

PROCEEDINGS OF THE MERCHANT MARINE COUNCIL

The printing of this publication has been approved by the Director of the Bureau of the Budget, January 14, 1955.

UNITED STATES



COAST GUARD

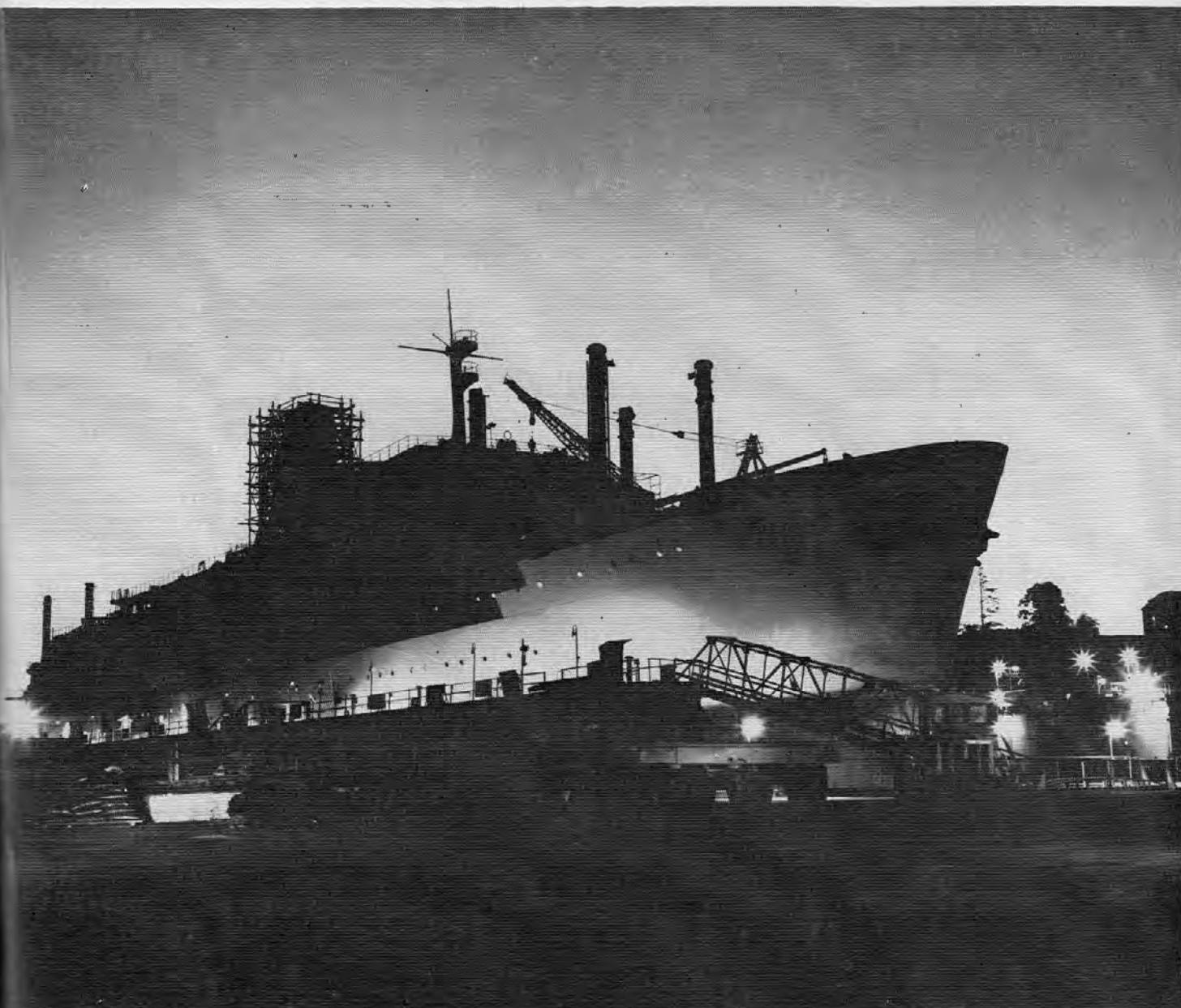
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MERCHANT MARINE COUNCIL

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Coast Guard

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LIEUTENANT B. F. RUSH, USCG, *Editor*

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FRONT COVER

The new South Pacific passenger liner SS *Mariposa* silhouetted against a twilight sky as she nears completion at a shipyard in Portland, Oreg. Her maiden voyage is scheduled to commence on October 26, 1956. Photograph courtesy Ackroyd Photography, Inc.

BACK COVER

Newly revised Atomic Attack Instructions for Merchant Vessels in Port, CG-3256.

DISTRIBUTION (SDL 63)

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COUNCIL ACTIVITIES

Two separate public hearings have been scheduled by the Merchant Marine Council for the purpose of receiving comments, views, and data on proposed changes in vessel inspection rules and regulations and proposed regulations covering small passenger vessels.

One public hearing will be held October 15, 1956, commencing at 9:30 a. m., in Room 4120, Coast Guard Headquarters, Thirteenth and E Streets NW, Washington, D. C., and will cover the following:

Item No.	Subject
I.	Biennial Inspection of Cargo and Tank Vessels.
II.	Lifesaving Equipment for Vessels Engaged in Offshore Drilling Operations.
III.	Dangerous Cargo Regulations, Miscellaneous Amendments.

On October 16, 1956, a hearing will be held, commencing at 9:30 a. m., in the Department of Commerce Auditorium, Fourteenth Street, between E Street and Constitution Avenue, Washington, D. C., on the proposed regulations to implement Public Law 519. This is the new law which provides for the inspection of small passenger vessels not more than 65 feet in length.

The implementing regulations for Public Law 519 will be published as a new Subchapter T to the CODE OF FEDERAL REGULATIONS, Title 46. Subchapter T is essentially an adaptation of certain portions of the rules and regulations contained in five separate pamphlets which are presently applicable to small passenger vessels not over 65 feet in length and over 15 gross tons. These five pamphlets are the *Rules and Regulations for Passenger Vessels*, *Marine Engineering Regulations*, *Electrical Engineering Regulations*, *Manning of Vessels* and the *Licensing and Certifying of Personnel* thereon. The appropriate parts of these five sets of regulations have been applied by the Coast Guard for many years to small passenger vessels subject to inspection, and have not been found to be particularly burdensome. These regulations, modified to cover smaller vessels, form the new Subchapter T.

With the possible exception of certain additional lifesaving and distress signaling equipment, owners and operators of small passenger vessels previously subject to inspection will find nothing especially new in Subchapter T.

(Continued on page 170)

ATTACK IMMINENT!

"Enemy aircraft approaching. Standby for dispersal instructions. Batten down all hatches. Secure ventilation and blowers. Exposed personnel take cover!"

Fantastic? Never happen here? Yes, Mr. Shipmaster, it can happen here. The immediate and positive action taken under such conditions may mean the difference between your ship being permanently out of action or able to perform its duties.

Realizing the importance of proper, decisive, and uniform action under conditions of atomic attack, the Coast Guard has prepared a revision of the poster CG-3256, **ATOMIC ATTACK INSTRUCTIONS FOR MERCHANT VESSELS IN PORT**. They are to be posted in the pilothouse, engine room, and crew quarters. A reproduction of the poster, on a reduced scale, appears in this issue. (See *Back Cover*.) The previous card, dated 11-51, is obsolete and should be destroyed.

Much information has been gathered since the first atomic bomb was dropped over Japan and in the Bikini experiments. A high air detonation will result in three types of destruction—blast effect, accounting for approximately 65 percent of the total damage; heat effect, affecting approximately 20 percent; and radiation effect, making up the remainder.

IMMEDIATE EFFECTS

The blast effect results in destruction similar to that of any high explosive, and is accompanied by a tremendous amount of instantaneous heat produced by the brilliant flash at time of detonation. The heat is sufficient to badly burn all exposed personnel and start fires. Within the first few seconds of the detonation, much of the energy of the explosion is dissipated as radiation. This radiation has effects similar to that of X-rays, causes no immediate symptoms, and provides no important radioactive contamination.

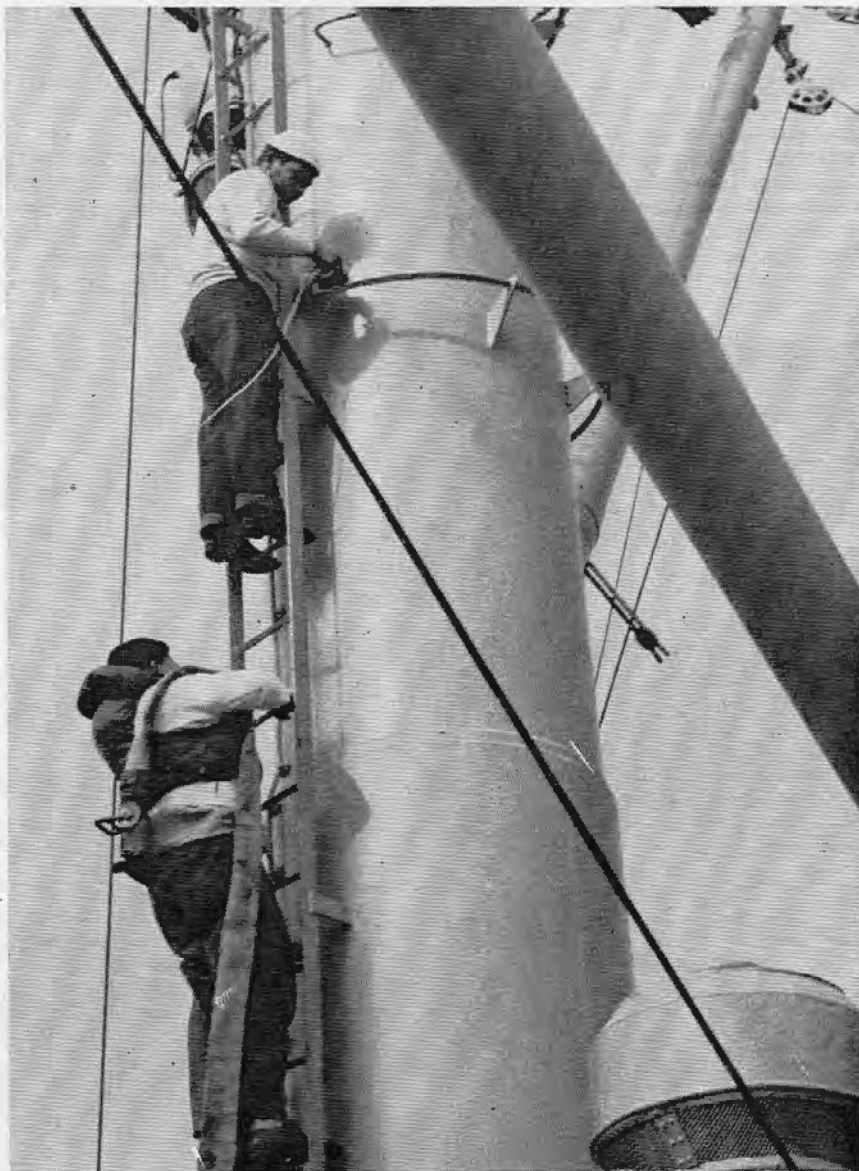
A table, included with this article, briefly discusses the latent effects of this instantaneous radiation, which is expressed in units of *Roentgens (r)*. (See *Figure 3*.)

The importance of simple and direct action for protection against these three forces cannot be overemphasized. The majority of the casualties do not result from the direct blast, but from indirect means. The human body will withstand tremendous pressure without sustaining serious injuries. The majority of injuries result from being thrown into some object, or some object being hurtled

against the body. Primary safeguards would include the elimination of loose gear prior to a detonation and placing crew members in the best location to attempt to assure their safety.

Flash burns can be eliminated by placing any opaque material between the source of the flash and the body. Even light colored cloths will furnish some protection. The importance of personnel being fully clothed is a prime consideration.

The radiation effects cannot be so easily defeated. The energy of radiation is diminished slightly when it passes through any material, even air. Therefore, distance is the best protection. Some material, however, will absorb more of the energy than others—concrete, water, earth, and steel are all effective to varying degrees. On board ship, the more bulkheads or decks between the point of detonation and the person, the less will be the radiation received.



MSTS Magazine Photograph

Figure 1. Rigging fire hose with spray nozzle in vertical position on mast as defense against radioactive fallout.

If the point of detonation of an atomic device is at or near the surface of the ground or water, another important consideration, that of radioactive contamination, becomes present. When an atomic device is exploded a tremendous amount of the energy is dissipated in the form of radioactive atoms. In an air detonation, the majority of these extremely small particles are carried high into the atmosphere and dispersed to such an extent that any fallout is of such low concentration that it is relatively unimportant from a personnel viewpoint.

However, when the detonation is at the surface, these radioactive atoms are mixed with the water or the ground to form larger particles which are either blown along the surface with the blast or soon fall back to the surface from a relatively low altitude. In this manner, many hundreds of square miles can be contaminated with radioactive material. The effect is a two-bladed sword. The radioactive materials can emit radiation and

injure personnel in the same manner as the initial burst, or they can be ingested by the human body and cause intense physical damage for many years. Therefore, it is highly important that any radioactive contamination which may fall on your ship be removed as soon as possible.

At least one writer has pointed out that the best protection against an atomic blast is to be far away. Ignoring this possibility, you stand an excellent chance of surviving the secondary effects from radioactive contamination by using *simple washdown methods*, provided the ship survives the blast effects.

The use of fire hoses, sprinklers, fog nozzles, and detergents are recommended as primary radioactive decontamination aids. Obviously, this method is suitable for weather decks only, hence the emphasis on battering the ship down.

To varying degrees materials such as wooden decks, canvas, paint, and like items found on the weather decks are porous when dry. This means radioactive particles will sink into the material and cannot be removed by

washdown methods. The basic theory behind the washdown system is to fill the porous surface with clean water prior to the arrival of the contamination. This provides a water film and the fallout particles can be easily washed overboard.

PREPARATORY MEASURES

Since it is not desirable to expose the crew during the detonation or fallout period, preparatory measures must be taken upon receipt of warning that an atomic attack is imminent. These measures might consist of stretching fire hoses and securing nozzles in proper position to cover the decks with water. (See Figures 1 and 2). A fine spray is desirable and the best coverage will result by directing the water vertically. The outlets should be left open and pressure applied by opening valves located under decks. When the "all clear" is sounded, the crew should don protective clothing and boots prior to using scrub brushes and detergents to complete the washdown.

If available, radioactive detection equipment should be utilized by monitors prior to the washdown to determine that it is safe to expose personnel. Without specialized gear, shipmasters will be governed by instructions from the Coast Guard or Civil Defense officials.

The ability of a ship's Captain to determine the amount of radiation absorbed by the crew will be governed by the availability of special dosimeters, film badges, and like instruments. It is realized that many ships will not have this equipment. Therefore, the material in the following tables is given for general information purposes only. (See Figure 3.)

While the officers manning Navy and Military Sea Transportation Service vessels have been given short training courses in atomic defense, there has been no such course available for merchant marine officers. This situation has been changed, however, as a school for merchant marine officers commenced in September of this year.

It is a 2-day school under the immediate supervision of the MSTs training section and sponsored by the Maritime Administration. The school is located at the Naval Supply Center, Bayonne, N. J. Initial plans indicate that the course will be twice a month with representatives of management attending along with sea-going personnel. Approximately 30 ship's officers are expected in each class. Training in atomic defense will be coupled with fire fighting and damage control as they apply to atomic defense measures.



MSTS Magazine Photograph

Figure 2. View of boat deck looking aft showing fire hoses in position with full pressure. Note method of securing nozzle to frapping line cleat.

Effects of Ionizing Radiation

a. *Casualty Estimates.* The following table may be of some value to the master in making his decisions. The effects tabulated are for periods of time over which total dose is received. The figures are percentages and are based on the best current available evidence. They will probably be lower when personnel receive adequate medical treatment.

	1 day		3 days		1 week		1 mo.		3 mos.	
0-75 r	0	0	0	0	0	0	0	0	0	0
100 r	2	0	0	0	0	0	0	0	0	0
125 r	15	0	2	0	0	0	0	0	0	0
150 r	25	0	10	0	2	0	0	0	0	0
200 r	50	0	25	0	15	0	2	0	0	0
300 r	100	20	60	5	40	0	15	0	0	0
450 r	100	50	100	25	90	15	50	0	0-5	0
650 r	100	90+	100	90	100	40	80	10	5-10	0
	Sick	Die	Sick	Die	Sick	Die	Sick	Die	Sick	Die

Acute Radiation Syndrome. The following table may give the master an estimate of the time factors in radiation sickness.

Days after exposure	Lethal exposure (over 600 r)	Midlethal exposure (450 r) 50% deaths	Nonlethal exposure (200 r)
0	Nausea and vomiting within 1-3 hrs.	Nausea and vomiting after 2-4 hours.	Variable depending on individual.
1	Generalized malaise.....	No definite symptoms....	Do.
2	Malaise and anorexia.....	do.....	Do.
3	Anorexia and nausea.....	do.....	Do.
4	Nausea and vomiting.....	do.....	Do.
5	Vomiting and diarrhea.....	do.....	Do.
6	Inflammation of mouth and throat.	do.....	Do.
7	Fever.....	do.....	Do.
8	Rapid emaciation.....	do.....	Do.
9	Death.....	Beginning epilation.....	Do.
10	Mortality probably 100%.....	do.....	Do.
11	.....	do.....	Do.
12	.....	do.....	Do.
13	.....	do.....	Do.
14	.....	do.....	Do.
15	.....	do.....	Do.
16	.....	do.....	Do.
17	.....	Anorexia and malaise.....	Do.
18	.....	.....	Beginning epilation.
19	.....	Fever.....	Anorexia and malaise.
20	.....	Mucosal inflammation.	.....
21	.....	.....	Sore mouth.
22	.....	.....	Pallor.
23	.....	Pallor.....	Petechiae.
24	.....	.....	Diarrhea.
25	.....	Petechiae.....	Moderate emaciation.
26	.....	Mucosal hemorrhage.	.....
27	.....	Diarrhea.....	(Recovery is normal.)
28	.....	.....	.....
29	.....	.....	.....
30	.....	Rapid emaciation, death, mortality probably 50%.	.....

Crew Efficiency. After acute doses of about 200 r, efficiency may not be impaired until the end of a latent period of 5 to 7 days when approximately 25 percent may become casualties. After an acute dose of 300 r or more, 50-100 percent of personnel may require evacuation. Individuals receiving a midlethal exposure will not be incapacitated for at least 2 hours. Those receiving a lethal dose will be incapacitated within 2 hours. A uniform acute dosage of 100 r will not appreciably affect efficiency.



TRADITIONS OF THE SEA

The roll of American Seafarers who have performed their duties in an outstanding and meritorious manner in accordance with the highest traditions of the sea is long but never completed.

One of the names which has a distinguished place on this honor roll is that of CAPTAIN HUGH LEE SWITZER, now Master of the Liner *SS Independence*.

The Merchant Marine Distinguished Service Medal was presented to CAPTAIN SWITZER by Vice Admiral Emory S. Land at the annual convention of the Propeller Club in New York on October 19, 1944. CAPTAIN SWITZER's citation, conferred by the President of the United States, was for his actions under enemy fire while Master of the *SS Exceller*.

A summary of the citation follows:

For distinguished service in enemy action.

The *SS Exceller*, carrying troops and heavy landing craft, was the only merchant ship in the American landing operations at a beachhead east of Algiers. Although subjected to repeated air attacks, the cargo ship, under Captain Switzer's skillful handling, launched landing craft, disembarked troops, and discharged heavy anti-aircraft guns on schedule with the Navy operations, and was the first ship to enter the port of Algiers after the opening of hostilities. So effectively did his crew and the Military and Naval personnel on board work together that the hazardous operations were successfully accomplished without the loss of a man or a boat.

His expert ship handling, his foresight, and sound judgment in preparing for the operations, and his calm leadership under fire were in keeping with the finest traditions of the United States Merchant Marine.



Figure 3.



nautical queries

During the past year there has been considerable discussion on radar plotting, and for that reason the following practice questions are printed. Each problem involves a determination of course and speed and closest point of approach. The use of a maneuvering board is recommended for solution. The problems represent relative motion interpretation and do not indicate any recommendation for a vessel's action while using radar.

Q. Your vessel is on course 240° True at speed 7 knots. At 1700 a vessel is observed on the PPI scope bearing 000° T at a range of 3 miles. At 1720 the vessel is observed bearing 010° T at a range of 1.5 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 0.5 mile (at 1730).

(2) 213.3° and 9.6 knots.

Q. Your vessel is on course 165° True at speed 17 knots. At 1900 a vessel is observed on the PPI scope bearing 244° T at a range of 2.2 miles. At 1915 the vessel is observed bearing 225° T at a range of 1.4 miles.

(1) Assuming both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 1 mile (at 1930).

(2) 153° and 18.5 knots.

Q. Your vessel is on course 125° True at speed 16 knots. At 0100 a vessel is observed on the PPI scope bearing 150° T at a range of 7 miles. At 0115 the vessel is observed bearing 140° T at a range of 4.5 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 2 miles (at 0138).

(2) 083.1° and 10.75 knots.

Q. Your vessel is on course 035° True at speed 19 knots. At 2200 a vessel is observed on the PPI scope bearing 020° T at a range of 9 miles. At 2206 the vessel is observed bearing 030° T at a range of 5 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 1.9 miles (at 2213).

(2) 168.7° and 26.2 knots.

Q. Your vessel is on course 205° True at speed of 10 knots. At 0500 a vessel is observed on the PPI scope bearing 230° T at a range of 9 miles. At 0512 the vessel is observed bearing 220° T at a range of 6 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 2.9 miles (at 0531).

(2) 106.8° and 11.4 knots.

Q. Your vessel is on course 310° True at speed of 18 knots. At 1100 a vessel is observed on the PPI scope bearing 300° T at a range of 9 miles. At 1110 the vessel is observed bearing 295° T at a range of 6 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 1.5 miles (at 1129).

(2) The other vessel is practically dead in the water.

Q. Your vessel is on course 235° True at a speed of 8 knots. At 1600 a vessel is observed on the PPI scope bearing 165° T at a range of 7 miles. At 1612 the vessel is observed bearing 155° T at a range of 5 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 2.7 miles (at 1634).

(2) 322.3° and 8.3 knots.

Q. Your vessel is on course 355° True at a speed of 7.5 knots. At 1800 a vessel is observed on the PPI scope bearing 020° T at a range of 6 miles. At 1806 the vessel is observed bearing 020° T at a range of 4 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at the closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) Vessels are on collision course (at 1812).

(2) 213.5° and 13.6 knots.

Q. Your vessel is on course 045° True at a speed 15 knots. At 0900 a

vessel is observed on the PPI scope bearing 080° T at a range of 9 miles. At 0912 the vessel is observed bearing 060° T at a range of 7.5 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at their closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 7.2 miles (at 0920).

(2) 356.9° and 21.6 knots.

Q. Your vessel is on course 110° True at speed 18.5 knots. At 1000 a vessel is observed on the PPI scope bearing 070° True at a range of 9 miles. At 1006 the vessel is observed bearing 073° T at a range of 7 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at their closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 1.6 miles (at 1026).

(2) 181° and 16.65 knots.

Q. Your vessel is on course 355° True at speed 6 knots. At 0900 a vessel is observed on the PPI scope bearing 020° T at a range of 6 miles. At 0920 the vessel is observed bearing 031° T at a range of 4.3 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at their closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 2.5 miles (at 0956).

(2) The other vessel is practically dead in the water.

Q. Your vessel is on course 290° True at speed 13 knots. At 1300 a vessel is observed on the PPI scope bearing 250° T at a range of 7 miles. At 1330 the vessel is observed bearing 260° T at a range of 4.9 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at their closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 2.5 miles (at 1424).

(2) 310.8° and 11.5 knots.

Q. Your vessel is on course 095° True at speed 7 knots. At 1100 a vessel is observed on the PPI scope bearing 110° T at a range of 6 miles. At 1106 the vessel is observed bearing 100° T at a range of 4.7 miles.

(1) Assuming that both vessels maintain course and speed, determine the distance between them at their closest point of approach.

(2) Determine the course and speed of the vessel observed.

A. (1) 3.1 miles (at 1119).

(2) 345° and 12.2 knots.

MERCHANT MARINE AWARDS AND MEDALS

N May 10, 1943, Congress enacted the law (50 USC 753) which provided for the issuance of medals and awards to merchant seamen for their service during World War II.

These ribbons were issued by the Maritime Commission only after a verification had been made of the person's claim of service. Commercial uniform stores which sold armed forces decorations to purchasers without question were never authorized to sell the merchant marine decorations.

The provisions of the Law terminated on July 25, 1947 when the President proclaimed the cessation of hostilities. Since then there has been no authority to issue any type of an award to a merchant mariner. This was in marked contrast to the practices of other maritime nations.

On July 24, 1956, the President signed Public Law 759 which authorizes the issuance of medals and decorations for outstanding and meritorious conduct and service in the United States merchant marine.

The Act specifically provides for the issuance of the Merchant Marine Distinguished Service Medal, the Merchant Marine Meritorious Service Medal and distinctive service ribbon bars for any war or national emergency after June 30, 1950. This means that a Korean service bar will be designed and issued in the future. The *Proceedings* will carry a notice when the bar is available.

Any communication concerning such awards should be addressed to: Medals and Awards Section, U. S. Maritime Administration, Washington 25, D. C.

The following is Public Law 759:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) the Secretary of Commerce is authorized, under such rules and regulations as he may prescribe, to provide and award with the concurrence of the Secretary of the Treasury: A merchant marine distinguished service medal to any person serving in the United States merchant marine who distinguishes himself by outstanding act, conduct, or valor beyond the line of duty, and a merchant marine meritorious service medal to any person serving in the United States merchant marine for meritorious act, conduct, or service in line of duty, but not of such outstanding character as would warrant an award of the distinguished service medal.

(b) No more than one distinguished service medal or meritorious service medal shall be awarded to any one person, but for each succeeding act, conduct, or service justifying such an award, a suitable device may be awarded to be worn with the medal or ribbon. In case any person who so distinguishes himself or so acts or serves as to justify the award of a medal under this section dies before the award can be made to him, the award may be made and medal presented to such representatives of the deceased as the Secretary of Commerce deems proper.

SEC. 2. The Secretary of Commerce is authorized to provide and issue, under such rules and regulations as he may from time to time prescribe, a distinctive service ribbon bar to each master, officer, or member of the crew of any United States ship who serves or has served after June 30, 1950, in any time of war, or national emergency proclaimed by the President or by Congress, or during an operation by Armed Forces of the United States outside the continental United States, for such period of time and in such area or under such conditions of danger to life as the Secretary may set forth in regulations issued hereunder. Such bars shall be provided at cost by the Secretary or at reasonable prices by private persons when authorized for manufacture and sale by the Secretary. Whenever any bar presented under the provisions of this section is lost, destroyed, or rendered unfit for use, without fault or neglect of the owner, such bar may be replaced at cost by the Secretary or at reasonable prices by private persons authorized by him.

SEC. 3. The Secretary of Commerce is authorized to issue, with the concurrence of the Secretary of the Treasury, a citation as public evidence of deserved honor and distinction to any United States ship or to any foreign ship which participates in outstanding or gallant action in marine disasters or other emergencies for the purpose of saving life or property. The Secretary of Commerce may award a plaque to a ship so cited, and a replica of such plaque may be preserved, under such rules and regulations as the Secretary may prescribe, as a permanent historic record. The Secretary of Commerce may also award an appropriate citation ribbon bar to the master or each person serving on board such ship at the time of the action for which citation is made,

as public evidence of such honor and distinction. Whenever such master or person would be entitled hereunder to the award of an additional citation ribbon, a suitable device shall be awarded, in lieu thereof, to be attached to the ribbon originally awarded. In any case of a proposed award or citation to a foreign ship or to a master or person serving aboard such ship, such award or citation shall be subject to the concurrence of the Secretary of State.

SEC. 4. The manufacture, sale, possession, or display of any insignia, decoration, medal, device, or rosette thereof, or any colorable imitation of any insignia, decoration, medal or device, or rosette, provided for in this Act, or in any rule or regulation issued pursuant to this Act, is prohibited, except as authorized by this Act or any rule or regulation issued pursuant thereto. Whoever violates any provision of this section shall be punished by a fine not exceeding \$250 or by imprisonment not exceeding six months, or both.

SEC. 5. (a) The following Acts of Congress are repealed effective July 1, 1954:

(1) The Act entitled "To provide for the issuance of devices in recognition of the services of merchant sailors", approved May 10, 1943, as amended (57 Stat. 81, 59 Stat. 511, 60 Stat. 884; U. S. C., title 50, War, Appendix, secs. 753a-753f).

(2) The Act entitled "Providing for a medal for service in the merchant marine during the present war", approved August 8, 1946 (60 Stat. 960; U. S. C., title 50, War, Appendix, secs. 754-754b).

(3) The Act entitled "To provide reemployment rights for persons who leave their positions to serve in the merchant marine, and for other purposes", approved June 23, 1943, as amended (57 Stat. 162, 60 Stat. 905, 60 Stat. 945; U. S. C., title 50, War, Appendix, secs. 1471-1475).

(b) Notwithstanding the repeal of the Acts of Congress in subsection (a) the Secretary of Commerce is authorized, under such rules and regulations as he may from time to time prescribe to make replacements at cost or permit replacements at reasonable prices by persons authorized by him of the awards, medals, decorations, or other articles issued under such Acts, if lost, destroyed, or rendered unfit for use, without fault or neglect on the part of the owner.

Approved July 24, 1956.

LESSONS FROM CASUALTIES

UNSAFE PRACTICES

THE term "unsafe practices" has been widely used in the maritime industry in recent years in connection with safety programs. Sometimes, when a term is repeated too often, there is a tendency to overlook its meaning. However, this is one term that seafarers should be ever conscious of as *unsafe practices* do continue. The following are examples of a few which have occurred recently:

In a seaport on the West Coast, while loading munitions, fire broke out in a cargo hold on a loading vessel. Investigation revealed that the fire originated at a dead-ended electric cable. Apparently, the dead-ended circuit had been replaced by another circuit, and when the electrical fixture was removed from one end, the other end was left connected to the distribution panel. First, the person who ordered removal of the circuit should have made certain that the cable was completely removed, and second, the person who replaced the fuse should have ascertained the need for the fuse before installation.

A tanker on arrival at an East Coast port reported that the Chief Mate was lost at sea not 24 hours before arriving in port. Upon investigation it was found that the Chief Mate, while engaged in the supervision of rigging the accommodation ladder preparatory to arrival in port, stood on a wire lifeline in order to use his weight as a lever against the accommodation ladder to help align the securing fittings. The stanchion pad-eye to which the wire cable was secured carried away dumping him into the sea.

There was an extensive search of the area without success. It is believed that the Mate was aware of the faulty condition of the stanchion. In this case, repair of the stanchion may have prevented the accident but there certainly would not have been an accident if he had used proper equipment to obtain the leverage rather than himself.

On another tanker in the Gulf of Mexico area, a seaman was painting the deck with a new type metal primer. This was described as a metal conditioner wash primer which was to be mixed with an alcohol-base mixing liquid having a flashpoint of 50° F. The seaman was applying the primer with a lamb's wool roller when suddenly the roller burst into flames.

The use of a product with a flashpoint as low as this on a passenger

vessel or a dry cargo vessel is prohibited by the Coast Guard's Dangerous Cargo Regulations, but these regulations do not apply directly to tank vessels, therefore the only control over the use of a substance such as this was by the *unsafe practices* elimination program. The person who supervised the use of this product evidently did not inquire into the hazards connected with its use.

Another accident caused by the thoughtless use of paint occurred on a dry cargo vessel while at sea. The paint involved was a heat resistant aluminum paint with a flashpoint above 80° F., which exempts it from the control of the Dangerous Cargo Regulations.

The first assistant engineer instructed a wiper to paint the boiler casing with this aluminum paint. On the container was a caution label which stated that the paint *should not be used on a heated surface nor near an open flame*. While the wiper was busily engaged, the paint brush burst into flames and when he vigorously shook the brush to extinguish the flame, he sprayed himself with the flaming paint. The quick thinking of the first assistant limited the injury to superficial but painful burns on the wiper's upper body, arms and face.

In this case, if the label on the paint can had been read and the warning heeded, there would have been no accident.

In another case a welder was engaged in tacking up steel brackets on a barge. A man employed as a burner handed them up to him after they were cut to size. The welder was working high so the burner scouted around for something for him to stand on. A gasoline drum, plainly marked, with bungs removed, was pressed into service—the drum exploded, killing the burner. There appears to have been a lack of knowledge concerning the volatile characteristics of *empty* gasoline containers.

In the spring of this year, when boating enthusiasts were busily engaged in preparing their boats for the coming season, an item appeared in a newspaper to the effect that a woman helping her husband met with what was almost her end. She was using a disc-type electric sander on the side of their boat. For this task she chose to work from a partially submerged raft. The jolt from the ungrounded sander knocked her into the water. When her husband attempted to pull her out, she still had the sander in her possession and he very nearly experienced the same

"charged" dunking. Fortunately, bystanders were able to revive the woman. Education in the use of portable electric tools was neglected in this case.

Obviously, from the foregoing, *unsafe practices* still continue at sea and seafarers should never become immune to instructions and reminders to make sure their practices are safe.

FISHERMAN'S LUCK

How often have you heard the statement "Familiarity breeds contempt?"

An outstanding example of ignoring the obvious occurred recently. It involved a licensed unlimited Chief Engineer who, by his own carelessness, let his small pleasure boat burn and sink under him.

Prior to departing for a day's fishing this hapless individual removed and cleaned the settling bowl of the fuel pump on the gasoline engine. Not having a new gasket, he assembled the pump with the old gasket, knowing full well the job was faulty.

However, this Isaac Walton shoved off and proceeded to troll first in one place and then another, moving at high speed between his favorite fishing spots. During one of the shifts he heard an unusual noise from the engine and discovered that a section of the exhaust manifold gasket had blown out and hot gases were being exhausted around the poorly gasketed settling bowl.

Taking no precaution to ventilate the bilge, to check for gas leaks, or patch the exhaust, he continued fishing. After a final try for a bite, he turned the boat toward the dock and opened the throttle.

Suddenly an explosion shook the small craft! He lifted the engine box cover and saw the entire bottom of the boat engulfed in flames. Frantic and fruitless efforts to put the fire out followed, but the gasoline soaked bilge was not to be denied and our fisherman was forced to jump overboard to escape from being burned to death.

Being picked up out of the water within a few minutes by a passing boat was the only save to the Chief Engineer's day as he watched his craft burn to the waterline and disappear from sight.

As an object lesson from this casualty do not let gasoline get into your bilges, whether it be in liquid or gaseous form. If for any reason it does find its destructive way into the boat, secure all sources of heat and spark, clean the gasoline out, and ventilate before you get underway again.

SAFER ACCESS TO LIFEBOATS

Lifeboats can be boarded without difficulty, during drill or actual emergency, when they are lowered to the level of the embarkation deck. It is not so easy, however, to lay aboard when the boat is two-blocked in the davits and the canvas cover is secured. There are occasions when it is necessary for sailors to enter the lifeboats under these conditions.

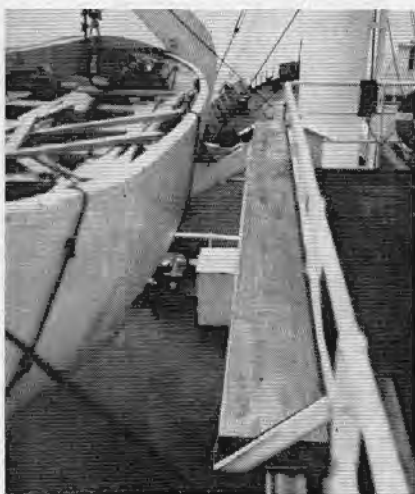


Figure 1. Fore and aft view of access walkway.

The regulations which govern this situation are found in 46 CFR 75.15-10 (b) (1) *Passenger Vessels*, and 46 CFR 94.15-10 (b) (1) *Cargo and Miscellaneous Vessels*, as follows: "Suitable access to the lifeboats shall be provided to enable the crew to prepare the lifeboats for launching."

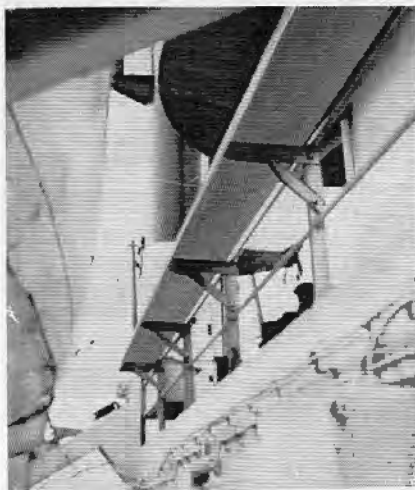


Figure 2. Looking up from boat deck. Note method of installing brackets for walkway.

Recently the Master of the SS *Buckeye State*, a Victory-type freighter operated by STATES MARINE LINES, developed an idea for an installation to decrease the hazard when men must enter a lifeboat when it is secured in the davits. This installation was made by the ship's force at sea and consists of two wooden-plank walkways, mounted on metal brackets, outboard of the bridge deck rail, just inboard of the lifeboats on the port and starboard side. (See Figures 1 and 2.)

The vessel's Safety Committee voyage report to the company office states as follows: "These fore and aft walkways installed inboard of the lifeboats have proven practical and most useful at drills and in routine boat maintenance."

Obviously, this particular installation would not be practicable on all types of vessels. It does, however, illustrate one vessel's method of providing safer access to lifeboats in accordance with the aforementioned regulation. If other vessels wish to provide easier access to their lifeboats, it should be remembered that whatever method is used, the installation should in no way interfere with the proper operation of the davits.



ABSENTEE VOTING INSTRUCTIONS FOR MERCHANT MARINE

The Maritime Administration has recently issued the following instructions concerning the procedure for obtaining a State absentee voting ballot by a member of the American Merchant Marine:

1. Obtain a post card application from any of the sources indicated below:

- Maritime Administration,
Department of Commerce.
- Coast Guard Shipping Commissioners.
- Local Union Headquarters.
- United Seamen's Service Clubs.
- Seamen's Institutes.
- Shipowners.

2. Fill in every item on the post card, being careful to print your name, the name of your ship and operator, the address to which the ballot should be sent and then sign it with your full name under oath.

3. Mail the post card (air mail postage free in United States mails) to the appropriate county, city or other election official as shown in the Voting Information Pamphlet or, if this in-

formation is not available, to the Secretary of State of the State in which you have a voting residence. Where instructions in the Voting Information Pamphlet specify the card should be mailed to an official other than the Secretary of the State, the inapplicable words appearing in the printed address should be struck out and the proper address inserted.

4. Upon receipt of the State absentee ballot, execute it in accordance with instructions which accompany it. Where permitted by State law, as indicated on the ballot or accompanying instructions, the oath may be taken and attested by a Warrant or Non-Commissioned Officer of the Army or Navy, or by Masters, First Officers, Chief Engineers and Pursers of vessels documented under the laws of the United States.

5. If the State ballot material is so firmly stuck together when received that it has to be opened forcibly, open it in the manner least injurious to the material. After executing the ballot, seal the envelope in the most practicable way and write the following statement on the back of the envelope: "Envelope flap was stuck when received, requiring forced opening before voting." This statement should be signed by the voter and the person administering the oath.

6. Mail the executed ballot (and oath if on separate paper) in the return envelope provided therewith, free of United States postage including air mail, to the addressee named on the envelope or in the instructions.

7. An application for a State absentee ballot may also be made by means of a personal letter mailed to the County Clerk, County Auditor, County Election Board, County Recorder, County Clerk, etc., or the Secretary of State of the State in which the applicant has his voting residence.

If a member of the Merchant Marine desires further information with respect to registration or his eligibility to vote, he may write to the appropriate election official of his State shown on the Voting Information Pamphlet.



LEGAL ASPECTS OF NAVIGATION

I know of no rule of law which limits the navigation of a vessel to a ship channel, as a land vehicle such as an automobile would be limited to operation on a highway.

It is hornbook law that no one can be criticized for failing to act with precision in an emergency situation created by someone else's fault. Certainly, the one at fault is not entitled to make this complaint.

COUNCIL ACTIVITIES

(Continued from page 162)

Briefly, Subchapter T provides for the inspection of all small passenger vessels not over 65 feet in length which carry more than six passengers as follows:

1. The hull, machinery, and electrical installations must comply with certain minimum standards.

2. Stability must be adequate for the service intended. The following vessels will be subject to a stability test:

a. All ferry vessels.

b. All vessels over 75 gross tons.

c. All vessels carrying more than 49 persons.

d. All vessels where the number of passengers carried is greater than the number obtained by multiplying the length and breadth of the vessel in feet and dividing the product by 15.

3. Vessels identified in a, b, and c above will be required to have sufficient watertight bulkheads to be capable of remaining afloat with positive stability with any one main compartment flooded. All other vessels will be required to have three transverse watertight bulkheads unless sufficient air tankage or other internal buoyancy is fitted to float the vessel when completely flooded.

4. In addition to the usual life preservers, small passenger vessels will be required to carry life floats or buoyant apparatus varying from an amount sufficient for all personnel on board to none depending on the service, the time of year, and the depth of water on which the vessel operates. Two ring buoys, one with a waterlight attached, will be required for all vessels. Certain minimum distress signals will be required on all vessels and those in ocean, coastwise and Great Lakes service will, in addition, be required to carry a signaling mirror and a distress flag.

5. All vessels propelled by gasoline engines will require a fixed carbon dioxide fire extinguishing system in

the machinery and fuel tank spaces in addition to a number of portable fire extinguishers which will be required regardless of the manner of propulsion. A portable hand fire and bilge pump will be required on all vessels. Additionally, those vessels identified in a, b, and c of paragraph 2 above will be required to have a fire main system consisting of a suitable power pump, garden hose and nozzle.

6. The machinery and fuel tank spaces must be separated from accommodation spaces by tight bulkheads, and be adequately ventilated. Carburetors are to be fitted with back-fire flame arresters. Exhaust piping is to be water cooled. The fuel tank and fuel supply piping installation must comply with the usual safety standards. All inlets and discharges through the hull must be fitted with seacocks or other suitable means of closure.

7. All vessels are required to be fitted with suitable ground tackle, and navigation lights, whistles, foghorns, bells, compass, etc.

8. The person in charge of a vessel must be licensed and one or more deckhands are required for ocean and coastwise operation depending on the number of passengers carried.

9. As in the case of prior legislation newly requiring the licensing of personnel of a branch of the maritime industry, persons presently holding a motorboat operator's license who have experience in operating on ocean or coastwise routes will in general be qualified for a master's license for limited routes on such waters without examination.

10. The maximum number of passengers which will be permitted to be carried will be that obtained by one of the three following methods, whichever permits the greatest number. (This number may be further limited by the provisions of stability of any given vessel as indicated in paragraph 2 above.)

a. One passenger will be allowed for each 30 inches of rail space at the vessel's sides.

b. One passenger shall be allowed for each 10 square feet of deck area available for the passengers' use.

c. The number of passengers shall not exceed that for which there is fixed seating provided.

These regulations are in the main intended to apply to future construction of vessels (after July 1, 1957). Vessels already in existence will be required to comply only so far as is reasonable and practicable. The provisions regarding the number of passengers carried, firefighting and life-saving equipment, however, will be applicable regardless of date of construction.

APPENDIX

AMENDMENTS TO REGULATIONS

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 5-56

July 16, 1956

Subj: Lights to be carried by motorboats.

1. *Purpose.* The purpose of this circular is to advise that on June 4, 1956, the President signed and put into effect Public Law 552—84th Congress relating to the lights required to be carried by motorboats as defined in the Act of April 25, 1940.

2. *Background.* Prior to the enactment of the above-mentioned legislation, motorboats and auxiliary-powered sailboats on inland waters, the Western Rivers, or the Great Lakes were required to carry special sets of lights which had to be exhibited in such waters between sunset and sunrise as long as these boats ran under power alone. If boats classed as auxiliaries put up sail, some of the lights had to be turned off. In such cases, the lights were ineffective and tended to mislead other boats and ships. Furthermore, if a motorboat or auxiliary-powered sailboat left inland waters, the Western Rivers, or the Great Lakes and entered offshore waters classed as the high seas, she had to carry and show entirely different lights.

3. *Discussion.* In view of this situation, the Coast Guard endeavored to remedy conditions by sponsoring certain amendments to the Act of April 25, 1940. The amendments were included in S. 1791, which was passed by the Congress and approved by the President. This amending legislation is now designated Public Law 552, 84th Congress. This legislation provides that motorboats, both inboard and outboard powered, and sailing craft with auxiliary power not more than 65 feet in length may, while operating on navigable waters of the United States, exercise one of two options in the way of lighting. These options are set forth below:

a. *Option 1.* Motorboats of classes A, 1, 2, and 3 may continue to carry and exhibit after sunset and before sunrise when operating on inland waters, the Western Rivers, or the Great Lakes, the lights prescribed by the Motorboat Act of April 25, 1940 (46 USC 526b), subject to the following:



(1) Motorboats of classes A and 1, when propelled by sail alone, shall carry the combined lantern but not the white light aft prescribed by this section.

(2) Motorboats of classes 2 and 3, when so propelled, shall carry the colored side lights suitably screened, but not the white lights prescribed by this section.

(3) When propelled by sail and machinery, any motorboat shall carry the lights required by this section for a motorboat propelled by machinery only.

(4) Motorboats of all classes, when propelled by sail alone, shall carry ready at hand a lantern or flashlight showing a white light which shall be exhibited in sufficient time to avert collision.

b. *Option 2.* Instead of the lights described above, motorboats of all classes may carry and exhibit from sunset to sunrise while operating on inland waters, the Western Rivers, and the Great Lakes, the lights required by the regulations for preventing collisions at sea, 1948, Act of October 11, 1951, commonly referred to as the "International Rules." By so doing, motorboats will avoid the necessity of changing lights when they operate from inland waters to the high seas. Motorboats under 40 gross tons should refer to rules 7 and 10 of the International Rules for the characteristics of the required lights. Boats of 40 gross tons or more should refer to rules 2 and 10.

4. *Action required.* Public Law 552 is effective immediately and motorboat owners and operators and other persons affected by these laws should familiarize themselves with these requirements. To this end, Coast Guard personnel concerned with the administration and enforcement of these laws will extend every possible assistance.

H. T. JEWELL,
Rear Admiral USCG,
Chief, Office of
Merchant Marine Safety.

By direction of the Commandant.

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 6-56

July 17, 1956

Subj: Biennial inspection of cargo vessels as provided by the Act of June 4, 1956 (Public Law No. 549, 84th Congress).

1. *Purpose.* To disseminate information to Coast Guard field forces, the shipping industry, and all others concerned as to the effect of the subject Act.

October 1956

2. *Background.* For some time it has been thought that the extensive examinations into the hulls, machinery, operating equipment, etc. of inspected vessels which are required at the annual inspections, could be spaced over a two-year period with no diminution in safety. This opinion is based principally upon, first, the fact that the frequency of drydocking (once in every calendar year in the case of vessels operating in salt water) would not be changed and that at these dry dock examinations a careful check of the underwater body and fittings of the vessel would be made, and, second, that it is intended to perform at least one reinspection between biennial inspections. This reinspection may or may not coincide with the dry dock examination, but, in any case, should serve to keep the Coast Guard informed as to the condition of the vessel's machinery and equipment. The Congress, after due consideration of the foregoing and other points, passed the subject legislation and it was approved by the President.

3. *Discussion.* Field forces of the Coast Guard were instructed on June 28, 1956 that all certificates of inspection issued to cargo vessels (including tank vessels) and to all other inspected vessels (except passenger vessels) and all safety equipment certificates issued under the provisions of the International Convention for Safety of Life at Sea, 1948, should thereafter be issued for a two-year period. Instructions were also issued that all certificates of inspection and safety equipment certificates issued to inspected vessels, except passenger vessels, in force on June 28, 1956 would expire on the date inscribed on the certificates. In other words, certificates of inspection and safety equipment certificates now in force on such vessels would not be extended automatically one year past the original date of expiration.

The Coast Guard is desirous of staggering the biennial inspections to as great an extent as possible. Therefore, in the case of vessel owners who operate a considerable number of inspected non-passenger vessels, biennial inspections may be performed on their vessels as the current certificates of inspection expire and certificates of inspection (plus safety equipment certificates provided under provisions of the International Convention for Safety of Life at Sea, 1948) will be issued to expire two years from date of inspection. Such shipowners are advised that should they so desire, application may be made for the inspection of any or all of their fleet after the newly issued certificates have run for an approximate period of one year. The certificates issued at this second

inspection would, of course, be effective for two years, unless surrendered, revoked, etc. prior to the expiration date. In such cases, a new safety equipment certificate should also be issued. Its date of expiration should coincide with the date of expiration of the certificate of inspection. It is felt that by use of this system the owners of fleets of vessels could stagger the biennial inspections over a reasonable period and the workload on the Coast Guard would be more evenly divided.

4. *Action.* Henceforth, certificates of inspection for non-passenger vessels including tank vessels, and safety equipment certificates issued under the provisions of the International Convention for Safety of Life at Sea, 1948, shall in general be issued for an active period of two years from date of issue. However, in the case of vessels equipped with river type lap-seam boilers, inspection shall be made on a yearly basis; this also shall be applied in the cases of other boilers which in the judgement of the OCMI are in such condition as to require inspection at intervals of less than two years. Certificates of inspection shall be issued for a period of one year only in such cases.

A. C. RICHMOND,
Vice Admiral, U. S. Coast Guard,
Commandant.

EQUIPMENT APPROVED BY THE COMMANDANT

AFFIDAVITS

The following affidavits were accepted during the period from 15 July to 15 August 1956:

Welding Fittings Corp., P. O. Box 860, New Castle, Pa., FITTINGS.

Lenz Company, 3301 Klepinger Road, Box 1044, Dayton 1, Ohio, FITTINGS.

FUSIBLE PLUGS

The regulations prescribed in Subpart 162.014, Subchapter Q, Specifications, require that manufacturers submit samples from each heat of fusible plugs 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 15 July 1956 to 15 August 1956 is as follows:

The Lunkenheimer Co., Cincinnati 14, Ohio, Heat No. 543.

ATOMIC ATTACK INSTRUCTIONS FOR MERCHANT VESSELS IN PORT



The Civil Defense Alert Signal is a steady blast lasting 3 to 5 minutes.

When you hear this signal, or when directed by the Coast Guard, execute the merchant vessel dispersal instructions prescribed by the Coast Guard for the port you are in and take the following action:

IF THE INSTRUCTIONS TELL YOUR SHIP TO DISPERSE:

1. PROCEED. Get underway as rapidly as possible and carry out the Dispersal Instructions.

2. RADIO GUARD. Set a radio guard on 500 or 2182 kilocycles for further instructions from the Coast Guard. Tune in a broadcast receiver on 640 or 1240 kilocycles for Civil Defense bulletins. Do not operate your radio transmitters except in case of distress.

3. BATTEN DOWN. Secure all unnecessary blowers and close external openings, such as ventilators, hatches, doors, and ports.

4. FIRE HOSES. Rig as many fire hoses as possible, preferably with fog spray nozzles so that a protective blanket of spray is maintained over sections of the ship containing personnel and so that the running water will wash away any radioactive fallout striking the ship.

5. PROTECT PERSONNEL. Keep all personnel not needed to operate the ship below decks, out of the line of possible flying debris and away from steamlines and other piping or equipment under pressure.

6. KEEP POWER ON ENGINES. After you get to the dispersal area keep power on the engines so that you can move immediately, if directed, to avoid fallout.

7. AWAIT INSTRUCTIONS. Stay in the dispersal area after the attack until you receive further instructions.

IF YOU ARE UNABLE TO GET YOUR SHIP UNDERWAY OR IF THE DISPERSAL INSTRUCTIONS TELL YOU TO REMAIN WHERE YOU ARE, TAKE THE FOLLOWING ACTION:

1. If you are at anchor carry out steps 2, 3, 4 and 5 above.
2. If you are alongside a wharf, secure all fires and operating machinery and then have all personnel evacuate the area or take cover in accordance with Civil Defense instructions for the general public.



The Civil Defense Take Cover Signal is a wailing or warbling note, or a series of short blasts, lasting 3 to 5 minutes.

When you hear this signal, have all hands take cover immediately in the best available shelter on board or ashore.

NOTICE: Placards shall be posted in the pilothouse, engine room, and in the seamen's, firemen's, and stewards' departments of every vessel when given to the master. Previous editions are obsolete.

Treasury Department
United States Coast Guard
CG-3256 (Rev. 6-56)