to have been settled out of court by Mr. Davis for $160,000.

Davis challenged the legality of the Motorboat Act and appealed his case; however his appeal was subsequently denied.

At 4:15 p. m., on June 27, 1949, Miss Imogene Whittsche, 13 years of age, and Miss Janet Lutz, 14 years of age, were swimming and enjoying themselves in a restricted recreational area at Brenwood Bijou, Lake Tahoe, El Dorado County, Calif. These girls, together with a number of other people were swimming and playing in the water. The two girls had been swimming in this area for approximately half an hour when the tragedy occurred. They had been floating on their backs, wading, and swimming, paying little or no attention to the others around them. The water at that particular place was between 3 and 4 feet deep. The two girls were swimming toward shore with their faces in the water when Mr. Davis without regard for the safety of such bathers raced his motorboat at approximately 25 miles an hour in their direction, passed between them; the propeller sheared one foot completely off Miss Imogene Whittsche, and so badly damaged the other foot that it had to be amputated shortly thereafter. With no apparent decrease in speed the motorboat sped off to a point approximately three-fourths of a mile, turned around and returned to the scene of the tragedy. The witnesses on shore thought the boat was returning to render assistance to the youngsters, but all that Mr. Davis did was to slow down, wave his hands, and then sped away.

The other witnesses hearing the screams and observing the discolored water immediately went to their assistance and were able to save the girl's life. When Davis left the scene of the accident he noticed another speedboat and indicated he wanted to race with it. After racing a short time he mentioned to the operator of the other boat that he had lost 400 r. p. m. and that he probably had hit a log or something. As far as the record shows there were no other speedboats on the lake in that vicinity at that time. The speedboat carrying Mr. Phil Davis and two women sped by the recreational area so quickly that witnesses had difficulty in actually identifying the operator.

As a result of this inexcusable tragedy the local authority at Lake Tahoe adopted stringent local ordinances regarding the operation of motorboats within recreational areas. The problems have been described as (1) providing adequate protection for bathers and others from injuries resulting from the operation of motorboats on crowded inland waters; (2) requiring adequate zoning and marking with signs and buoys in the waters designated as bathing areas and the landing areas for motorboats with approaches thereto; and (3) requiring the operators of motorboats to show by examination and tests their qualifications as well as financial responsibility similar to that required by the owners of motor vehicles in many States.

The operation of pleasure craft is presently left within the discretion of the boatman by present Federal and most State laws. It is becoming more apparent every day, however, that some new drastic means will be needed to reduce the wanton recklessness or negligence of many motorboat operators who by their deliberate acts of recklessness place the lives of other people in jeopardy. This tragedy ranks high as one of the black marks on the record of motorboat operation.

These people, who operate motorboats in a negligent and reckless manner without any regard for the life, limb, and property of others who may be using the same facilities will bring about stricter and more comprehensive requirements to determine their qualifications and ability to operate pleasure craft in a safe and sane manner.

Prisoner 58213 is presently secure behind bars.

EXPERIENCE IS USUALLY COSTLY MORE REASON TO PROFIT BY IT

Everyone makes mistakes. That is an old familiar adage. People are certainly not infallible. Yet it is amazing how many people continue to make the same costly mistakes.

Another old adage says only fools don't profit from their mistakes and continue to make the same errors. One would think it would behoove these people to try and correct their mistakes, especially when it involves the lives of other people and their property which certainly cannot be considered solely on a monetary plane.

As an illustration of this point the following description of an accident is identical with one that had happened previously on the same vessel in the same hold, but the same officers of this vessel failed to learn by experience and take the necessary precautions to prevent a recurrence.

The vessel in question was loading cotton at a southern port. Four sections of hatch covers and three beams were removed from the 'tween deck and placed athwartships on the fourth section of hatches. After the first sling load of cotton had been lowered into No. 5 lower hold, portside, the empty sling caught onto a supporting beam and pulled it out allowing the beam together with the hatch covers and beams lying on top, plus one section of hatch boards, to fall into the lower hold, striking and severely injuring six longshoremen.

Subsequent suits brought against the steamship company charged gross negligence for not having securing devices on the hatch beams in good working condition or for not taking other measures to prevent unshipping of the beam, and consequently cost the steamship company thousands of dollars.

Experience is a good teacher and a costly one. If the individual has learned one small lesson, there is at least hope for perfection.

LETHAL POTENTIALITIES

The skipper of a 35-foot yawl conned his craft into Menemsha harbor, Martha's Vineyard, for refueling.

An old hand at boating he knew his tanks held 25 gallons of gas each, however, after pumping the required amount of gas there was no indication that one tank was full. Instead, there was the strong pungent odor of fumes.

The fumes came right out of the bilge and it didn't take long before he realized he'd pumped all 25 gallons through a disconnected fill pipe.

The tanks had been relocated shortly before he made the junket. With their relocation, new fill pipes had been installed. Either the owner didn't know about their installation, or he'd forgotten.

To add to the hazard the skipper then poured carbon tetrachloride over the highly inflammable fuel. In only a matter of minutes he was overcome by the carbon tet fumes and had to be carried ashore.

This certainly serves to prove that safety hazards cannot be checked too carefully.

There COULD have been an explosion. A single spark would have reduced that yawl to a memory.

DON'T BE MORE CONFIDENT THAN CAUTIOUS!

How many times have you picked up your morning newspaper and had the following headlines for breakfast?

GIRL'S FEET AMPUTATED BY MOTORBOAT PROPELLER!

THREE INJURED AS FISHING CRAFT BLOWS UP! TWO KILLED AS CRUISER EXPLODES!

What does this news mean to the average newspaper reader, unfamiliar with boats and boating? Does it mean that boating is a hazard?—that every time the boat-owner goes afloat or everytime you vacation at the beach or shady lake, you're risking you're life? Is that what it means?

By the same token 27,500 people lost their lives at home in such mundane pursuits as hanging pictures and taking shower baths.

As the World War I hero Capt. Eddie Rickenbacker said: "This hasn't stopped Americans from taking baths."

Neither, we hope, will boating casualties stop people from this popular pastime, but to enjoy it still more without the evils of recklessness, thoughtlessness, and carelessness.

TOTAL COST FOR SAFETY

How much human life and suffering must we endure to become safety conscious?

When we compute the cost in time and money of counsel and litigation, plus the physical and mental suffering not to mention loss of life it certainly seems that safety would be by far the cheapest commodity.

Recently a utility man, aged 29, according to a law suit filed by his attorney, was ordered to use a dangerous and harmful substance (lye) and became blind in one eye due to its splashing in his face. Investigation disclosed that the man was not provided with safety goggles; that a strong wind was blowing; that the strong lye water splashed and was blown into his face and eyes causing serious burns and the loss of the right eye.

On advice of counsel for the steamship company, the case was settled in favor of the utility man due to negligence of the officer in charge of the work failing to provide proper safety equipment and supervision.

Cost of settlement was $19,000, plus litigation fees, plus untold suffering, and, in this case, loss of an eye which can never be measured in terms of money.

GANGWAY ACCIDENTS

An article in a New York newspaper gave an account of a very serious gangway accident at Belfast in which 16 workers were killed and 48 others were injured. In this particular accident more than 60 workers were crowding ashore at the end of a shift and overcrowded the gangway. Many of the workers fell 50 feet—some into the water and others onto the dock.

On noting this accident and the previous articles that had been written regarding gangway accidents in the "Proceedings" it was decided to review recent casualties involving gangways. It was noted that some vessel operators as well as masters and operating personnel on board ships were still rather careless regarding a safe means of exit or entrance to vessels moored at the dock.

In one particular case a motor vessel of approximately 700 gross tons was provided with only two planks about 16 feet long and 8 to 10 inches wide and 2 inches thick. They were laid side by side and fastened together with cleats spaced some 12 to 14 inches apart. There was no handrail or lifeline attached to or provided with this gangplank. In this particular accident, where one man was killed, there was a slope of some 35° or 40° of the gangplank. In attempting to cross the gangplank, this seaman fell between the vessel and the dock and drowned. There was no evidence of drinking or foul play and he appeared previously to be in apparently good health. The means for passing from the vessel to shore and vice versa was a haphazard and dangerous arrangement, and had proper facilities been provided it is very likely this seaman would be living today.

In another accident in which a seaman was killed the gangway had been properly rigged and safety hand lines secured. The seaman was returning from shore where he had obtained magazines, papers, and other material. The gangway was properly illuminated and was at an angle of approximately 45°. The weather was dry and clear and the gangway was dry and there was no oil upon it. The seaman had been drinking but his shipmates did not believe he was intoxicated.

In this instance the seaman was going up a gangplank at a sharp angle without using his hands to assist him by hanging on to the hand lines provided. When he fell from the gangplank he landed on the dock and died as a result of a fractured skull.

While this is a repetition of what has often been said before, it is felt that not only should shipowners and operators furnish safe gangways, but it is essential that officers and seamen thoroughly understand the death-dealing potentialities of an unsafe or overcrowded gangway. The safest gangway made can be a dangerous hazard if the people using it are careless and indifferent to the other hazards involved. Every seaman should remember the adage: "One hand for the ship, one hand for yourself."

GUNPOWDER BURNS

An unusual explosion and fire occurred in the engine room of a tank vessel. The third assistant engineer was shaping the end of a piece of pipe on the emery wheel and, as expected, sparks were flying fast and furious. The engineer had paid no attention to what was lying on the bench at the time. When one of the sparks landed on a small bag, there was an explosion and fire which burned the engineer severely about his head and chest. On investigation it was discovered there were five bags of gunpowder, all lying together, on the bench. The gunpowder was intended for use in the Lyle gun.

There was no information available as to how the gunpowder got into the machine shop, but it did. The engineer's use of equipment without paying any attention to what may be lying around the equipment on the workbench had disastrous results. A word of caution is: Look and remove any article that may create a fire or explosion hazard.

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Amendments to Regulations

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter C—Aids to Navigation

[CGRF 51-14]

PART 74—COSTS AND CHARGES

TABLE OF CHARGES

The purpose of the following amendment to the regulations is to revise the schedules of rates on charges for the employment of vessels and materials used to construct, repair and maintain aids to navigation necessitated by loss or damage, and to mark wrecks in the navigable waters of the United States.

The schedules of rates for costs and charges covering the employment of vessels and materials used were estimated and established in 1948. Due to numerous changes in costs of materials and upon further analysis of the pay of Coast Guard personnel the rates and charges as published in 1948 do not now reflect a fair and equitable basis to support charges for such work, and for settling claims arising from the performance of that work when performed by Coast Guard vessels and personnel. Since the Coast Guard performs this work as an incident to the performance of other statutory duties, it is administratively impossible to determine with definite exactness the costs to repair or replace each particular aid to navigation damaged or destroyed.

The statutory requirement in section 642, Title 14, contemplates collection of the cost of replacement of damaged or destroyed aids to navigation in a manner that would not be a greater expense to the Government than would be applicable to other property of the Government damaged by tortious acts. Since the functions of the Coast Guard are more than just the establishment, maintenance and repair of aids to navigation, it is not possible to compare these schedules with those in private industry performing such work. The schedules of rates for costs and charges are estimates based on the average costs and charges taken from available Coast Guard records. In recalculating these schedules of rates and costs, some rates and costs have slightly increased while others have decreased an appreciable amount. Because of the urgency of fairly and equitably settling current claims arising in the performance of such work, as well as anticipated claims arising during the summer because of the increase in number of vessels navigating the navigable waters of the United States, and in view of other considerations given above, it is hereby found that compliance with the notice of proposed rule making, the public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is impracticable and contrary to the public interest.

By virtue of the authority contained in Title 14, United States Code, sections 633 and 642, the following amendment to the regulations is hereby prescribed and shall become effective upon publication in the FEDERAL REGISTER.

Section 74.01-1 is amended to read as follows:

§ 74.01-1 *Table of charges.* Charges for the performance of aids to navigation work by the Coast Guard, when authorized, shall be in accordance with the following tables:

TABLE A.—*Charges for buoys, etc.*

Type of marking (buoy includes mooring and sinker)	Preparation for establishment	Depreciation and routine maintenance charge per month or major fraction thereof
1. Lighted buoy for exposed station, with or without sound	$176.00	$30.25
2. Bell, gong or whistle buoys, unlighted	65.00	14.57
3. Lighted buoy for sheltered station with or without sound	49.00	17.78
4. Can or nun buoys (except river type)	29.00	5.26
5. Wooden spar buoys, any class	8.00	1.65
6. River type buoy	3.31	2.27
7. Lighting apparatus (only)	20.00	12.52

TABLE B.—*Charges for vessels, etc.*

Type of vessel	Maintenance charge per hour	Operating personnel charge per hour
1. Cutters 150 feet and longer	$21.68	$17.41
2. Cutters less than 150 feet and over 100 feet long	8.07	6.44
3. Cutters 100 feet long or less	7.02	5.16
4. Buoy boats	1.27	1.93

(63 Stat. 545; 14 U. S. C. 633. Interprets or applies sec. 63 Stat. 547; 14 U. S. C. 642)

Dated: May 11, 1951.

[SEAL] E. H. FOLEY,
Acting Secretary of the Treasury.

[F. R. Doc. 51-5791; Filed, May 17, 1951; 8:49 a. m.; 16 F. R. 4657—5-18-51.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter G—Ocean and Coastwise; General Rules and Regulations

[CGFR 51-6]

PART 62—SPECIAL OPERATING REQUIREMENTS

LOOKOUTS, FIRE PATROLMEN, AND ADDITIONAL WATCHES

The regulations in 46 CFR 62.25 contain the requirements for lookouts, fire patrolmen, and cabin watchmen on merchant vessels of the United States navigating the oceans or coastwise waters. The purpose of the amendment to 46 CFR 62.25 is to clarify the misunderstandings regarding the intent of the regulations and the requirements for lookouts, fire patrolmen, and additional watches when necessary.

This amendment to clarify the requirements of 46 CFR 62.25 shall become effective immediately upon publication of this document in the FEDERAL REGISTER. This regulation is published without prior general notice of its proposed issuance for the reason that notice, public rule making procedure thereon, and effective date requirements in connection therewith as required by the Administrative Procedure Act 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 Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), to promulgate regulations in accordance with the statutes cited with the regulation below, § 62.25 is amended to read as follows and this amendment shall become effective upon the date of publication of this document in the FEDERAL REGISTER:

§ 62.25 *Lookouts, fire patrolmen, and additional watches when necessary*—(a) *Lookouts.* Every vessel navigating the ocean shall have a lookout at all times at or near the bow during the nighttime.

(b) *Fire patrolmen.* (1) On every passenger vessel having berth or

stateroom accommodations for passengers, there shall be maintained an efficient watch by the fire patrol so as to cover all parts of the vessel accessible to passengers or crew, except machinery spaces, spaces occupied by passengers or crew as sleeping accommodations and cargo compartments which are inaccessible to passengers or crew while the passenger vessel is being navigated.

(2) The duties of the fire patrolman shall be to guard against fire or any disaster and to give an alarm in case of accident. The fire patrol shall be adequate to cover the areas described in this section at intervals of not more than twenty minutes between the hours of 10:00 p. m. and 6:00 a. m. In the case of a passenger vessel of noninflammable construction which is fitted with an approved automatic fire-detecting and alarm system in public spaces, the patrol throughout the entire patrol area may be at one hour intervals.

(3) The failure of a patrolman to follow a prescribed route, or to record each station within a definite time shall be entered on the record, along with the reason for the irregularity.

(4) The patrolman shall report to the bridge every hour on a passenger vessel where the fire patrol system is not equipped with a recording apparatus in the control station. In every passenger vessel requiring more than one patrol group, one patrolman may contact the others and make the joint report to the bridge.

(5) A patrolman while on duty shall have no other tasks assigned to him. He shall be provided with a flashlight and shall wear a distinctive uniform or badge.

(6) The number of fire patrolmen shall be specified on the certificate of inspection.

(c) *Responsibility of master.* Nothing in this section shall exonerate any master or officer in command from the consequences of any neglect to keep a proper lookout or to maintain a proper fire watch or for the neglect of any precaution which may be required by the ordinary practice of seamen or by the special circumstances of the case. When circumstances require it, additional watches shall be maintained to guard against fires or other danger and to give an alarm in case of accident or disaster.

Dated: April 5, 1951.

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

[F. R. Doc. 51-4326; Filed, Apr. 11, 1951; 8:50 a. m.; 16 F. R. 3218—4-12-51.]

Subchapter R—Nautical Schools

[CGFR 51-11]

PART 167—PUBLIC NAUTICAL SCHOOL SHIPS

A notice regarding proposed regulations for nautical school ships was published in the FEDERAL REGISTER dated December 21, 1950, 15 F. R. 9146-9156, and a public hearing to consider these regulations was held on January 30, 1951, at Washington, D. C. All the comments submitted were considered and where possible were incorporated into the regulations.

These regulations apply to 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 do not include vessels of the United States Navy or Coast Guard. It is the purpose of the regulations to provide minimum standards for vessels used as nautical school ships. The regulations include requirements for the design, construction, and inspection of nautical school ships; lifesaving, firefighting, and fire prevention requirements; special operating requirements; and the number of persons permitted to be carried.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department 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 regulations are prescribed which shall be added to Chapter I as Subchapter R, Part 167, and shall become effective on and after July 1, 1951:

SUBPART 167.01—GENERAL PROVISIONS

Sec.
167.01-1 Basis and purpose of part.
167.01-5 Application of regulations.
167.01-10 Effective date of regulations.
167.01-15 Specifications for articles or materials.

SUBPART 167.05—DEFINITIONS

167.05-1 Definition of terms.
167.05-5 Approved.
167.05-10 Commandant.
167.05-15 Coast Guard District Commander.
167.05-20 Marine inspector or inspector.
167.05-25 Nautical school ship.
167.05-30 Officer in Charge, Marine Inspection.

SUBPART 167.10—ENFORCEMENT AND RIGHT OF APPEAL

167.10-1 Enforcement.
167.10-50 Right of appeal.

SUBPART 167.15—INSPECTIONS

167.15-1 Inspections required.
167.15-5 Authority of marine inspectors.
167.15-10 Application for annual inspection.
167.15-15 Application for inspection of a new nautical school ship or a conversion of a vessel to a nautical school ship.
167.15-20 Inspections of nautical school ships.
167.15-25 Inspection standards for hulls, boilers and machinery.
167.15-50 Tail shaft examination.

SUBPART 167.20—HULL REQUIREMENTS, CONSTRUCTION AND ARRANGEMENT OF NAUTICAL SCHOOL SHIPS

167.20-1 Construction.
167.20-5 Subdivision.
167.20-10 Means of escape.
167.20-15 Scupper, sanitary and similar discharges.
167.20-17 Bilge pumps, bilge piping, and sounding arrangements.
167.20-20 Stability.
167.20-25 Plans.
167.20-30 Ballast.

SUBPART 167.25—MARINE ENGINEERING

167.25-1 Boilers, pressure vessels, piping and appurtenances.
167.25-5 Inspection of boilers, pressure vessels, piping and appurtenances.
167.25-20 Carrying of excess steam.

SUBPART 167.30—REPAIRS OR ALTERATIONS

167.30-1 Notice of repairs or alterations required.
167.30-5 Proceeding to another port for repairs.
167.30-10 Gas-free certificates for repairs or alterations involving hot work.

SUBPART 167.35—LIFESAVING EQUIPMENT

167.35-1 Use of approved lifesaving equipment.
167.35-5 Life preservers.
167.35-10 Lifeboats.
167.35-15 Tests of lifeboats at annual inspection.
167.35-20 Air tanks in lifeboats.
167.35-25 Numbering and marking of lifeboats.
167.35-30 Care of lifeboats.
167.35-35 Davits.
167.35-40 Strength and operation of davits.
167.35-45 Releasing gear or disengaging apparatus.
167.35-50 Inspection of releasing gear or disengaging apparatus.
167.35-60 Lifeboat equipment.
167.35-65 Motor lifeboat equipment.
167.35-70 Radios and portable radio equipment.
167.35-75 Handling of lifeboats.
167.35-80 Life buoys.
167.35-85 Line-throwing appliances.
167.35-90 Embarkation ladders.

SUBPART 167.40—CERTAIN EQUIPMENT REQUIREMENTS

167.40-1 Electrical installations.
167.40-5 Alarm bells.
167.40-7 Voice tubes, telephone, and telegraph systems.
167.40-10 Fog bells.
167.40-15 Whistles.
167.40-20 Deep-sea sounding apparatus.
167.40-25 Signaling lamp.

Sec.

AUTHORITY: §§ 167.01–1 to 167.65–70 issued under R. S. 4405, as amended; 46 U. S. C. 375. Interpret or apply R. S. 4417, 4418, 4426, 4428–4434, 4450, 4488, 4491, as amended, 41 Stat. 305, 49 Stat. 1544, 54 Stat. 163–167, 1028, sec. 5, 55 Stat. 244, as amended; 46 U. S. C. 391, 392, 404, 406–412, 239, 363, 367, 463a, 481, 489, 526–526t, 50 U. S. C. 1275.

SUBPART 167.01—GENERAL PROVISIONS

§ 167.01–1 *Basis and purpose of part.* By virtue of the authority in R. S. 4405 (46 U. S. C. 375), as amended, and to apply the requirements of the act of October 25, 1919, as amended (41 Stat. 305; 46 U. S. C. 363), the rules and regulations in this part are prescribed and apply to public nautical school ships, except vessels of the Navy or Coast Guard. It is the intent of the regulations in this part to provide minimum standards for vessels used as nautical school ships in accordance with the various inspection statutes and to obtain their correct and uniform application. This part is not applicable to civilian nautical school ships.

§ 167.01–5 *Application of regulations.* (a) Regulations in this part contain requirements for the design, construction, inspection, lifesaving equipment, firefighting and fire prevention requirements, special operating requirements and number of persons allowed to be carried on nautical school ships.

(b) Vessels owned or chartered by the United States Maritime Administration that may be used by or in connection with any nautical school are not normally considered as merchant vessels of the United States and, therefore, are not documented.

§ 167.01–10 *Effective date of regulations.* (a) The regulations in this part shall be in effect on and after July 1, 1951: *Provided*, That amendments, revisions, or additions shall become effective 90 days after the date of publication in the FEDERAL REGISTER unless the Commandant shall fix a different time.

(b) Amendments to regulations in this part will not be retroactive in effect unless specifically made so at the time the amendments are issued.

§ 167.01–15 *Specifications for articles or materials.* Articles of equipment or materials used in the equipment or the construction of vessels, which conform to the specifications of the Navy or Coast Guard, or their approved equivalent, may be accepted.

SUBPART 167.05—DEFINITIONS

§ 167.05–1 *Definition of terms.* Certain terms used in the regulations of this part are defined in this subpart.

§ 167.05–5 *Approved.* This term means approved by the Commandant unless otherwise stated.

§ 167.05–10 *Commandant.* This term means Commandant of the Coast Guard.

§ 167.05–15 *Coast Guard District Commander.* This term means an Officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district, which include the inspections, enforcement, and administration of Title 52, R. S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 167.05–20 *Marine inspector or inspector.* These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any other person as may be designated for the performance of duties with respect to the inspections, enforcement, and the administration of Title 52, R. S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 167.05–25 *Nautical school ship.* This term means any vessel used as a nautical school ship by any State or political subdivision thereof or a school operated by the United States Maritime Administration, but shall not include vessels of the Navy or Coast Guard.

§ 167.05–30 *Officer in Charge, Marine Inspection.* This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant, and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, R. S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

SUBPART 167.10—ENFORCEMENT AND RIGHT OF APPEAL

§ 167.10–1 *Enforcement.* The Officer in Charge, Marine Inspection, is responsible for the performance of duties within his jurisdiction with respect to inspection of nautical school ships which are subject to the provisions of Title 52, R. S., and acts amendatory thereof or supplementary thereto, rules and regulations issued thereunder, and the inspections required thereby.

§ 167.10–50 *Right of appeal.* Whenever any person directly inter-

ested in or affected by any decision or action of any Officer in Charge, Marine Inspection, shall feel aggrieved by such decision or action, he may appeal therefrom to the Coast Guard District Commander having jurisdiction and a like appeal shall be allowed from any decision or action of the Coast Guard District Commander to the Commandant, whose decision shall be final: *Provided, however,* That application for such reexamination of the case by a Coast Guard District Commander or by the Commandant shall be made within 30 days after the decision or action appealed from shall have been rendered or taken.

SUBPART 167.15—INSPECTIONS

§ 167.15–1 *Inspections required.* (a) Before a vessel may be used as a nautical school ship, it shall be inspected by the Coast Guard to determine that the hull, boilers, machinery, equipment and appliances comply with the regulations in this part.

(b) Every nautical school ship subject to the regulations in this part shall be inspected annually, or oftener if necessary, by the Coast Guard to determine that the hull, boilers, machinery, equipment and appliances comply with the regulations in this part.

(c) Nautical school ships while laid up and dismantled and out of commission are exempt from any or all inspections required by law or regulations in this part.

§ 167.15–5 *Authority of marine inspectors.* Marine inspectors may at any time lawfully inspect any nautical school ship.

§ 167.15–10 *Application for annual inspection.* Application in writing for the annual inspection of every nautical school ship required to be inspected by law and the regulations in this part shall be made by the master, owner, or agent to the Officer in Charge, Marine Inspection, at any local Marine Inspection Office, U. S. Coast Guard, where the nautical school ship may be operating. The application shall be on Form CG 833, Application for Inspection of Vessel, which requires information on name and type of vessel, nature of employment and route in which to be operated, place where and date when the vessel may be inspected, and that no other application has been made to any Officer in Charge, Marine Inspection, since the issuance of the last valid certificate of inspection.

§ 167.15–15 *Application for inspection of a new nautical school ship or a conversion of a vessel to a nautical school ship.* Prior to the commencement of the construction of a new nautical school ship, or a conversion of a vessel to a nautical school ship, application for the approval of contract plans and specifications and for a certificate of inspection shall be made in writing by the owner or agent to the Officer in Charge, Marine Inspection, at the nearest local Marine Inspection Office, U. S. Coast Guard.

§ 167.15–20 *Inspections of nautical school ships.* At each annual inspection, or oftener if deemed necessary, the inspector will inspect the hull, boilers, machinery, equipment, and appliances generally for compliance with the regulations in this subpart and in addition will inspect and test certain specific items as specifically set forth in this part.

§ 167.15–25 *Inspection standards for hulls, boilers and machinery.* Except as otherwise provided by law or regulations in this subpart, the following standards shall be accepted as standard by the inspectors:

(a) American Bureau of Shipping "Rules for Building and Classing Steel Vessels" regarding the construction of hulls, boilers and machinery in effect on the date of inspection. These rules may be purchased from the American Bureau of Shipping, New York, N. Y.

(b) U. S. Navy Standard Construction Specification in effect on the date of inspection.

(c) U. S. Coast Guard Standard Construction Specification in effect on the date of inspection.

§ 167.15–50 *Tail shaft examination.* The outboard shaft or shafts on every nautical school ship shall be drawn for examination once at least in every 3 years: *Provided,* That if the circumstances warrant it, the Coast Guard District Commander may extend this time to the next regular drydocking period, not to exceed four months: *Provided further,* That when it is shown that a nautical school ship has had a long period of lay up, the Coast Guard District Commander may grant an extension equal to the time the vessel has been out of commission, but in no case shall the extension exceed one year.

SUBPART 167.20—HULL REQUIREMENTS, CONSTRUCTION AND ARRANGEMENT OF NAUTICAL SCHOOL SHIPS

§ 167.20–1 *Construction.* Except as otherwise provided by law or regulation in this subpart, the following standards for construction are acceptable.

(a) American Bureau of Shipping "Rules for Building and Classing Steel Vessels" regarding the construction of hulls, boilers and machinery in effect on the date of inspection. These rules may be purchased from the American Bureau of Shipping, New York, N. Y.

(b) U. S. Navy Standard Construction Specification in effect on the date of inspection.

(c) U. S. Coast Guard Standard Construction Specification in effect on the date of inspection.

§ 167.20–5 *Subdivision.* All nautical school ships shall meet the minimum standard for one-compartment subdivision, calculated in accordance with Part 46 of Subchapter E (Load Lines) of this chapter.

§ 167.20–10 *Means of escape.* (a) On all nautical school ships where the arrangements will possibly permit, all inclosures where persons may be quartered, or where anyone may be employed, shall be provided with not less than two avenues of escape, so located that if one of such avenues is not available another may be.

§ 167.20–15 *Scupper, sanitary and similar discharges.* (a) All scupper, sanitary, and other similar discharges which lead through the ship's hull shall be fitted with efficient means for preventing the ingress of water in the event of a fracture of such pipes. The requirements do not apply to the discharges in the machinery space connected with the main and auxiliary engines, pumps, etc.

§ 167.20–17 *Bilge pumps, bilge piping and sounding arrangements.* The number, capacity, and arrangement of bilge pumps and bilge piping shall be in accordance with the requirements for cargo vessels contained in Parts 50 to 57 of Subchapter F (Marine Engineering) of this chapter. Sounding pipes shall be fitted in each compartment, except those accessible at all times. The main and secondary drain systems installed in accordance with U. S. Navy or U. S. Coast Guard Construction Specifications shall be accepted as meeting the intent of this section.

§ 167.20–20 *Stability.* Each nautical school ship shall be subjected to a stability test under the supervision of the Coast Guard. A stability letter, prepared by the Coast Guard, embodying necessary instructions to insure maintenance of sufficient stability at all times, for both intact and damaged condition, shall be posted on board the nautical school ship.

§ 167.20–25 *Plans.* (a) For use in connection with the stability test, the following plans shall be furnished to the Coast Guard:

(1) General arrangement plans;

(2) Midship section;

(3) Lines; and
(4) Curves of form.

(b) In the case of new construction of a nautical school ship, the same kind of plans as required by the Coast Guard for a cargo ship shall be submitted for approval. A list of the necessary plans may be obtained from the Commandant upon request.

(c) The owner or builder shall submit required drawings or blueprints in triplicate so that one set may be retained by the Commandant, one set approved and returned to the Officer in Charge, Marine Inspection, for his records, and one set approved and returned to the owner or builder for his information. If the owner or builder desires additional sets of drawings or plans approved, he shall submit such additional sets with the required drawings or plans.

§ 167.20–30 *Ballast.* When a nautical school ship is required to carry fixed ballast, in order to increase the metacentric height, such ballast shall not be moved except for examination and repair of the nautical school ship, and then only in the presence of an inspector.

SUBPART 167.25—MARINE ENGINEERING

§ 167.25–1 *Boilers, pressure vessels, piping and appurtenances.* (a) Except as otherwise provided by law or regulations in this subpart, all vessels constructed or reconverted to use as nautical school ships on or after July 1, 1951, shall conform with one of the following standards for boilers, pressure vessels, piping and appurtenances:

(1) Marine engineering regulations and material specifications in Parts 50 to 57, inclusive, of Subchapter F (Marine Engineering) of this chapter.

(2) Navy Standard Construction Specifications in effect at time of construction or conversion.

(3) U. S. Coast Guard Standard Construction Specifications in effect at time of construction or conversion.

(b) The boilers, pressure vessels, and appurtenances shall be inspected initially under the provisions of § 52.01–50 of Subchapter F (Marine Engineering) of this chapter. All alterations, replacements, or repairs on nautical school ships shall conform to the applicable standards in paragraph (a) of this section insofar as practicable.

§ 167.25–5 *Inspection of boilers, pressure vessels, piping and appurtenances.* The inspection of boilers, pressure vessels, piping and appurtenances shall be in accordance with the appropriate sections in Parts 50 to 57, inclusive, of Subchapter F (Marine Engineering) of this chapter, insofar as they relate to tests and inspection of cargo vessels.

§ 167.25–20 *Carrying of excess steam.*[1] When it is known or comes to the knowledge of the Officer in Charge, Marine Inspection, that any steam nautical school ship is or has been carrying an excess of steam beyond that which is allowed by her certificate of inspection, the Officer in Charge, Marine Inspection, in whose zone the nautical school ship is being navigated, in addition to reporting the fact to the United States District Attorney for prosecution under R. S. 4437 (46 U. S. C. 413), shall require the owner or owners of the nautical school ship to place on the boiler a lockup safety valve which will prevent the carrying of an excess of steam and it shall be under the control of said Officer in Charge, Marine Inspection.

SUBPART 167.30—REPAIRS OR ALTERATIONS

§ 167.30–1 *Notice of repairs or alterations required.* (a) It shall be the duty of the master, owner, or agent to notify the nearest Officer in Charge, Marine Inspection, whenever repairs or alterations are required, or will be made on a nautical school ship.

(b) Whenever a nautical school ship is placed upon the dock, it shall be the duty of the master, owner or agent to report the same to the Officer in Charge, Marine Inspection, so that a thorough inspection may be made by the Coast Guard to determine what is necessary to make such a nautical school ship seaworthy, if the condition or age of the nautical school ship, in the judgment of the Officer in Charge, Marine Inspection, renders such examination necessary.

§ 167.30–5 *Proceeding to another port for repairs.* (a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repairs, if in his judgment it can be done with safety. In the issuance of such a permit the Officer in Charge, Marine Inspection, will state upon its face, the conditions upon which it is granted.

(b) When a nautical school ship obtains a permit from the Officer in Charge, Marine Inspection, to go to another port for repairs, the Officer in Charge, Marine Inspection, shall so notify the Coast Guard District Commander, and state the repairs to be made. The Coast Guard District Commander shall notify the Coast Guard District Commander of the district where such repairs are to be made, furnishing him a copy of the report indicating the repairs ordered.

§ 167.30–10 *Gas-free certificates for repairs or alterations involving hot work.* On any nautical school ship which has carried inflammable or combustible liquids in bulk, as fuel or cargo, whether in a repair yard or elsewhere, no repairs or alterations involving riveting, welding, burning, or like fire-producing operations shall be made in or on the boundaries of oil bunkers, oil tanks, oil pipe lines and heating coils until an inspection has been made to determine that such operations can be undertaken with safety. Such inspections shall be made and evidenced as follows:

(a) When in a port of the United States, this inspection shall be made by a gas chemist certificated by the American Bureau of Shipping; however, if the services of such certified gas chemist are not reasonably available, the marine inspector of the Coast Guard, upon recommendation of the nautical school ship's owner and his contractor, or their representatives, shall select a person who, in the case of an individual nautical school ship, shall be authorized to make the inspection. If the inspection indicates that such operations can be undertaken with safety, a certificate setting forth that fact in writing and qualified, as may be required, shall be issued by the certified gas chemist or the authorized person before the work is started.

(b) When not in such a port and a gas chemist is not available, this inspection shall be made by the senior officer present, who shall make an entry in the nautical school ship's log to that effect.

SUBPART 167.35—LIFESAVING EQUIPMENT

§ 167.35–1 *Use of approved lifesaving equipment.* Lifeboats, lifeboat disengaging apparatus, life rafts, life preservers, or other lifesaving equipment which conform to the specifications of the Navy or Coast Guard, or their approved equivalent, may be accepted for use on nautical school ships.

§ 167.35–5 *Life preservers*—(a) *Number required.* All nautical school ships shall be provided with one life preserver for each person carried.

(b) *Shipboard inspections.* At each annual inspection of any nautical school ship, or oftener if deemed necessary, all life preservers shall be examined by an inspector to determine serviceability. When life preservers are found to be in accordance with the requirements, the inspector shall stamp them with the word "Passed", his initials, port, and date.

[1] Attention is called to R. S. 4437 (46 U. S. C. 413), which makes the obstructing of a safety valve a misdemeanor subject to a $200 fine and imprisonment for not to exceed 5 years.

Life preservers found not to be in a serviceable condition shall be removed from the vessel's equipment and, if beyond repair, shall be destroyed in the presence of the inspector.

§ 167.35–10 *Lifeboats.* Each nautical school ship shall be provided with fully equipped lifeboats of sufficient capacity to accommodate all persons on board.

§ 167.35–15 *Tests of lifeboats at annual inspection.* At each annual inspection, or oftener if necessary, the inspectors shall satisfy themselves that every lifeboat, together with its equipment, is in every respect in good condition and ready for immediate use. Every lifeboat, with its required equipment, shall be lowered to near the water and loaded to its allowed capacity, evenly distributed throughout its length, and then lowered into the water afloat. In making this test, persons or satisfactory deadweight may be used. If persons are used, the weight of each person shall average at least 165 pounds. When deadweight is used, the weight shall be equivalent to at least 165 pounds for each person allowed.

§ 167.35–20 *Air tanks in lifeboats.* Before any lifeboat is passed and accepted, the air tanks if installed shall be tested in the presence of an inspector by an air pressure of not more than 1 pound per square inch. At each subsequent annual inspection, or oftener if necessary or desirable, the inspectors shall satisfy themselves that the air tanks are in good condition, but pressure need not be applied unless the inspectors are in doubt regarding the efficiency of the tanks. This does not take from the inspectors the right and authority to satisfy themselves at any time, either by examination or pressure, as to the condition of the air tanks.

§ 167.35–25 *Numbering and marking of lifeboats.* (a) The number of each lifeboat shall be plainly marked or painted on each side of the bow in figures three inches high; and, where lifeboats are carried on both sides of a vessel, the odd-numbered boats shall be stowed on the starboard side and even-numbered boats on the port side; i. e., lifeboat No. 1 shall be forward on the starboard side, and lifeboat No. 3 next abaft lifeboat No. 1; lifeboat No. 2 shall be forward on the port side and lifeboat No. 4 next abaft lifeboat No. 2, etc. Where lifeboats are nested, the lifeboat under lifeboat No. 1 shall be numbered 1a, the lifeboat under lifeboat No. 2 shall be numbered 2a, etc.

(b) The cubical contents and number of persons allowed to be carried on each lifeboat shall be plainly marked or painted on each side of the bow in letters and numbers 1½ inches high. In addition, the number of persons allowed shall be plainly marked or painted on the top of at least two of the thwarts in letters and numbers three inches high.

(c) Such letters and numbers required by paragraphs (a) and (b) of this section shall be dark on a light background or light on a dark background.

§ 167.35–30 *Care of lifeboats.* Lifeboats shall be stripped, cleaned, and thoroughly overhauled, at least once in every year.

§ 167.35–35 *Davits.* All lifeboats shall be carried under davits of approved types. Davits approved by the Navy may be used. More than one type of davit may be carried on any one vessel.

§ 167.35–40 *Strength and operation of davits.* The davits shall be of such strength that the boats can be lowered with their full complement of persons and equipment.

§ 167.35–45 *Releasing gear or disengaging apparatus.* More than one type of approved releasing gear or disengaging apparatus may be installed in the lifeboats on any one nautical school ship. Releasing gear approved by the Navy may be used.

§ 167.35–50 *Inspection of releasing gear or disengaging apparatus.* The inspectors, when inspecting or reinspecting vessels, shall carefully examine the releasing gear or disengaging apparatus and the blocks and falls thereof to satisfy themselves that the same are in good condition.

§ 167.35–60 *Lifeboat equipment.* The equipment specified in this section shall be provided for each lifeboat. This equipment need not be stowed in the lifeboat but shall be readily available for emergency use. The lifeboat, except where otherwise specified in this subpart, shall be equipped as follows:

(a) *Bailer.* One bailer of sufficient size and suitable for bailing with lanyard attached.

(b) *Boathooks.* Two boathooks of clear-grained white ash of suitable length but not less than 8 feet long by 1½ inches in diameter.

(c) *Bucket.* One galvanized iron bucket of about 2-gallon capacity, with lanyard attached.

(d) *Compass.* One compass.

(e) *Distress signals.* Twelve hand red flare distress signals in a watertight container, and 4 floating orange smoke distress signals; or 12 hand red flare distress signals in a watertight container, and 12 hand orange smoke distress signals in a watertight container; or 12 hand combination flare and smoke distress signals in a watertight container. Service use shall be limited to a period of 3 years from date of manufacture.

(f) *Ditty bag.* One canvas bag containing sailmaker's palm, needles, sail twine, marline, and marline spike.

(g) *Drinking cups.* Two drinking cups.

(h) *Flashlight.* One flashlight.

(i) *Hatchets.* Two hatchets attached to the boat by individual lanyards and readily available for use, one at each end of the boat.

(j) *Lantern.* One lantern containing sufficient oil to burn at least 9 hours and ready for immediate use.

(k) *Life line.* When necessary a life line, or grab line, properly secured the entire length on each side, festooned in bights not longer than 3 feet, with a seine float in each bight. The life line shall be of a size and strength not less than 12-thread manila rope, and the seine float in each bight shall hang to within 12 inches of the surface of the water when the boat is light.

(l) *Life preservers or life buoys.* Two life preservers or two life buoys.

(m) *Mast and sails.* A mast or masts with at least one good sail and proper gear for each, the sail and gear to be protected by a suitable canvas cover. Where a nautical school ship in the North Atlantic north of 35° north latitude is provided with a radiotelegraph installation, only one of the lifeboats on each side of the nautical school ship shall be required to be so equipped.

(n) *Matches.* One box of friction matches in a watertight container.

(o) *Oars.* A single banked complement of oars, two spare oars, and a steering oar with rowlock or becket. Motor lifeboats and lifeboats fitted with propellers operated by hand shall be equipped with four oars and one steering oar.

(p) *Painter.* One painter of manila rope not less than 2¾ inches in circumference and a length not less than three times the distance between the boat deck and the light draft.

(q) *Plugs.* Each drain hole shall be provided with two plugs or caps attached by chains, or with one cap attached by chain to the lifeboat if the cap is fitted with a setscrew to prevent its being taken off without removing the setscrew.

(r) *Provisions.* Two pounds of provisions for each person consisting of hard bread or its equivalent in any emergency ration approved by the Coast Guard or Navy of cereal or vegetable compound packaged in hermetically sealed containers.

(s) *Rowlocks.* One set and a half

of rowlocks, each attached to the lifeboat by a separate chain.

(t) *Rudder.* One rudder and tiller.

(u) *Sea anchor.* One sea anchor.

(v) *Signaling mirrors.* Two signaling mirrors.

(w) *Storm oil.* One container holding 1 gallon of vegetable or animal oil, so constructed that the oil can be easily distributed on the water and so arranged that it can be attached to the sea anchor.

(x) *Water.* For each person at least 1 quart of drinking water contained in hermetically sealed cans of a type approved by the Coast Guard or Navy.

DANGER

NO JOB IS SO IMPORTANT
NO WORK IS SO URGENT
THAT WE CAN NOT TAKE TIME
TO PERFORM OUR WORK SAFELY

§ 167.35–65 *Motor lifeboat equipment*—(a) *Equipment required.* In addition to the equipment required by § 167.35–60, motor lifeboats shall carry two fire extinguishers of the carbon tetrachloride, carbon dioxide, or dry chemical type, approved by the Navy or Coast Guard, but need not carry a mast or sails nor more than four rowing oars and one steering oar.

(b) *Motor and accessories.* (1) The engine for motor-propelled lifeboats shall be of a reliable, marine, heavy-duty type, permanently installed inside the lifeboat.

(2) Motor-propelled lifeboats certified for 100 or more persons shall be fitted with at least two bilge pumps, one of which shall be an efficient hand pump. Each bilge pump shall be capable of pumping from each compartment. Motor-propelled lifeboats certified for less than 100 persons shall be fitted with one bilge pump, either hand or power, having suitable suctions or drainage to different parts of the lifeboat.

§ 167.35–70 *Radios and portable radio equipment.* Two portable radio units suitable for use in lifeboats.

§ 167.35–75 *Handling of lifeboats.* All the lifeboats shall be stowed in such a way that they can be launched in the shortest possible time and that, even under unfavorable conditions of list and trim from the point of view of the handling of the lifeboats, it may be possible to embark in them as large a number of persons as possible.

§ 167.35–80 *Life buoys*—(a) *Number required.* (1) The minimum number of life buoys and the minimum number to which water lights shall be attached shall be in accordance with the following table:

TABLE 167-35-80—(a) *Life buoys*

Length of nautical school ship	Minimum number of life buoys	Minimum number of life buoys with water lights attached
Under 100 feet	2	0
100 feet and under 200 feet	4	2
200 feet and under 300 feet	6	2
300 feet and under 400 feet	12	4
400 feet and under 600 feet	18	9
600 feet and under 800 feet	24	12
800 feet and over	30	15

(2) One life buoy on each side of a vessel shall have an attached line at least 15 fathoms in length.

(b) *Distribution and securing of life buoys and water lights.* All life buoys and water lights shall be distributed and secured as follows:

(1) All life buoys shall be so placed as to be readily accessible to the persons on board, and their positions plainly indicated so as to be known to the persons concerned.

(2) The life buoys shall always be capable of being cast loose, and shall not be permanently secured in any way.

§ 167.35–85 *Line-throwing appliances*—(a) *Requirements.* All nautical school ships (regardless of tonnage or manner of propulsion) engaged on international voyages and all nautical school ships of 500 gross tons and over, shall be equipped with an approved line-throwing appliance, and equipment auxiliary thereto, of the impulse-projected rocket type, the requirements for which are set forth in subpart 160.040 of Subchapter Q (Specifications) of this chapter. All nautical school ships of 150 gross tons and over and less than 500 gross tons, shall be equipped with an approved line-throwing appliance, and equipment auxiliary thereto, of the shoulder gun type or the impulse-projected rocket type, the requirements for which are set forth in subparts 160.031 and 160.040, respectively, of Subchapter Q (Specifications) of this chapter. The line-throwing appliances shall be approved by the Coast Guard or the Navy. Service use of rockets shall be within four years from date of manufacture. Lyle gun type line-throwing appliances already in service may be continued in use so long as in good and serviceable condition in lieu of impulse-projected rocket type or shoulder gun type line-throwing appliances: *Provided,* That any replacements shall be made with a line-throwing appliance of the impulse-projected rocket type or shoulder gun type, as applicable.

(b) *Accessibility.* The line-throwing appliance and its equipment shall be kept always easily and immediately accessible and ready for use. No part of this equipment shall be used for any other purpose.

(c) *Drills.* The master of a nautical school ship equipped with a line-throwing appliance shall drill his crew in its use and require it to be fired at least once in every 3 months. Each drill shall be recorded in the nautical school ship's log book. The service line shall not be used for drill purposes. The drills shall be conducted as follows:

(1) For impulse-projected rocket type, by actually firing the rocket with any ordinary line of proper length attached; or,

(2) For shoulder gun type, by actual firing, using the regular cartridge and projectile with any ordinary line of proper length; or,

(3) For Lyle gun type, by actual firing, using one-half the usual charge of powder with regular service projectile and any ordinary line of proper length.

§ 167.35–90 *Embarkation ladders.* Nautical school ships shall be provided with flexible ladders to enable people to descend to lifeboats, one such ladder being provided for each set of boat davits. These ladders shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the nautical school ship's light water line.

SUBPART 167.40—CERTAIN EQUIPMENT REQUIREMENTS

§ 167.40–1 *Electrical installations.* (a) Except as otherwise provided by law or regulation in this part, the electrical equipment may be considered acceptable if it complies with the requirements covered by any one of the following:

(1) U. S. Navy Standard Construction Specifications currently in effect.

(2) U. S. Coast Guard Standard Construction Specifications currently in effect.

(3) American Institute of Electrical Engineers Standard No. 45, 1945 or 1948 Revision. These standards may be purchased from the American Institute of Electrical Engineers, New York, N. Y.

(b) Changes or alterations in the electrical installations of vessels now in service shall be in accordance with standards set forth in paragraph (a) of this section.

(c) Special attention shall be given by the inspectors in the examination of present installation to see that it is of such nature as to preclude any danger of fire, giving particular atten-

tion to wiring which is carried through wooden bulkheads, partitions, etc.

§ 167.40–5 *Alarm bells.* All nautical school ships over 100 gross tons shall have all sleeping accommodations, public spaces, and machinery spaces equipped with a sufficient number of alarm bells so located as to warn all occupants. The system shall operate from a continuous source of electric energy capable of supplying the system for a period of at least 8 hours without being dependent upon the main auxiliary or emergency generating plants. Each bell shall produce a signal of a tone distinct from that of other bell signals in the vicinity and shall be independently fused, with each of these fuses located above the bulkhead deck. The bells shall be controlled by a manually-operated contact maker located in the pilothouse. The characteristics of the contact maker shall be such that it possesses:

(a) Positive contact;

(b) Watertightness (when located in open spaces subject to weather);

(c) Means whereby its electrically open or closed position can be determined by sense of touch;

(d) Means to affect a make-or-break circuit for signaling; and

(e) Self-maintaining contacts.

§ 167.40–7 *Voice tubes, telephone, and telegraph systems.* (a) Each nautical school ship shall be fitted with an efficient means of communication between the pilothouse and engine room. This may be by bell signals with voice tubes, telephone, or telegraph systems.

(b) A voice tube or telephone system between the radio room and the navigating bridge shall be provided when the nautical school ship is equipped with a radio installation.

(c) A voice tube or telephone system between the pilothouse and emergency steering station shall be provided when the nautical school ship is equipped with an emergency steering station.

§ 167.40–10 *Fog bells.* The efficient fog bell required upon vessels by law (sec. 1, 26 Stat. 325, as amended; 33 U. S. C. 91) shall be held to mean a bell not less than 8 inches in diameter from outside to outside and constructed of bronze or brass or other material equal thereto in tone and volume of sound, and located where the sound shall be the least obstructed.

§ 167.40–15 *Whistles.* Nautical school ships shall be provided with an efficient whistle sounded by steam or by some substitute for steam to give the necessary whistle signals.

§ 167.40–20 *Deep-sea sounding apparatus.* Nautical school ships shall be equipped with an efficient mechanical deep-sea sounding apparatus in addition to the ordinary deep-sea hand lead. The mechanical deep-sea sounding apparatus required shall be installed, kept in working order, and ready for immediate use.

§ 167.40–25 *Signaling lamp.* Nautical school ships of over 150 gross tons shall be equipped with an efficient signaling lamp. This lamp shall be permanently fixed above the bridge and equipped with a Fresnel lens and high-speed bulb, operated by a weatherproof key, fitted with a suitable condenser. The lamp shall be so connected that it can be operated from the normal source of the nautical school ship's current, the emergency source, and other emergency batteries if provided.

§ 167.40–30 *Guards and rails.* On nautical school ships all exposed and dangerous places, such as gears and machinery shall be properly protected with covers, guards, or rails, in order that the danger of accidents may be minimized. On nautical school ships equipped with radio (wireless) the lead-ins shall be efficiently incased or insulated to insure the protection of persons from accidental shock. Such lead-ins shall be located so as not to interfere with the launching of lifeboats and life rafts.

§ 167.40–35 *Motion-picture projectors.* (a) Motion-picture projectors of the 16 mm. or 8 mm. size, using only slow-burning films, need not be of an approved type and may be used without booths.

(b) Motion-picture projectors using the 35 mm. size, unless mounted on weather deck shall be used in booths, in accordance with § 61.23 of Subchapter G (Ocean and Coastwise Regulations) of this chapter or applicable Navy specifications.

SUB-ART 167.45—SPECIAL FIRE-FIGHTING AND FIRE PREVENTION REQUIREMENTS

§ 167.45–1 *Steam and inert-gas fire extinguishing systems*—(a) *General requirements.* (1) Nautical school ships shall be provided with steam or inert-gas fire-extinguishing systems when required.

(2) All nautical school ships carrying combustible cargo in the holds, between decks, or other closed cargo compartments shall be equipped with means for extinguishing fire in such compartments by the use of steam fire-extinguishing systems or by the use of any inert-gas fire-extinguishing system approved by the Coast Guard or Navy. However, in specific cases where by reason of the design, such compartments are normally accessible and considered to be part of the working or living quarters, a water sprinkling system may be installed in lieu of either a steam or inert-gas fire-extinguishing system.

(3) Cabinets, boxes, or casings inclosing manifolds or valves shall be distinctly marked in painted letters about 3 inches in height, "Steam Fire Apparatus," or "CO_2 Fire Apparatus," as the case may be.

(4) Steam or gas piping fitted for extinguishing fire shall not be used for any other purpose except that it may be used for fire-detecting purposes.

(5) Pipes for conveying steam from the boilers for the purpose of extinguishing fire shall not be led into the cabins, other living spaces, or working spaces. Pipes for conveying carbon dioxide or other extinguishing vapors for the purpose of extinguishing fire shall not be led into the cabins or other living spaces.

(6) Steam smothering lines shall be tested with at least 50 pounds air pressure with ends of the smothering lines capped, or by blowing steam through the lines, and a survey made for detecting corrosion and defects, using the hammer test or such other means as may be necessary.

(7) At annual inspections, all carbon dioxide (CO_2) cylinders, whether fixed or portable, shall be examined externally and replaced if excessive corrosion is found; and all cylinders shall also be checked by weighing to determine contents and if found to be more than 10 percent under required contents of carbon dioxide, the same shall be recharged.

(b) *Steam systems.* (1) Steam for fire-extinguishing systems shall be available at a suitable pressure from the main boilers or a donkey or auxiliary boiler.

(2) The pipe lines shall be led from not more than three stations in easily accessible locations on the weather deck to each cargo hold, cargo 'tween

decks, or other closed cargo compartments, and to each cargo-oil deep tank, lamp locker, oil room, and like compartments, which lamp locker, oil room, and like compartments, shall be wholly and tightly lined with metal. The steam connections to the lamp-lockers, oil rooms, and like compartments may be taken from the nearest steam supply line, independent of the extinguishing manifolds. In lamp lockers, oil rooms, and like compartments, adequate means may be provided for ventilation if suitable dampers capable of being operated from outside the spaces are fitted in each vent duct.

(3) Each pipe in the extinguishing manifolds shall be fitted with a shut-off valve plainly and permanently marked to indicate into which compartment it discharges. This requirement also applies to independent extinguishing lines.

(4) Manifold steam supply pipes shall be fitted with master valves at the manifolds, and provision shall be made for draining the manifold and individual lines to protect them against freezing. If the manifolds are located on an open deck, they shall be inclosed in a metal box.

(5) The minimum diameter of any steam fire-extinguishing pipe to a cargo hold, cargo 'tween-decks, other closed cargo compartments, or cargo-oil deep tank shall be one inch, the size and number of pipes to be governed by the size of the compartment. The minimum diameter of any steam fire-extinguishing pipe to a lamp locker, oil room, or like compartments, shall be three-fourths of an inch.

(c) *Inert-gas systems.* (1) When a carbon dioxide (CO_2) smothering system is fitted in the cargo hold, cargo 'tween-decks, or other closed cargo compartments, or cargo-oil deep tanks, the quantity of carbon dioxide shall be sufficient to give a gas saturation of 30 percent of the gross volume of the largest cargo hold. The quantity in pounds of carbon dioxide required may be determined approximately by the following formula:

$$W=\frac{L\times B\times D}{30} \qquad (1)$$

where

W=the weight of CO_2 required, in pounds.
L=the length of the hold, in feet.
B=the mean breadth of the hold, in feet.
D=the depth from tank top or flat forming lower boundary to top of uppermost space in which freight may be carried, in feet.

(2) When a carbon dioxide (CO_2) smothering system is fitted in the lamp locker, oil room, or like compartments, the quantity in pounds of carbon dioxide required may be determined by dividing the gross volume of the space by a factor of 22. Lamp lockers, oil rooms, and like compartments, in all classes of vessels, shall be wholly and tightly lined with metal. The whole charge of gas shall be capable of being released simultaneously by operating one valve and control, and all cylinders shall be completely discharged in not more than two minutes.

(3) Pipes used for supplying carbon dioxide to the cargo holds, cargo 'tween-decks, other closed cargo compartments, and cargo-oil deep tanks shall be not less than three-fourths inch inside diameter. Pipes used for supplying carbon dioxide to lamp lockers, oil rooms, and like compartments shall not be less than one-half inch inside diameter.

(4) The control(s) releasing the inert gas shall be located in a position(s) outside the space(s) protected and shall be readily accessible when the vessel is being navigated. All valves shall be permanently marked to indicate into which compartment they discharge. A space which is protected by a carbon dioxide extinguishing system, and is normally accessible to crew while the nautical school ship is being navigated shall be fitted with an approved audible alarm in such space, which will be automatically sounded when the carbon dioxide is admitted to the space.

(5) Provisions shall be made to prevent the admission of air into the lower parts of cargo holds, cargo 'tween-decks, and other closed cargo compartments while the inert-gas system is in operation.

(6) Cylinders, piping, and controls for the inert-gas system shall be protected from damage and shall be securely fastened and supported.

§ 167.45–5 *Steam fire pumps or their equivalent.* (a) All nautical school ships shall be equipped with fire pumps.

(b) Nautical school ships of 100 gross tons and under shall be equipped with one hand fire pump with a pump-cylinder capacity not less than 100 cubic inches, or a power-driven pump of equivalent discharge capacity.

(c) Nautical school ships over 100 gross tons shall be equipped with fire pumps and piping as follows:

(1) All nautical school ships shall be provided with powerful pumps available for use as fire pumps. When of less than 1,000 gross tons it shall have 1, and when larger it shall have at least 2 independently driven pumps connected to the fire main. Each pump shall be capable of delivering two powerful jets of water simultaneously from the highest outlets on the fire main at a Pitot tube pressure of approximately 50 pounds per square inch through nozzles, each having an orifice of not less than $\frac{7}{8}$ inch diameter where the internal diameter of the hose exceeds $1\frac{1}{2}$ inches and not less than $\frac{5}{8}$ inch in diameter where the internal diameter of the hose does not exceed $1\frac{1}{2}$ inches.

(2) On oil-burning nautical school ships, where two pumps are required, they may be located in the same compartment, if the compartment is equipped with an approved fixed carbon dioxide extinguishing system.

(d) Outlets from the fire mains shall be of a sufficient number and so arranged that any part of the living quarters, weather decks and any part of cargo decks, accessible to crew, while the nautical school ship is being navigated, may be reached with a single 50-foot length of hose. Outlets within accommodations and service spaces adjacent thereto shall comply with the above or they may be so arranged that any part may be reached with a single 75-foot length of hose provided a siamese connection is fitted at each outlet. Where the fire main is located on an exposed deck, branches shall be provided so that the hose connections necessary to comply with the foregoing be distributed on both sides of the nautical school ship. The fire hose shall be connected to the outlet at all times, except on open decks where the location of the fire hydrants is such that no protection is afforded for the hose in heavy weather. The fire hose may be temporarily removed from the hydrant when it will interfere with the handling of cargo.

(e) Outlet openings shall have a diameter of not less than $1\frac{1}{2}$ inches and shall be fitted with suitable hose connections and spanners. The arrangement of the fire hydrant shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead downward or horizontally, in order to minimize the possibility of kinking. In no case will a hydrant arranged in a vertical position with the outlet pointing upward be accepted.

(f) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 pounds higher than the pressure necessary to maintain the requirements of paragraph (c) (1) of this section and a pressure gage to indicate the pressure on the fire main. If the fire pumps operating under shut-off conditions are not capable of producing a pressure exceeding 125 pounds per square inch, the relief valve may be omitted.

§ 167.45–10 *Couplings on fire hose.* The couplings on fire hose shall be of

brass, copper, or composition material. All hydrants shall be provided with suitable spanners.

§ 167.45–15 *Capacity of pipes and hose.* The capacity of the pipes and hose leading from the pumps shall in no case be less than that of the discharge opening of the pump: *Provided, however,* That the pipe and hose shall in no instance be less than 1½ inches in internal diameter.

§ 167.45–20 *Examination and testing of pumps and fire extinguishing equipment.* The inspectors will examine all pumps, hose, and other fire apparatus and will see that the hose is subjected to a pressure of 100 pounds to the square inch at each annual inspection and that the hose couplings are securely fastened.

§ 167.45–25 *Fire mains and hose connections.* All pipes used as mains for conducting water from fire pumps on nautical school ships shall be of steel, wrought iron, brass, or copper with wrought iron brass, or composition hose connections.

§ 167.45–30 *Use of approved fire-fighting equipment.* Portable fire extinguishers or fire-extinguishing systems which conform to the specifications of the Navy or Coast Guard, or their approved equivalent, may be accepted for use on nautical school ships.

§ 167.45–40 *Fire-fighting equipment on nautical school ships using oil as fuel.* Steam-propelled nautical school ships burning oil for fuel shall be fitted with the fire-fighting equipment of the following type and character:

(a) In each fire room a metal receptacle containing not less than 10 cubic feet of sand, sawdust impregnated with soda, or other approved dry materials, and scoop or shaker for distributing it: *Provided,* That a nautical school ship of 1,000 gross tons and under using oil as fuel, shall be fitted with a metal receptacle, containing not less than 5 cubic feet of sand, sawdust impregnated with soda, or other approved dry material, and scoop or shaker for distributing it.

(b) In each boiler room and in each of the machinery spaces of a nautical school ship propelled by steam, in which a part of the fuel-oil installation is situated, two or more approved fire extinguishers of the foam type of not less than 2½ gallons each or two or more approved fire extinguishers of the carbon dioxide (CO_2) type of not less than 15 pounds each shall be placed where accessible and ready for immediate use: *Provided,* That on a nautical school ship of 1,000 gross tons and under only one of the fire extinguishers may be required.

(c) In boiler and machinery spaces of a nautical school ship of 1,000 gross tons and over, there shall be fitted in each such compartment not less than two spray-nozzle hydrants to which shall be attached sufficient length of hose so that any part of the boiler or machinery space may be reached. An approved spray nozzle shall be attached to each hose line. The use of any Navy or Coast Guard approved type of combination nozzle, which can project a solid stream or a fog spray or can be shut off, is acceptable in boiler and machinery spaces when the nozzle is equipped with an applicator having an approved low velocity water fog spray head attached. In this equipment the standard portable self-cleaning hose strainer shall be included.

(d) On every steam propelled nautical school ship of over 1,000 gross tons having one boiler room there shall be provided one fire extinguisher of the foam type of at least 40 gallons rated capacity or one carbon doixide (CO_2) extinguisher of at least 100 pounds. If the nautical school ship has more than one boiler room, an extinguisher of the above type shall be provided in each boiler room. On every steam propelled nautical school ship of 1,000 gross tons and under, foam type fire extinguishers of at least 20 gallons rated capacity or carbon dioxide (CO_2) extinguishers of at least 50 pounds shall be used. Extinguishers fitted shall be equipped with suitable hose and nozzles on reels or other practicable means easy of access, and of sufficient length to reach any part of the boiler room and spaces containing oil-fuel pumping units.

(e) All nautical school ships propelled by internal-combustion engines shall be equipped with the following foam type or carbon dioxide type fire extinguishers in the machinery spaces:

(1) One approved 12-gallon foam-type extinguisher or one approved 35-pound carbon dioxide type extinguisher.

(2) One approved 2½-gallon foam-type, or one approved 15-pound carbon dioxide type extinguisher for each 1,000 B. H. P. of the main engines, or fraction thereof. The total number of fire extinguishers carried shall not be less than two and need not exceed six.

(3) When a donkey boiler fitted to burn oil as fuel is located in the machinery space, there shall be substituted for the 12-gallon foam type or 35-pound carbon dioxide type fire extinguisher required either one 40-gallon foam type or one 100-pound carbon dioxide type fire extinguisher.

(f) In this section any reference to an approved fire extinguisher means either approved by the Coast Guard or the Navy.

§ 167.45–45 *Carbon dioxide fire-extinguishing system requirements.* (a) When a carbon dioxide (CO_2) smothering system is fitted in the boiler room, the quantity of carbon dioxide carried shall be sufficient to give a gas saturation of 25 percent of the gross volume of the largest boiler room from tank top to top of the boilers. Top of the boilers is to be considered as the top of the shell of a Scotch or leg type of boiler, and the top of the casing or drum, whichever is the higher, on water-tube boilers. The quantity of carbon dioxide required may be determined approximately by the following formula:

$$W=\frac{L\times B\times D}{36} \qquad (1)$$

where

W=the weight of CO_2 required in pounds.
L=the length of the boiler room in feet.
B=the breadth of the boiler room in feet.
D=the distance in feet from tank top or flat forming lower boundary to top of boilers.

(b) When a carbon dioxide (CO_2) smothering system is fitted in the machinery space of a nautical school ship propelled by internal combustion engines, the quantity of carbon dioxide required may be determined approximately by the following formula:

$$W=\frac{L\times B\times D}{22} \qquad (2)$$

where

W=the weight of CO_2 required in pounds.
L=the length of machinery space in feet.
B=breadth of the machinery space in feet.
D=distance in feet from tank top or flat forming lower boundary to the underside of deck forming the hatch opening.

(c) The whole charge of gas shall be capable of being released simultaneously by operating one valve and control. All cylinders shall be completely discharged in not more than two minutes. The arrangement of the piping shall be such as to give a general and fairly uniform distribution over the entire area protected. An alarm which shall operate automatically with the operation of the system shall be provided to give a warning in the space when the carbon dioxide is about to be released. Provision shall be made to prevent the admission of air into the lower parts

of the boiler or engine room while the system is in operation.

§ 167.45–50 *Foam smothering system requirements.* (a) When a foam-type system is fitted, its capacity shall be such as to rapidly discharge over the entire area of the bilge (tank top) of the largest boiler room a volume of foam 6 inches deep in not more than 3 minutes. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(b) The foam-type system may be of a type approved by the Navy or Coast Guard. All containers and valves by which the system is operated shall be easily accessible and so placed that control valves and containers will not readily be cut off from use by an outbreak of fire.

§ 167.45–55 *Fixed water spray system requirements.* (a) When a fixed system is fitted for spraying water on oil in bilges, its capacity shall be such as to blanket the entire area of the bilge (tank top) of the largest boiler room with an adequate supply of water.

(b) The arrangement of piping and nozzles shall be such as to give a uniform distribution over the entire area protected. The piping system for each space protected shall be one unit, unless otherwise specifically approved by the Commandant.

(c) All valves by which the system is operated shall be located outside of the space protected and shall be easily accessible. Suitable means shall be provided to prevent the passage of foreign substances into the spray nozzles.

(d) The primary source of supply for the system shall be from a pump or pumps of suitable capacity and pressure. The pump or pumps shall be reserved for this purpose only. This pump or pumps shall be located outside of space protected.

§ 167.45–60 *Emergency breathing apparatus and flame safety lamps.* All nautical school ships shall be equipped with the following devices, approved by Coast Guard or Navy:

(a) One self-contained breathing apparatus.

(b) One supplied air respirator.

(c) One flame safety lamp.

(d) One gas mask of a type giving protection against refrigerant used on board the nautical school ship.

§ 167.45–65 *Portable fire extinguishers in accommodation spaces.* (a) All nautical school ships shall be provided with such number of good and efficient portable fire extinguishers approved by the Navy or Coast Guard as follows:

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

(2) Nautical school ships 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) 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.

§ 167.45–70 *Portable fire extinguishers, general requirements.* (a) Extra safety-valve units shall be carried on board for 50 percent of the 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 is an example:

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

(2) When a nautical school ship 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.

(b) 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.

(c) 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 Navy or Coast Guard, except systems for engine rooms, firerooms, and cargo holds.

(d) Fire extinguishers shall be located in such places 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.

(e) Every fire extinguisher provided shall be examined at each annual inspection to determine that it is still in good condition. Soda-and-acid and foam fire extinguishers shall be tested by discharging the contents, cleaning thoroughly, and then refilling. 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. Pump tank fire extinguishers shall be tested by pumping and discharging the contents, cleaning thoroughly, and then refilling or recharging. Cartridge-operated type fire extinguishers shall be checked by examining the extinguishing agents to determine if in still good condition and by weighing the cartridges; if the weight of the cartridge is ½ ounce or more under the weight stamped thereon or if it is punctured, the cartridge shall be rejected and a new one inserted. The hoses and nozzles of all fire extinguishers shall be inspected to see that they are clear and in good condition.

§ 167.45–75 *Fire extinguishers for emergency power plants.* In compartments where emergency lighting and wireless units are located, two fire extinguishers approved by the Coast Guard or the Navy, of either carbon tetrachloride, carbon dioxide, or dry chemical type shall be permanently located at the most accessible points. In addition, two fire extinguishers of the above types, or foam type, shall be permanently located so as to be readily accessible to the emergency fuel tanks containing gasoline, benzine or naphtha.

§ 167.45–80 *Fire axes.* (a) All nautical school ships shall be provided with fire axes, as follows:

Gross tons of nautical school ships:	*Number of axes*
All not over 50 tons	1
All over 50 tons and not over 200 tons	2
All over 200 tons and not over 500 tons	4
All over 500 tons and not over 1,000 tons	6
All over 1,000 tons	8

(b) All fire axes shall be located so as to be readily found in time of need,

shall not be used for general purposes, and shall be kept in good condition.

SUBPART 167.50—ACCOMMODATIONS

§ 167.50–1 *Hospital accommodations.* Each nautical school ship, which makes voyages of more than 3 days' duration between ports and carries 12 or more persons, shall be equipped with a compartment suitably separated from other spaces for hospital purposes, and such compartment shall have at least 1 bunk for every 12 persons allowed to be carried: *Provided,* That not more than 6 bunks shall be required in any case.

SUBPART 167.55—SPECIAL MARKINGS REQUIRED

§ 167.55–1 *Draft marks.* Every nautical school ship of 50 gross tons and over, shall have its draft plainly and legibly marked upon the stem and upon the sternpost or rudderpost or at such other place at the stern of the vessel as may be necessary for easy observance. The draft shall be taken from the bottom of the lowest part of the keel to the surface of the water, the bottom of the mark to indicate the draft in feet.

§ 167.55–5 *Marking of fire and emergency equipment, etc.* Marking of fire and emergency apparatus, watertight doors, lifeboat embarkation stations and direction signs, stateroom notices, instructions for changing steering gears, etc., shall be carried out as follows:

(a) *General alarm bell switch.* The general alarm bell switch in the pilothouse or fire control station shall be clearly marked with lettering on a brass plate or with a sign in red letters on suitable background: "General Alarm."

(b) *General alarm bells.* General alarm bells shall be marked in not less than ½-inch red letters: "General Alarm—When Bell Rings Go to Your Station."

(c) *Steam, foam or CO_2 fire smothering apparatus.* Steam, foam or CO_2 fire smothering apparatus shall be marked "Steam Fire Apparatus" or "Foam Fire Apparatus" or "CO_2 Fire Apparatus", as appropriate, in not less than 2-inch red letters. The valves of all branch piping leading to the several compartments shall be distinctly marked to indicate the compartments or parts of the nautical school ship to which they lead.

(d) *Fire hose stations.* At each fire hose valve there shall be marked in not less than 2-inch red letters and figures "Fire Station 1," 2, 3, etc.

(e) *Emergency squad equipment.* Lockers or spaces containing equipment for use of the emergency squad shall be marked "Emergency Squad Equipment." Lockers or spaces where oxygen or fresh air breathing apparatus is stowed shall be marked "Oxygen Breathing Apparatus" or "Fresh Air Breathing Apparatus," as appropriate.

(f) *Fire extinguishers.* Each fire extinguisher shall be marked with a number and the location where stowed shall be marked in corresponding numbers in not less than 1-inch figures.

(g) *Watertight doors.* Each watertight door shall be numbered in at least 2-inch letters and figures "W. T. D. 1," 2, 3, etc. The color of the marking shall be in contrast to the background. All watertight door remote, hand-closing stations shall be marked in at least 2-inch letters and figures "W. T. D. 1," 2, 3, etc. The direction of operation of the lever or wheel provided to close or open the door at all watertight door remote hand-closing stations shall be marked. The color of the sign shall contrast with the background.

(h) *Instructions for changing steering gear.* Instructions in at least 1-inch letters and figures shall be posted at each emergency steering station and in the steering engine room, relating in order, the different steps to be taken in changing to the emergency steering gear. Each clutch, gear wheel, level, valve, or switch which is used during the changeover shall be numbered or lettered on a brass plate or painted so that the markings can be recognized at a reasonable distance. The instructions shall indicate each clutch or pin to be "in" or "out" and each valve or switch which is to be "opened" or "closed" in shifting to any means of steering for which the vessel is equipped. Instructions shall be included to line up all steering wheels and rudder amidship before changing gears.

(i) *Rudder orders.* At all steering stations, there shall be installed a suitable notice on the wheel or device or at such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for "right rudder" and for "left rudder."

(j) *Nautical school ship's name on equipment.* All lifeboats, life rafts, life floats, buoyant apparatus, including equipment, also life preservers, life buoys, fire hose, and axes shall be painted or branded with the name of the nautical school ship.

SUBPART 167.60—CERTIFICATES OF INSPECTION

§ 167.60–1 *Issuance by Officer in Charge, Marine Inspection.* (a) Every nautical school ship shall be inspected annually and if in the opinion of the Officer in Charge, Marine Inspection, the nautical school ship can be operated safely, he shall issue a certificate of inspection with the following indorsement: "Nautical School Ship" in lieu of the classification "Passenger vessel", "cargo vessel", etc.

(b) When a nautical school ship, in the opinion of the Officer in Charge, Marine Inspection, may be navigated on the waters of any ocean or the Gulf of Mexico more than 20 nautical miles offshore, the route shall be designated on certificate of inspection as "Ocean".

(c) When a nautical school ship, in the opinion of the Officer in Charge, Marine Inspection, may be navigated on the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore, the route shall be designated on the certificate of inspection as "Coastwise".

§ 167.60–5 *Period of time for which valid.* A certificate of inspection for any period less than one year shall not be issued, but nothing herein shall be construed as preventing the revocation or suspension of a certificate of inspection in case such process is authorized by law.

§ 167.60–10 *Exhibition of certificate of inspection.* On every nautical school ship, the original certificate of inspection shall be framed under glass and posted in a conspicuous place.

§ 167.60–15 *Persons allowed to be carried.* In view of the fact that nautical school ships normally are not merchant vessels of the United States and are, therefore, not documented, manning requirements shall not be stated in the certificate of inspection. The certificate of inspection shall show the total number of persons allowed to be carried. This total shall be based on the total capacity of the vessel's lifeboats.

SUBPART 167.65—SPECIAL OPERATING REQUIREMENTS

§ 167.65–1 *Station bills, drills, and log book entries*—(a) *Station bills and muster lists.* It shall be the duty of the master of every nautical school ship to cause station bills and muster lists to be prepared before the nautical school ship sails, which shall be signed by the master who shall be responsible for their preparation. The station bills and muster lists shall be posted in conspicuous places in several parts of the nautical school ship, particularly in the quarters, and must contain full particulars of the signals which will be used for calling all persons to their stations for emergency duties. Special duties shall be allotted to each person and the muster lists shall show all these special duties and indicate the station to which each

man must go and the duties he has to perform. The special duties should, as far as possible, be comparable to the regular work of the individual. When practicable, several members of the crew shall be designated as an emergency squad and required to report to the bridge with certain equipment for instructions. The duties provided for by the muster lists should include:

(1) The closing of airports, watertight doors, fire doors, and fire screens, the covers and all valves of all scuppers, sanitary and other discharges which lead through the ship's hull below the margin line, and stopping the fans and ventilating systems.

(2) The extinction of fire.

(3) The equipment of boats, rafts, and buoyant apparatus and their preparation for launching.

(4) The muster of all persons aboard.

(b) *Emergency signals*—(1) *Fire alarm signals.* (i) The general fire alarm signal shall be a continuous rapid ringing of the ship's bell for a period not less than 10 seconds supplemented by the continuous ringing of the general alarm bells for not less than 10 seconds.

(ii) For dismissal from fire-alarm stations, the general alarm bells shall be sounded three times, supplemented by three short blasts of the whistle.

(2) *Boat station or boat drill signals.* (i) The signal for boat drill or boat stations shall be more than six short blasts and one long blast of the whistle, supplemented by the same signal on the general alarm bells.

(ii) Where whistle signals are used for handling boats, they shall be as follows:

(*a*) To lower boats, one short blast of the whistle.

(*b*) To stop lowering the boats, two short blasts of the whistle.

(*c*) For dismissal from boat stations, three short blasts of the whistle.

(3) *Other emergency signals.* The master of any vessel may establish such other emergency signal, in addition to the above, so that all persons will have positive and certain notice of the existing emergency. The signals used for the assembly of the emergency squad should not conflict with the navigational signals or the signals used for a general alarm.

(c) *Drills, tests, and inspection.* (1) It shall be the duty of the master or the mate or officer in command, once at least in each week, to call all hands to quarters and exercise them, weather permitting, in the unlashing and swinging out of the lifeboats, the closing of all hand or power-operated watertight doors which are in use at sea, closing all fire doors and fire screens, the use of fire pumps and all other apparatus for the safety of life on board of such vessels, with special regard for the drill of the crew in the method of adjusting life preservers and educating others in this procedure, and to see that all the equipments required by law are in complete working order for immediate use; the fact of exercise of the crew, as herein contemplated, shall be entered in the log book.

(2) The requirements relating to fire and boat drills contemplate that such drills shall be conducted precisely as though an emergency existed. To accomplish the purpose of this section, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position for use, painters, carried forward and tended so as to provide a good lead and slack to hold the boat in position under the davits when in the water. The person in charge of each lifeboat or life raft should have a list of its crew and should see that the men under his orders are acquainted with their several duties. The hand pumps and fire pumps shall be operated long enough and a sufficient number of outlets used to insure that such equipment is in order and effectual. The motor and the hand-operated propeller gear of each lifeboat shall be operated for a period of not less than 5 minutes once at least in every 7 days, in order that it may be ready for service at any time. Such operation shall be a part of the lifeboat drill and the fact of such operation shall be made a part of the report of such drill. When emergency breathing apparatus, such as gas masks, or other special equipment is carried, certain members of the crew shall be trained in the use of the equipment.

(d) *Log book entries.* The entries in the log book relating to the exercise of the crew in fire and boat drills shall state the day of the month and the hour when so exercised, length of time of the drill, number on the boats swung out, number of lengths of hose used, together with a statement of the condition of all fire and lifesaving apparatus, watertight door mechanism, valves, etc.

§ 167.65–5 *Flashing the rays of a searchlight or other blinding light.* Flashing the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel under way is prohibited.

§ 167.65–10 *Unauthorized lights.* Any master or pilot of a nautical schoolship shall not authorize or permit the carrying of any light, electric or otherwise, not required by law that in any way will interfere with distinguishing the lights required to be carried.

§ 167.65–15 *Routing instructions: strict compliance with.* Due to existing mine field dangers, all masters, officers, and seamen on nautical school ships shall comply strictly with the routing instructions issued by competent naval authority. Nothing herein shall be construed as relieving the master of the responsibility for the safety of his nautical school ship.

§ 167.65–20 *Unnecessary whistling.* Unnecessary sounding of a nautical school ship's whistle is prohibited within any harbor limits of the United States.

§ 167.65–25 *Steering gear tests.* On all nautical school ships making voyages of more than 48 hours' duration, the entire steering gear, the whistle, the means of communication and the signaling appliances between the bridge or pilothouse and engine room shall be examined and tested by an officer of the nautical school ship within a period of not more than 12 hours before leaving port. All nautical school ships making voyages of less than 48 hours' duration shall be so examined and tested at least once in every week. The fact and time of such examination and test shall be recorded in the log book.

§ 167.65–30 *Steering orders.* (a) "Right rudder" shall be given only when it is intended that the wheel, the rudder blade, and the head of the nautical school ship should go to the right.

(b) "Left rudder" shall be given only when it is intended that the wheel, the rudder blade, and the head of the nautical school ship should go to the left.

(c) Where rudder indicators are provided, they shall be installed consistent with the foregoing.

§ 167.65–40 *Draft.* The master of every nautical school ship over 50 gross tons shall, whenever leaving port, enter the maximum draft of his nautical school ship in the log book.

§ 167.65–45 *Notice to mariners; aids to navigation.* (a) Officers are required to acquaint themselves with the latest information published by the Coast Guard and the United States Navy regarding aids to navigation, and neglect to do so is evidence of neglect of duty. It is desirable that nautical school ships navigating oceans and coastwise and Great Lakes waters shall have available in the pilothouse for convenient reference at all times a file of the applicable Notice to Mariners. All nautical school ships shall have charts of the waters on which they operate available for convenient reference at all times.

(b) Notice to Mariners published weekly by the Coast Guard which contains announcements and information regarding aids to navigation and charts of waters of the United States is available for free distribution at the following places: Field offices of the Coast Guard; United States Coast and Geodetic Survey field stations; and the Marine Division, Customhouse. Notice to Mariners published weekly by the United States Navy for the correction of charts, sailing directions, light lists and other publications, and which includes foreign waters and certain waters of the United States, is available for free distribution at the Hydrographic Office, Branch Hydrographic Offices, or any of the agencies of seaboard ports, and is also on file in the United States consulates where they may be inspected.

§ 167.65–50 *Posting placards containing instructions for use of breeches buoy.* A placard containing instructions for the use of breeches buoy gear, Form CG 811, shall be posted in the pilothouse, engine room, and in the seamen's, firemen's, and stewards' departments of every nautical school ship.

§ 167.65–60 *Examination of boilers and machinery by engineer.* It shall be the duty of an engineer when he assumes charge of the boilers and machinery of a nautical school ship to examine the same forthwith and thoroughly, and if he finds any part thereof in bad condition, he shall immediately report the facts to the master, owner, or agent, and to the Officer in Charge, Marine Inspection, of the district, who shall thereupon investigate the matter and take such actions as may be necessary.

§ 167.65–65 *Notice of casualty and voyage records.* (a) The owner, agent, master, or person in charge of a nautical school ship involved in a marine casualty shall give notice as soon as possible to the nearest marine inspection office of the U. S. Coast Guard whenever the casualty results in any of the following:

(1) Damage to property in excess of $1,500.

(2) Material damage affecting the seaworthiness or efficiency of a vessel.

(3) Stranding or grounding.

(4) Loss of life.

(5) Injury causing any person to remain incapacitated for a period in excess of 72 hours.

(b) The notice required by paragraph (a) of this section shall show the name and official number (if any) of the nautical school ship involved, the owner or agent thereof, the nature and probable cause of the casualty, the locality in which it occurred, the nature and extent of injury to persons and the damage to property.

(c) In addition to the notice required by paragraph (a) of this section, the person in charge of the nautical school ship shall, as soon as possible, report in writing and in person to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival: *Provided*, That when from distance it may be inconvenient to report in person it may be done in writing only. The written report required for personal accident not involving death shall be made on Form CG 924E and for all other marine casualties or accidents the written report shall be made on Form CG 2692.

NOTE: If filed without delay these forms may also provide the notice required by paragraph (a) of this section.

(d) The owner, agent, master, or other person in charge of any nautical school ship involved in a marine casualty shall retain such voyage records of the nautical school ship that are maintained, such as both rough and smooth deck and engine room logs, bell books, navigation charts, navigation work books, compass deviation cards, gyrocompass records, stowage plans, record of draft, aids to mariners, rediagrams sent and received, the radio log, and lists of persons aboard. The owner, agent, master, or other officer in charge, shall make these records available to a duly authorized Coast Guard officer or employee for examination upon request.

(e) Whenever a nautical school ship collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such nautical school ship to report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG 2692 is required unless one of the results listed in paragraph (a) of this section occurs.

§ 167.65–70 *Reports of accidents, repairs, and unsafe boilers and machinery by engineers.* (a) Before making repairs to a boiler of a nautical school ship the engineer in charge shall report, in writing, the nature of such repairs to the nearest Officer in Charge, Marine Inspection, where such repairs are to be made.

(b) And it shall be the duty of all engineers when an accident occurs to the boilers or machinery in their charge tending to render the further use of such boilers or machinery unsafe until repairs are made, or when, by reason of ordinary wear, such boilers or machinery have become unsafe, to report the same to the Officer in Charge, Marine Inspection, immediately upon the arrival of the nautical school ship at the first port reached subsequent to the accident, or after the discovery of such unsafe condition by said engineer.

Dated: April 5, 1951.

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

[F. R. Doc. 51–4327; Filed, Apr. 11, 1951; 8:50 a. m.; 16 F. R. 3218—4–12–51]

Equipment Approved by the Commandant

FUSIBLE PLUGS

The Marine Engineering Regulations and Material Specifications require that manufacturers submit samples from each heat of fusible plugs to the Commandant for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from April 15, 1951, to May 15, 1951, is as follows:

The Lunkenheimer Co., Post Office Box 360 Annex Station, Cincinnati 14, Ohio. Heat Nos. 387–391 inclusive.

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of Ships' Stores and Supplies certificated from March 26 to April 25, 1951, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing explosives or other dangerous articles on board vessels, are as follows:

Chemical Testing Corp.—Chatham Phenix Building, 29–28 Forty-first Avenue, Long Island City 1, N. Y., Certificate No. 328, dated 11 April 1951. "Activated Disolvite Fuel Oil Treatment."

WELDING ELECTRODES

The below listed electrodes have been tested in accordance with ASTM designation A316–48T and the requirements thereof have been met. In addition to the present sizes listed, the following sizes are also acceptable.

Air Reduction Sales Co., Forty-second Street, opposite Grand Central, New York 17, N. Y., Arcrods Corp. (manufacturer), Airco 382 (.50 Mo.), Type E–7011.

Air Reduction Sales Co., Forty-second Street, opposite Grand Central, New York 17, N. Y., Arcrods Corp. (manufacturer), Airco 351 (2¼ Cr.–1 Mo.), Type E–9016.

Air Reduction Sales Co., Forty-Second Street, opposite Grand Central, New York 17, N. Y., Arcods Corp. (manufacturer), Airco 396 (2½ Ni), Type E–7016.

General Electric Co., Schenectady, N. Y., Arcrods Corp. (manufacturer), GE W–56 (.50 Mo.), Type E–7011.

General Electric Co., Schenectady, N. Y., Arcrods Corp. (manufacturer), GE W–65 [1] (2¼ Cr.–1 Mo.), Type E–9016.

General Electric Co., Schenectady, N. Y., Arcrods Corp. (manufacturer), GE W–62 (2½ Ni), Type E–7016.

Metal & Thermit Corp., 120 Broadway, New York 5, N. Y., Arcrods Corp. (manufacturer), Metal & Thermit Murex MA (.50 Mo.), Type E–7011.

Metal & Thermit Corp., 120 Broadway, New York 5, N. Y., Arcrods Corp. (manufacturer), Metal & Thermit Murex 4216 [1] (2¼ Cr.–1 Mo.), Type E–9016.

Metal & Thermit Corp., 120 Broadway, New York 5, N. Y., Arcrods Corp., (manufacturer), Metal & Thermit Murex 8016Q (2½ Ni), Type E–7016.

Westinghouse Electric Corp., East Pittsburgh, Pa., Westinghouse Electric Corp., (manufacturer), Flexarc SW–2, Type E–6013.

Wilson Welder & Metals Co., Inc., Lincoln Building, Forty-second Street and Grand Central, New York 17, N. Y., Arcrods Corp., (manufacturer), Wilson 582 (.50 Mo.), Type E–7011.

Wilson Welder & Metals Co., Inc., Lincoln Building, Forty-second Street, and Grand Central, New York 17, N. Y., Arcrods Corp., (manufacturer), Wilson 551 (2¼ Cr.–1 Mo.),[1] Type E–9016.

Wilson Welder & Metals Co., Inc., Lincoln Building, Forty-second Street, and Grand Central, New York 17, N. Y., Arcrods Corp., (manufacturer), Wilson 596 (2½ Ni), Type E–7016.

OPERATING POSITIONS AND ELECTRODE SIZES

The Airco 382 Type E–7011 1/16", 3/32", 1/8", 5/32" and 3/16" diameter electrodes will be allowed for all position welding. The 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Airco 351 [1] Type E–9016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16" diameter electrode will be allowed for flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Airco 396 Type E–7016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32", and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The GE W–56 Type E–7011 1/16", 3/32", 1/8", 5/32" and 3/16" diameter electrodes will be allowed for all position welding. The 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The GE W–65 [1] Type E–9016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16" diameter electrode will be allowed for flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The GE W–62 Type E–7016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Metal & Thermit Murex MA Type E–7011 1/16", 3/32", 1/8", 5/32" and 3/16" diameter electrodes will be allowed for all position welding. The 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Metal & Thermit Murex 4216 [1] Type E–9016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16" diameter electrode will be allowed for flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Metal & Thermit Murex 8016Q Type E–7016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Flexarc SW–2 Type E–6013 3/32", 1/8", 5/32" and 3/16" diameter electrodes will be allowed for all position welding. The 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16" diameter electrode will be allowed for flat position welding. The electrodes are for alternating and direct current and the specimens were not stress relieved.

The Wilson 582 Type E–7011 1/16", 3/32", 1/8", 5/32" and 3/16" diameter electrodes will be allowed for all position welding. The 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Wilson 551 [1] Type E–9016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16" diameter electrode will be allowed for flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

The Wilson 596 Type E–7016 1/16", 3/32", 1/8" and 5/32" diameter electrodes will be allowed for all position welding. The 3/16", 7/32" and 1/4" diameter electrodes will be allowed for horizontal fillet and flat position welding. The electrodes are for alternating and direct current and the specimens were stress relieved.

[1] This electrode presently listed in 1/8" 5/32" sizes only.

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