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PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



UNITED STATES COAST GUARD

Vol. 20, No. 7 • July 1963

CG-129



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, Washington 25, D.C., under the auspices of the Merchant Marine Council, in the interest of safety at sea. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or pictures, is not required provided credit is given to the Proceedings of the Merchant Marine Council. Use of funds for printing this publication has been approved by the Bureau of the Budget November 20, 1962.

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RESCUE BY LIFEBOAT



THE CAPTAIN and four crew members of the M/V *Esso Thames* received Coast Guard recognition recently for their lifeboat rescue of two boys from the waters of New Haven harbor last summer. The *Thames* also rescued the boys' father, maneuvering close enough for him to grab a line and be pulled aboard while the lifeboat was saving his two sons. The three were in the water as a result of a collision between their family pleasure boat and a barge. In letters signed by Rear Admiral R. M. Ross, Commander of the Third Coast Guard District, the lifeboat crew was praised for "alertness, skill and fine spirit in the best traditions of the U.S. Merchant Marine." From left, J. V. Butterfield, J. P. Gallagher, and H. Torgerson, able seamen; Captain C. H. Broach, Chief of the Merchant Marine Safety Division, Third Coast Guard District, who made the presentation; Captain A. R. Moore, master of the *Esso Thames*, and J. Monteiro, steward. Monteiro dived into the water to assist one of the two rescued boys who was suffering from shock.

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FRONT COVER

View of State Steamship Company's SS *Washington* shown underway on her builder's trial run. *Courtesy Newport News Shipbuilding Co.*

BACK COVER

A view of the Brooklyn waterfront taken a few years ago with the New York City skyline in the background. *Courtesy Moore McCormack Lines.*

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EVER MINDFUL of safe practices, a seaman stands guard at an open tank top aboard the Sun Oil Co.'s tanker SS *Ohio Sun*. Below, a team of shipmates are cleaning the tank recently emptied of crude oil.

SOME REGULATORY ASPECTS OF TANKER SAFETY

By

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and

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AS THE REGULATORY agency responsible for safety in the transportation of hazardous materials on navigable waters of the United States, the Coast Guard has an intense interest in industrial activities relating to the protection of shipboard personnel and the public. Although this paper is concerned primarily with the Shell-Keystone vapor concentration study, the general importance of industry training and cooperative study programs in the development and enforcement of effective regulations is stressed. The Coast Guard has not made a decision with regard to the need for new regulations stemming

This article is extracted from a paper delivered at the Moy meeting of the Annual Tanker Conference of the American Petroleum Institute.—Ed.

from the court opinion expressed in the *Mission San Francisco* case and all sources of pertinent information are being utilized to provide a sound basis for determining if action is required. The Shell-Keystone study is one of these sources and this paper discusses its relation to the Secretary of the Treasury's Tanker Hazards Committee and to the overall problem of tanker safety. Some observations on the results of the study are made

with the conclusion that they provide much-needed information, but raise some technical and regulatory questions. A practical aspect of toxicity applying to tankers carrying chemical cargoes is discussed in connection with the growing need for new, separate chemical regulations to supplement and complement the present Tanker Regulations.

The subject of tanker safety is one of great interest to the Coast Guard not only because of our specifically assigned regulatory responsibilities but because of our general concern with all aspects of safety in marine transportation. The hazard of fire

and explosion has long been identified with some of the products transported by water, and rather comprehensive safety regulations were formulated many years ago with the cooperation of the American Petroleum Institute to minimize the risks involved in the bulk shipment of petroleum products. There is no doubt that these regulations have been an important factor in reducing loss of life and property, and they have stood the test of time with respect to effectiveness and practicability very well. However, tanker safety—to be effective—must be progressive. Operating conditions change, cargoes change, and safety standards are raised or lowered as the factors of safety or ignorance become better delineated. As a general rule, the less known about a given subject, the greater will be the factor of safety applied. As a result, the Coast Guard—with the cooperation of industry—is constantly reviewing and revising the existing regulations as new information and needs become apparent. The simplest approach to the general problem of safety is to wait for a casualty, investigate it, and take corrective action so it won't happen again. While this "regulation by disaster" approach is inevitably an important part of most safety programs, it is essential that effort be devoted to anticipating and preventing accidents. This requires an understanding of processes and operations to be able to identify and assess areas of potential hazard. In other words, insofar as practicable, a preventive approach is preferable to a strictly corrective approach.

EXPLOSION HAZARD STUDY

The Shell Oil Co. and the Keystone Shipping Co. are to be congratulated for initiating and conducting a study which does much to define the problem of the explosion hazard of so-called "empty" tanks and suggest possible approaches to a solution. While this problem area has long been recognized as a potential hazard in the bulk water movement of petroleum products, only recently have activities such as the "Cherry Valley Gas Concentration Studies", been directed toward improving the dearth of technical information available in this area. The Coast Guard appreciates the opportunity to participate in this program for several reasons. First, this is a timely effort directed at a problem which needs attention, and we are always happy to be able to assist such worthwhile endeavors. Second, the program is providing us with education in a specialized area which may have an important effect on the safety standards for tankers. Another important benefit we are receiving from participation in this

program is the opportunity for Coast Guard personnel to become better acquainted with tanker operations in general—not only ship cargo handling but practices and problems in merchant vessel navigation, corrosion control, port and terminal operations, merchant marine personnel management, etc. Such knowledge is essential for personnel engaged in the various facets of merchant marine safety, including plan approval, development of regulations, and marine inspection work. To date, about 30 Coast Guard officers and civilians have participated directly in the Shell-Keystone study involving two round trips per man on the coastwise tanker *Cherry Valley*. I'm sure you'll agree that the acquired understanding of industry problems by Government regulatory personnel is highly desirable for all concerned because, as you know, firsthand knowledge is always important in the assessment of technical information if one is to arrive at realistic conclusions.

Although it is obvious that a careful study of vapor conditions existing in cargo tanks and ways of controlling them have been much needed in connection with the overall problem of tanker safety, the judiciary findings flowing from the *Mission San Francisco* casualty have given the subject additional impetus and intensified its study. As a direct result of this opinion, the Secretary of the Treasury, at the suggestion of the Commandant of the Coast Guard, established a special committee to investigate the operation of tankers. In the words of the authorizing letter of April 10, 1962, this committee has been asked to "collect, study, and make recommendations with respect to the operation and navigation of tank vessels with one or more of their cargo tanks in an empty condition. It is expected that the study will encompass every possible aspect of gas freeing or inerting of empty cargo tanks; develop additional information relative to the hazards in the navigation of tank vessels with empty tanks which are not gas free or inert; evaluate suggested proposals for assuring safety on such vessels; and to recommend a national policy in conformity with these objectives." It is evident that this undertaking is broad in scope and of great importance.

This Tanker Hazards Committee is chaired by Prof. H. L. Seward, professor emeritus at Yale University, and the members represent a wealth of talent drawn from the Bureau of Mines, the Maritime Administration, the National Bureau of Standards, the National Fire Protection Association, the Naval Research Laboratory, the American Bureau of Shipping, the shipping industry, and

the Coast Guard. With such a diversified membership, the question can be approached in an unbiased, scientific manner and the findings and recommendations of this group are expected to be of great value to both industry and the Government.

While it is inappropriate to speak for the Tanker Hazards Committee, it is evident that the Shell-Keystone vapor concentration study and the earlier work on crude oil tankers by Shell Tankers, Ltd., provide very useful data which would not otherwise be available. It is indeed fortunate that these industry-sponsored programs were and are being undertaken in time to contribute to such an important overall investigation.

GENERAL POLICY

Before commenting on the vapor concentration study, the Coast Guard's position should be explained. The Coast Guard is the regulatory agency responsible for all aspects of merchant marine safety including transporting hazardous materials on navigable waters of the United States, and, as such, it has a keen interest in all industrial activities relating to the safety of shipboard personnel and the public. While we are anxious to work closely with industry—and, indeed, to have industry solve its own problems wherever possible—it is essential that we remain impartial and unprejudiced. It is also necessary that we be as well informed as possible and seek information from the best available sources. This general policy is being applied to the specific problem of empty cargo tank hazards. However, it would be premature to try to make any decisions before the Tanker Hazards Committee has concluded its investigation and made its recommendations. Therefore, no changes to the tanker regulations on the points in question will be made until the committee completes its deliberations and submits its report for consideration. Such changes as appear necessary will then be proposed for adoption after being considered at a public hearing.

This is not to say that no changes of any kind are envisioned for hazardous material regulations. In addition to a number of detailed changes which were discussed at the March 1963 public hearing, it is presently planned to develop a separate set of regulations pertaining to bulk shipments of chemicals to supplement the present Tanker Regulations. This action is based on the fact that a wide and rapidly increasing variety of chemicals are being carried by tankers, and these often introduce hazards which differ markedly from the familiar fire and

explosion hazards of petroleum products. One of the basic problems in developing chemical regulations is to distinguish between "chemicals" and "petroleum products." This is admittedly difficult—and some arbitrariness will no doubt be required. At least for the present, the following distinction is made. By "petroleum products," we mean complex mixtures of materials obtained from petroleum which are identified primarily by physical properties such as boiling range, vapor pressure, viscosity, etc. By "chemicals" we mean relatively pure materials which are identified by chemical composition. Thus, gasoline is a petroleum product, but ethyl ether is a chemical even though it is commonly produced from petroleum. We recognize that the distinction will not be so simple for many materials, and suggestions for an alternate system would be welcomed. Incidentally, we regard "petrochemicals" as an indication of source rather than characteristics.

CHEMICAL HAZARDS

The assumption of fire as the primary hazard is proper for petroleum products and a gradation of hazard (and classification) by flashpoint and vapor pressure is both logical and practical. However, chemicals have several hazards which must be considered and fire may or may not be the primary one. Many chemicals do not burn, but they may be extremely toxic or unstable or reactive with other cargoes or normal materials of construction. For example, carbon tetrachloride does not burn and hence it cannot be classified under existing Tank Vessel Regulations. However, it is quite toxic in a very subtle manner and may be a real hazard to tanker personnel—and possibly the public as well. On the basis of flashpoint and Reid vapor pressure alone, ethylene oxide is classed as a grade A inflammable liquid. However, it is much more hazardous than casinghead gasoline—another grade A inflammable—because of its extreme reactivity, instability, and toxicity.

Thus, changes in regulations may be expected, although they will be evolutionary rather than revolutionary and may or may not involve empty tanks containing explosive vapors.

The technical details and proposed applications of the vapor concentration study have been discussed very effectively by Captain Laidlaw. Keystone and Shell Oil have approached the study in an intelligent and thorough manner in order to extend the British crude oil tanker investigation to refined or clean cargoes.

For the first time, we have a definitive picture, for the major refined petroleum products, of vapor conditions in a cargo tank during typical tanker operations. This type of information is important for several reasons. First, to be able to assess the hazards in any situation, it is axiomatic that you must know what conditions exist. For a tanker, it is not sufficient to know that the cargo can produce inflammable or explosive vapors on mixture with air. A real understanding requires that internal vapor concentrations and gradients be known as a function of time and the various operations aboard a tanker such as loading, ballasting, ventilating, and the various tank-cleaning procedures. From this, it can be determined what hazards to operating personnel and the public exist and when. A second reason for the importance of vapor concentration information obtained in this study is that it provides a basis for designing efficient and effective control equipment. Empirical and intuitive approaches are no longer satisfactory, nor are they consistent with modern technological advances in the industry. A third reason for these data's importance is that it was obtained from full-scale tanks on an operational tanker. Although the relative merits of scale model studies in the laboratory versus full scale field studies are always a subject for lively discussion, it appears that the latter is especially desirable in this case.

SCALING

The problem of scaling up from carefully controlled model work is difficult at best and it becomes much more so when there are many poorly defined variables. A few of the variables which may affect tank atmospheres are ship motion; vapor densities; tank temperature gradients and differentials with respect to the air, piping, and tanks; tank geometry; the human factor, etc. While such factors cannot all be controlled in the field, by means of repetitious measurements, some insight as to their significance can be obtained. The realism of shipboard full-scale data coupled with the results of precision model testing under controlled but arbitrary conditions seems to offer the most reasonable opportunity of achieving the desired end result.

DATA RELIABILITY

What about the quality of the results? The happy combination of elaborate instrumentation and a convenient ship operating schedule has permitted the collection of a great deal of diversified and confirmatory data. In spite of early problems with instrument calibrations, the wide and

unpredictable ranges of vapor concentrations, and the sometimes difficult working conditions, reliable data on vapor concentration gradients and behavior patterns have been obtained for gasoline and related petroleum products. These clearly show the stratification or almost liquid behavior of the vapors and their relatively slow diffusion rates. They also show the effectiveness of vapor removal equipment when used to take advantage of these properties.

EXPLOSIVE LIMITS

In spite of its general excellence and potential for practical application, this work raises a question as to the value of the lower explosive limit (L.E.L.) which would be applicable if vapor removal should become a required tanker operation. In the Shell Oil-Keystone study, 0.5 L.E.L. was used as the maximum safe concentration for a cargo tank and in the Shell Tankers' crude oil study, 0.25 L.E.L. was used.

From an economic standpoint, a high value is desirable to conserve time and money, but there are some uncertainties which make selection of a proper safety factor difficult. For one thing, there is lack of agreement among published values for L.E.L. For example, two reputable organizations, National Fire Protection Association and Factory Mutual, give 1.9 and 1.6 percent, respectively, for butane which is a major component of gasoline and crude oil vapors. In addition, tank geometry may alter values obtained under laboratory conditions, and variations within a large tank may make single readings obtained during normal tanker operations unreliable. And finally, vapor compositions are subject to variations with source of cargo and time. When these uncertainties are considered along with those resulting from unavoidable instrument errors, the question of what reasonable maximum vapor concentration will assure nonexplosive conditions in an empty cargo tank become difficult. The question is raised because it appears to warrant discussion. It is certainly not intended as a criticism of the vapor removal approach to tanker safety.

DEGASSING PROBLEMS

Another question raised by this work is the possibility of difficulty with air pollution and port regulations if degassing became a regular dockside practice. Even though vapors are now regularly released into the atmosphere during loading operations, there is a steady increase in the number of regulations applying to operations of

this nature. Also there is a wide variation in port regulations which might prevent any uniform degassing procedure. The possible problem arises from the fact that these regulations are established and administered by many different agencies other than the Coast Guard, and coordination would be difficult. Even though the Shell Oil-Keystone data indicate that vapors discharged by a steam exhaust are more diffused and apparently less dangerous than those from normal loading operations, the degassing operation is a change which would have to be carefully studied.

The findings regarding methods of degassing tanks should prove interesting to industry, since they are evaluated in terms of key industrial factors—time and money. Results obtained so far in the study appear to indicate that quite acceptable amounts for both can be achieved by very simple equipment which should require little, if any, maintenance. In theory, at least, it is hard to dispute the merits of exhausting high concentration vapors instead of continuously diluted vapors. For perfect stratification in a tank containing 20 L.E.L. vapors initially, one air change by the use of a bottom exhaust completely degasses, whereas, with complete mixing, one air change by blowing air into the tank leaves a uniform concentration of 7.3 L.E.L. Of course, in practice, the difference is less, and only actual measurements, such as are being reported at this meeting, can determine the relative economic merits. From the safety standpoint, stratification exhaustion is attractive because it confines internal explosive concentrations to only part of the tank and away from the hatches.

The carriage of chemical cargoes by tankers is relatively new—at least compared to the movement of petroleum products—but it is rapidly increasing in volume. Therefore, it is pleasing to hear that chemicals are to be investigated as part of the future vapor characteristics study program. Not only will the resulting information eliminate the necessity for attempting to apply petroleum product data to materials with quite different properties but it may lead to a method of predicting the vapor characteristics of new cargoes under tanker operating conditions. If data can be obtained for a sufficient number and variety of materials, it should be possible to establish the significant parameters. Although factors such as vapor density, vapor pressure, diffusivity, temperature, and convection suggest themselves, only actual experimental work will determine the complete list and which are of practical importance. It is interesting to note

that many common chemicals carried by tankers such as the *Cherry Valley* have vapor pressures which maintain void space over the liquid cargo in the explosive range whenever equilibrium conditions prevail.

PERSONNEL SAFETY

As a side observation during these studies, it has been interesting to see a practical aspect of chemical toxicity in tanker operations. It is commonly necessary for personnel to enter empty tanks while underway and the question arises, "When is it safe to enter?" For gasoline and related petroleum products, this is relatively easy to determine. The safe vapor concentration is taken as 0.1 percent, and this can be determined, at least approximately, with the usually available portable explosive gas detector. But what about a material like acrylonitrile which at present is carried as a grade C flammable liquid? At least one major chemical company uses the industrial threshold limit values as the limiting concentration for people to enter cargo tanks on barges and tank ships. The limit in the case of acrylonitrile is 20 parts per million (0.0020 percent), and even on a combustible gas detector calibrated for acrylonitrile the lowest measurable concentration is around 1500 p.p.m. (0.05 L.E.L.). This is unquestionably a dangerous concentration in terms of permanent, serious body damage whether there are immediate symptoms or not. Admittedly, the nose is much more sensitive than the instrument and is much more likely to be used. However, in the absence of specific toxicity information and appropriate instrumentation, a negligible L.E.L. reading and no immediate toxic symptoms will undoubtedly be taken as justification for entering the tank, with possible serious after effects. Although some companies are now providing toxicity literature to masters of their ships, this is by no means universal or uniform. As was mentioned earlier, toxicity is one of the new hazards which is leading to the development by the Coast Guard of separate regulations for the carriage of bulk chemicals. In addition, a Navigation and Vessel Inspection Circular No. 4-63 has been published which includes relative toxicity ratings for a large number of chemicals which have been proposed or approved for bulk shipment by water. These ratings were developed for the Coast Guard by the National Academy of Sciences and it is hoped that they will be useful in alerting people to potential toxicity problems.

OVERALL PROBLEMS

At this point, I'd like to make a few comments on the overall problem of tanker safety. This paper and others presented this morning have been concerned primarily with methods of eliminating the hazard of empty cargo tank explosions. Important as this subject is, the Coast Guard views it as only one approach to the ultimate solution. Another important approach is the prevention of collisions—which, incidentally, would eliminate most of the hazard from empty cargo tanks. Certainly the present widespread use of radar and the increasing use of single frequency bridge-to-bridge radiotelephone are major steps forward.

However, collision remains the major cause of tanker casualties and continued progress is required. Therefore, I'd like to suggest that the tanker industry undertake two operations research projects.

The first is to determine the maximum safe speeds for large tankships operating in channels having restricted widths and depths.

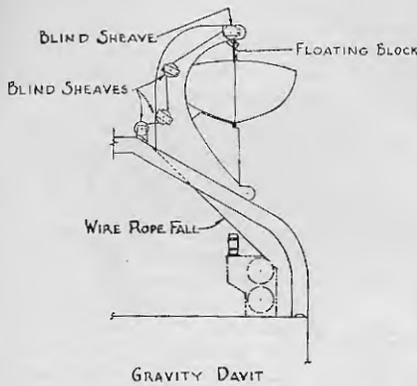
The second is to develop a code of recommended practices for the operation and navigation of tankships. Such a code, if adopted and published by the tanker industry and used by the seagoing personnel of the tanker fleets, should result in reasonable tanker speeds in restricted waters. There is no doubt that such efforts would contribute much to reducing the incidence of collision.

Another area for further work is the training and education of tanker personnel. It has been repeatedly shown that the major underlying cause of casualties is personnel error rather than equipment failure. Oftentimes this results from a lack of information or misinformation rather than carelessness. Tankermen need up-to-date information on cargo properties, their handling and their hazards. The training of new personnel on tankers and the updating and further education of experienced personnel to keep them abreast of changing cargoes and advancing marine technology is a necessity. Certainly there is much room for improvement in this area and many rewards to be gained from fewer casualties.

In conclusion, I'd like to say that it has been a most-rewarding experience for the Coast Guard to participate in the Shell Oil-Keystone vapor concentration study and we hope that continued good use is made of the unique facilities on the *Cherry Valley* to obtain additional much-needed technical information—especially in the area of chemical cargoes.

FAILURES IN WIRE ROPE

Prepared by Merchant Marine Technical Division Coast Guard Headquarters



ACCIDENTS OR EQUIPMENT failures sometimes fall into a pattern of casualties that can teach us lessons in safety engineering. Some recent failures in the wire rope falls of lifeboat davits are in this category.

Unfortunately, in one of these recent casualties, two seamen were in a lifeboat while it was being hoisted from the embarkation deck to the stowage position on the davit trackways. Suddenly one of the wire rope falls parted and dropped one end of the lifeboat and the two seamen into the water. One seaman was injured, and the coroner stated the other's death was by "asphyxia due to drowning."

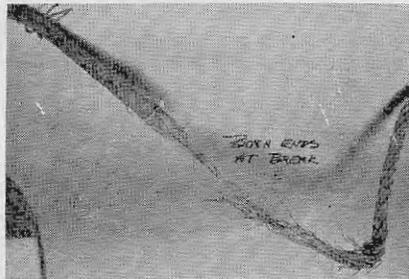
It seems clear that these men should not have been in the boat during this final hoisting. In the "Manual for Lifeboatmen * * *", Coast Guard publication CG-175, this point is covered in the following, "On boats handled with gravity davits, the boat is hoisted to a position where the tricing lines can be made fast. It is next lowered to the embarkation deck where the men in the boat can get out. It is then hove up to the stowed position, using the hand cranks for the last 12 inches or more. In the stowed position, men can get back in to pass gripes, replace ridgepole and cover, etc."

A Coast Guard investigation followed this casualty. During the questioning, one of the technical witnesses, a marine inspector, stated, "As a rule I have found that falls deteriorate usually in these hidden spots, as we call them, behind blocks and so forth * * *. They are the parts that are exposed to wind and weather and stack gases and so forth." The accompanying photograph shows the failure in this particular wire rope fall.

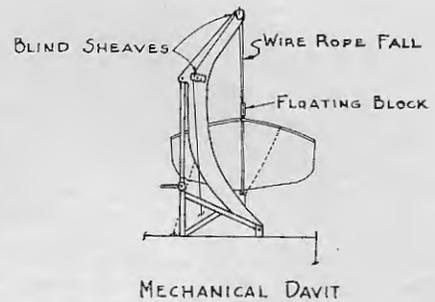
In inspecting a lifeboat fall, one should wipe off the lubrication from the portion of a fall that he wishes to examine, and wirebrush the area so that bright metal and the roundness of the outside wires can be seen in each strand. If there are any doubts about the wire rope it should be replaced. This decision will be influenced by the surface appearance of the individual wires as well as the presence of any fish hooks, splinters, or cracks that are seen.

PRESENT REGULATIONS

Coast Guard regulations state that on installations using lifeboat winches, the lifeboat falls shall " * * * be of wire rope * * * of 6 x 19 regular lay filler wire construction * * *". The 6 x 19 wire rope is a nominal designation that can have either fiber or independent wire rope cores and still meet the above regulation. The wire rope manufacturers, however, hold different opinions on the use of fiber cored wire rope as lifeboat falls. One opinion says that the fiber cores become dry and absorb moisture which causes internal corrosion. Such corrosion will not be seen from an outside examination. Another opinion holds that independent wire rope cores are not necessary in the wire rope of lifeboat falls because they are not subjected to high crushing forces on the winch drums. In addition, this faction argues that independent wire rope cores are not justified for the present weights of merchant vessels' lifeboats. The U.S. Navy at present uses hemp-centered wire rope for its lifeboat falls in similar installations. Perhaps in the future the fiber cores will be replaced in manufacturing by a new plastic core made of synthetics, such as polypropylene.



PHOTOGRAPH of wire rope boat fall which parted in service—showing portion of the wire at the point of failure.



INHERENT DANGERS

Failures in these wire rope falls occurred at points where the falls were stationary over their davit sheaves. Except for the times during drills, lifeboats on a ship are stowed up on davits with their falls taut and at certain points the falls are in continuous contact with the davit sheaves. These contact points in the wire rope are under pressure from the sheaves and have their lubrication squeezed from the wire strands.

In addition, wire rope falls are exposed to severe atmospheric conditions. Besides frequent baths of salt spray, the davits are often near a ship's stack and receive soot and stack gases that carry sulfur and other acid-making materials. All of this plus the grit from occasional partial bulk cargoes of abrasive materials establish excellent conditions for corroding the wire rope. A few months of this and lifeboat falls can be in a dangerous condition.

Corrosion starts to weaken a wire rope not so much by the loss of metal as by the formation of corrosion pits on the surface of the wires. These corrosion pits are like a number of small nicks and become stress raisers for bending fractures. (One way to break a wire is by nicking and repeatedly bending it.)

WIRE ROPE THEORY

A wire rope is like a machine whose moving parts are wires, strands, and a core. These parts slide and move on each other, wire upon wire and strand upon strand, as the wire rope bends, twists, and straightens. Lubricating this machinery of wire is just as necessary as in any other mechanical equipment. The wire rope must have both inside and outside lubrication at all times to protect its core and to reduce friction, abrasion, and corrosion.

LUBRICATION

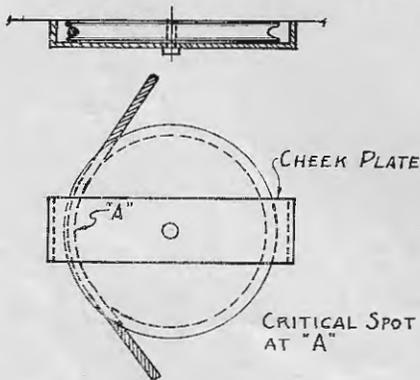
When the wire rope is being made in the factory, internal lubrication is provided by lubricating each wire and the core as the wires are laid into strands. This first lubrication is enough to give protection against corrosion during the storage and shipment of the wire rope. Long service life is obtained by frequently lubricating the outside of the wire while in use. This will replace the lubrication normally lost from the squeezing of the rope as it runs over sheaves and drums in various weather conditions.

Crude oil or Bunker C fuel oil should not be used as lubricants for wire rope on shipboard. These oils may contain chemical impurities that might react against the wire rope. The same applies to old greases and crankcase oils from the engine room which may contain acids or grit.

The best service lubricants for wire rope contain light-bodied compounds with rust inhibitors which have good penetrating properties. These can be dipped, swabbed, or sprayed on the wire rope. The manufacturer's instructions should be carefully followed; some of these lubricants require preheating or thinning with solvent, depending on temperature conditions and vessel operations.

SHIPBOARD MAINTENANCE

On the exposed portions of the wire rope falls, a ship's crew can apply lubrication without lowering the lifeboats. But in spots where the falls are inside of blind sheaves there are places that cannot be reached without lowering the lifeboats and exposing the wire rope. In these places the sheaves are partly covered by steel cheek plates, and a seaman trying to apply oil or slush can't get behind the cheek plates with his brush or swab. Even if the wire rope is clear of a cheek plate, he will not be able to lubricate the side of the wire rope riding tight against the sheave.



TYPICAL BLIND SHEAVE



FLOATING BLOCK

These are the very spots in these wire rope falls that have been failing. The accompanying diagrams show some of these critical spots on different kinds of lifeboat davits.

The correct way to do this job is to lower the lifeboats a few feet so that these critical spots are clear for lubrication. Perhaps the mate will use some markers on the falls so that on lowering he will know when the critical spots are in the clear. This can be done during lifeboat drills when the lifeboats are lowered. These dry portions of the wire rope must have the lubrication thoroughly worked into the strands all around the wire rope before the lifeboat is hoisted and secured again. If this practice is not followed the same 6 to 15 inches of wire rope will stay dry and corrode into a bundle of strands locked together in a solid unit. This interlocking will prevent the sliding action of the wires on each other. Ultimately some of the wires become overloaded and the wire rope fails.

The wire rope fall shown in the photograph failed after 3 years in service. Many steamship companies achieve better service than this by regularly lubricating and turning their wire rope end-for-end. If the wire rope is end-for-ended each year, or at the most every 2 years, the severe corrosion described above is prevented by moving unused portions of the wire to the critical spots. Failures are prevented before they get started.

At the same time the wire rope falls are turned end-for-end the maintenance crews can remove the sheaves from the davits and lubricate the bushings, roller bearings, and sides of each sheave.

THE SAFETY LESSON

Modern wire rope is made to the highest engineering standards. By the use of many tests and controls during its manufacture, it is almost impossible for serious flaws to exist in the finished product. An accident in service with wire rope almost always results from poor maintenance procedures. In the casualties discussed above, the lifeboat davit falls failed because of a continuing lack of lubrication in the wire rope hidden in the blind sheaves.

REGULAR GLASSES OR CONTACT LENSES ARE NO SUBSTITUTE FOR GOGGLES

There are many things worth saving, but nothing is more precious to a man than his eyesight. And, in industry, including the maritime industry, there is probably nothing easier to protect from injury than the eyes.

And yet, there are a number of persons who scorn taking the simple, precautionary measure of wearing safety goggles when there is a possibility of eye injury, little realizing what the consequences might be.

There are others who normally wear regular glasses or contact lenses and consider these as adequate eye protection. Neither, however, are an adequate substitute for safety goggles.

Whether you wear regular glasses, contact lenses, or no glasses, you can be sure of giving your eyes the best protection if you wear safety goggles when engaged in such tasks as scaling, chipping, wire brushing, sweeping or shoveling dirt, or washing or scrubbing overhead with strong solutions.



Would you wear a bathing suit when shoveling snow?

Not such a bright idea, is it?

It's always a good idea to dress right for the job you're doing, says the National Safety Council.

That means wearing the garments of safety—hardhat, gloves, goggles, safety shoes—when the job calls for them.

Going without proper protective clothing, even for a few seconds, is like walking barefoot through the snow.

And the results can be far more disastrous.

"Give me a lever and a place to stand, and I'll move the world," said a Greek philosopher.

You probably won't be called on to move the world, but you can learn to lift and move heavy objects safely and easily.

Some tips from the National Safety Council:

1. Don't be a hero. Get help with large, especially heavy objects.
2. Set your feet solidly, slightly apart, and crouch low over the object.
3. Get a firm grip, hands on diagonal corners. Lift one end if necessary to get a hand under the object.
4. Keep your back straight, bend at the hips. Straighten legs slowly, letting the leg muscles, not the back, do the work.



MARITIME SIDELIGHTS

There were 921 vessels of 1,000 gross tons and over in the active ocean-going U.S. merchant fleet on May 1, 1963, 10 less than the number active on April 1, 1963, according to the Maritime Administration. There were 19 government-owned and 902 privately owned ships in active service. These figures did not include privately owned vessels temporarily inactive, or government-owned vessels employed in loading storage grain. They also exclude 23 vessels in the custody of the Departments of Defense, State, and Interior, and the Panama Canal Company. There was a decrease of 9 active vessels and an increase of 10 inactive vessels in the privately owned fleet. Two freighters, *American Chieftain* and *American Commander*, were delivered from construction. One freighter, the *Halcyon Pioneer*, was turned in to the Government as an exchange ship.



The Panama Canal began round-the-clock operations recently. This was a result of a decision by the Panama Canal Company to place the locks at the Pacific entrance on a 24-hour basis.

The Miraflores and Pedro Miguel locks have been operating 17 and 19 hours a day, respectively. The Atlantic locks have been operating on a 24-hour basis for seven years.

Ships arriving at either entrance will be started through the canal as soon after their arrival as they can be accommodated in the day's transit schedule.

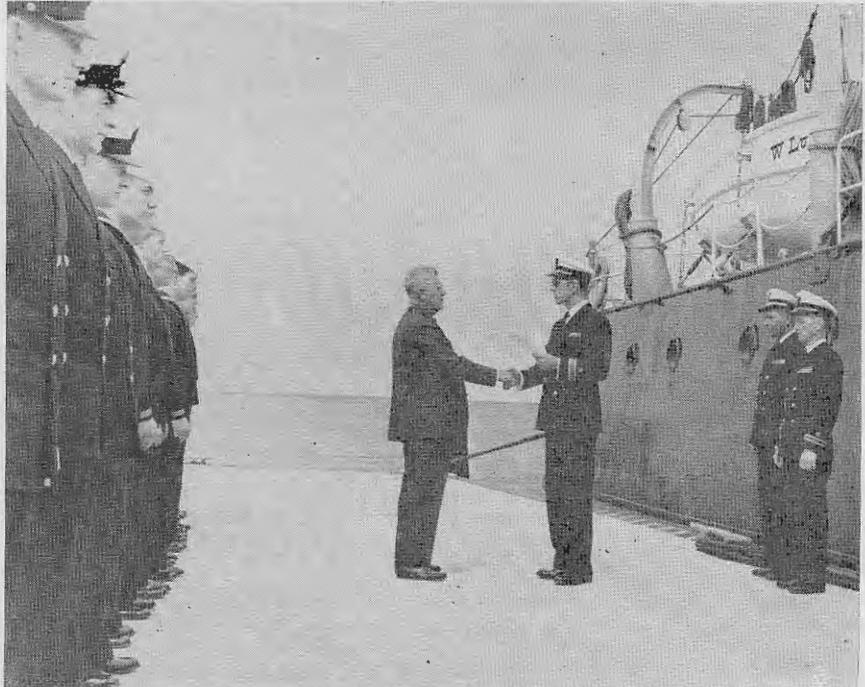


A new cargo vessel the *American Contender* was launched recently at Quincy, Mass. The 13,600-deadweight ton vessel is the tenth to reach the launching stage in United States Line's current vessel replacement program. The vessel is a member of the 560-foot-long challenger class, the first of which set a new speed record for freighters of more than 24-knots on her maiden voyage across the Atlantic. The new vessel features a heavy lift 70-ton boom which serves triple hatches.

July 1963

689353-2-63

COMMENDATION



CAPTAIN LUTHER A. YOUNGS, Saint Lawrence River Pilot, is shown receiving a Letter of Commendation from the Commandant at Cape Vincent, New York. LCDR W. F. Raes, OCMI, Oswego, N.Y. in conjunction with the crew of the Coast Guard Cutter *White Lupine*, made the presentation on behalf of the Commandant. The Letter of Commendation was presented to Captain Youngs for his part in the safe escort of the tug *Russell 20* from near Rochester to Cape Vincent during a northeast gale.

Captain Youngs was serving as Pilot on the Norwegian tanker *Bratsberg* at the time of the incident. The letter read in part "Although the *Bratsberg* was unable to take the tug in tow, the vessel, under your skillful handling, provided a lea and safely escorted the tug into Cape Vincent, New York. As a result of your skillful seamanship, valuable property and life were saved. As Commandant of the Coast Guard, the principal agency of the United States entrusted with safety of life and property at sea, I am pleased to commend you for your outstanding courage, vigilance, and performance of duty, which should afford you a great measure of personal satisfaction and is deserving of the highest praise."

Farrell Line's cargoliner *African Neptune* set a new speed record on her maiden voyage to Capetown, South Africa, the marine press reports. The new mark, 12 days 13 hours 36 minutes, was an improvement over the maiden-voyage record set by her sister ship, the *African Comet*, during 1962.

Two new cargoliners of the Delta Steamship Lines have set speed records during the month of March: the *Del Sol* averaged 18.53 knots for 6,347 miles between Galveston and Buenos Aires, while the *Del Oro* completed a 5,326-mile voyage from Rio de Janeiro to Houston in 10 days 22 hours, for an average of 20.3 knots.

TREASURY DEPARTMENT
UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDANT
U.S. COAST GUARD
HEADQUARTERS
WASHINGTON 25, D.C.



MVI-3
13 February 1963

Commandant's Action
on

Marine Board of Investigation; collision between SS *Olympic Rock*, Liberian flag, and the tug *Princess* with the tank barge *W. L. Graham* in tow in the Delaware River on 21 February 1962 with loss of life

The record of the Marine Board of Investigation convened to investigate subject casualty, together with its Findings of Fact, Conclusions and Recommendations has been reviewed.

On the morning of 21 February 1962, during periods of low visibility, the Liberian tanker *Olympic Rock*, bound for Puerto La Cruz, Venezuela, in ballast, was proceeding down the Delaware River under the direction and control of a pilot, having discharged her cargo at Philadelphia. All navigational equipment was in good operating order with the exception of the course recorder. The radar was being operated by the master on the 2, 4, and 8 mile scales. The vessel's speed was changed from time to time to allow for variable visibility limitations and traffic conditions. A lookout was posted on the bow and, except for a speed reduction while passing an upbound vessel, the voyage was without incident until the vessel reached the northern section of Bellevue Range. At this time two targets were observed ahead on radar at a distance of approximately 2 miles and in a position which was estimated to be approximately at the junction of Bellevue and Cherry Island Ranges. Shortly thereafter these targets were visually sighted at an estimated range of slightly over 1 mile. They were identified as two upbound tugs with bows of which was dead ahead and the other slightly off the port bow. The vessels ahead were later identified as the tug *Princess* with the barge *W. L. Graham* in tow, and the others, off the port bow, as the tug *B. M. Thomas* with three barges in tow. The pilot of the *Olympic Rock*, then proceeding at an estimated speed of 7 knots over the ground against a flood current of approximately one and one-half knots ordered speed reduced to slow ahead, sounded a single blast on the whistle and simultaneously executed a slight course alteration to starboard. The *Princess*, with its tow made fast to her starboard side, appeared to be in a position close to the center of the dredged channel and on a collision course. Receiving no response to the first whistle signal and having observed no course change by the *Princess*, the *Olympic Rock* sounded a second single blast and again altered course to starboard. Shortly thereafter, observing what appeared to be a course alteration to port by the *Princess*, and having received no answer to the second whistle signal, the *Olympic Rock* again sounded a single blast and altered course again to starboard. Receiving no response to this third signal, the pilot of the *Olympic Rock* sounded the danger signal and ordered the engines full astern. At 1041, approximately 3 minutes following the initial whistle signal of the *Olympic Rock*, the two vessels collided in a position nearby Buoy 1B located in Bellevue Range on the western edge of the dredged channel. Physical contact was made between the stem of the *Olympic Rock* and the port side of the *Princess* at an angle of approximately 30 to 40 degrees between centerlines of the two vessels. The shock of impact parted the tow lines to the barge *W. L. Graham* setting her adrift, while the *Princess* heeled to starboard rolling under the

bow of the *Olympic Rock* and shortly thereafter surfaced off the *Olympic Rock's* starboard bow. Upon surfacing the *Princess* capsized, disappeared beneath the surface and came to rest on the bottom with its mast remaining visible above water. Upon sighting one survivor from the *Princess* aboard a life float and two others in the water in close proximity to the capsized tug, crewmen of the *Olympic Rock* tossed life rings overboard and made preparations for launching a boat. Shortly thereafter a Corps of Engineers motor vessel arrived on the scene to assist while the *Olympic Rock* was maneuvered to Cherry Island Flats where she anchored and stood by to render such additional assistance as might be needed.

On the morning of 21 February 1962, the tug *Princess* with the light tank barge *W. L. Graham* in tow on the starboard side departed an area just north of Federal Anchorage No. 5 in the vicinity of New Castle Range, Delaware River, bound for Chester, Pennsylvania. The *Princess*, manned by a crew of four, was encountering intermittent snow flurries with resultant limited visibility and, when in a position on the right hand side of Deepwater Point Range, in the vicinity of Penns Beach, the operator considered anchoring until visibility improved. Although the operator ordered a deckhand to proceed to the bow of the barge to stand lookout watch, visibility conditions improved before he had manned his station and he was subsequently ordered below. The *Princess*, with wheelhouse doors and windows closed, continued on its voyage, navigating the right hand side of the dredged channel. The tug *B. M. Thomas* with three barges in tow astern entered the Delaware River from Christina River and fell in astern of the *Princess*. Upon reaching a position approximately abeam of Buoy 4C, Cherry Island Range, the operator of the *Princess* observed a buoy tender approximately 1 mile distant upriver and close aboard Bellevue Range Lighted Buoy 2B. Shortly thereafter the operator of the *Princess* altered course slightly to left to cross to the left side of Bellevue Range, ostensibly to give the buoy tender a wide berth since that vessel was displaying the prescribed signal for a Coast Guard vessel engaged in servicing an aid to navigation. The operator of the *Princess* related that he proceeded to the western extremity of the dredged channel, passed the dredge *Comber*, moored to the Corps of Engineers' installation, at a distance of 20 to 50 yards and thereafter left the black channel Buoy 1C on his starboard side. Further, that upon sighting the downbound vessel ahead, later identified as the *Olympic Rock*, the *Princess* was actually beyond the western extremity of the dredged channel, that no attempt was made to alter course to starboard until immediately preceding impact, and that the collision actually occurred outside the dredged channel. However, the preponderance of evidence clearly demonstrates that, when first within sight of one another, both vessels were in an approximate mid-channel position with the upbound tug on a course as to allow for gradual passage to the western edge of the dredged channel. The *Olympic*

Rock, upon sighting the tug in a mid-channel position, altered to starboard for a normal port to port passage. While the course of the tug was not readily apparent, it was reasonable to assume that, in response to the *Olympic Rock's* single blast on the whistle, the tug would so maneuver as to comply with the narrow channel rule. Instead, the operator of the *Princess* failed to hear any of the three single blasts sounded by the *Olympic Rock* and, except for a slight alteration further to the left in an effort to reach the western extremity of the channel more rapidly, he failed to exercise any further evasive maneuvers until the two vessels were in extremis. As the *Princess* approached a position immediately upstream from Buoy 1C, the range of the two vessels had closed to approximately 75 yards. Upon closing to about 20 yards, the operator of the *Princess* sounded one blast on his whistle and attempted to maneuver to the right with hard right rudder. Upon impact the *Princess* heeled to starboard and went under and when the operator surfaced he found himself on the starboard side of the *Olympic Rock* and managed to swim to a life raft from the *Princess* which he observed floating nearby. As the *Princess* momentarily surfaced, three other crewmembers were observed, but they subsequently disappeared after entering the water.

As the result of the casualty three lives were lost, the *Olympic Rock* suffered structural damage to its bow section, the barge *W. L. Graham* sustained plate and internal damage and the *Princess*, though subsequently salvaged, suffered extensive hull and machinery damage.

REMARKS

Concurring with the Board, it is considered that the *Princess* failed to comply with Article 25, Inland Rules (33 U.S.C. 210) which provides "In narrow channels every steam vessel shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such vessel." More specifically, it is clearly evidence that the chain of events which led to this collision first began when the operator of the *Princess* elected to proceed to the left hand side of the channel. The subsequent failure to alter course to starboard upon first sighting the *Olympic Rock* in a meeting situation merely aggravated what was already a potentially hazardous condition. The presence of the buoy tender is considered insufficient justification for having departed from established rules, particularly since the evidence indicates the *B. M. Thomas* effected a successful passage without incident.

Notwithstanding an unobstructed view from the pilot-house of the *Princess*, the operator's failure to hear the

whistle signals of the *Olympic Rock* constitutes evidence of a failure to provide a proper lookout. Numerous Court decisions support the contention that a proper lookout must include audio as well as visual capabilities. While largely conjecture, it is reasonable to suppose that, had a lookout been posted as far forward as possible, the intention of the *Olympic Rock* would have been known to the *Princess* in sufficient time as to avert a casualty. A further contributory factor was the failure of the *Princess* to render a whistle signal of intent upon first sighting the oncoming vessel.

The Board's conclusion that the *Olympic Rock* failed to comply with the provisions of Article 18, Rule III, Inland Rules (33 U.S.C. 203), is concurred in. The evidence clearly demonstrates the doubt being experienced by the pilot of the *Olympic Rock* as to the intent of the *Princess* when, on three successive occasions, he sounded a one blast signal and altered course to starboard without receiving a response. The above rule specifically provides that "if, when steam vessels are approaching each other, either vessel fails to understand the course or intention of the other, from any cause, the vessel so in doubt shall immediately signify the same by giving several short and rapid blasts, not less than four, of the steam whistle".

Consistent with the recommendations of the Board, a copy of the Board report together with a copy of this action will be forwarded to the American Pilot's Association for referral to the cognizant State Pilot Authority and appropriate action concerning the performance of duty of the pilot of the *Olympic Rock* while acting under the authority of his State Pilot's license.

It is considered that the primary cause of this casualty was the failure of the tug *Princess* to comply with Article 25, Inland Rules (33 U.S.C. 210), and, since loss of life resulted, this failure constitutes evidence of criminal negligence.

The Board's recommendation that appropriate action under the administrative penalty procedure be initiated against the owners of the *Olympic Rock* is not concurred in. 33 U.S.C. 159 provides for a penalty against a vessel for failure to comply with Inland Rules of the Road. However, from the evidence it would appear that, in this instance, the responsibility for any navigational faults of the *Olympic Rock* must rest entirely upon the officer under whose direction and control the vessel was being navigated.

Where not in conflict to the foregoing summary and remarks, the record of the Marine Board of Investigation is approved.

E. J. ROLAND,
Admiral, U.S. Coast Guard,
Commandant.

EXERCISE EXTREME CARE WHEN IN THE VICINITY OF A MOVING LIFT TRUCK

Recently at a major seaport pier both legs of a longshoreman were broken by a heavy case which toppled over while being transported on the blades of a forklift truck.

Seamen and longshoremen do not always realize that loads being carried on forklift trucks plus momentary inattention can cause serious injury or death. Also, the blades on these

trucks are very sharp and are sometimes carried at heights that will inflict serious bodily injury on the unwary even though they are not carrying any load. Persons in the area of moving lift trucks must keep a weather eye out for trouble and keep a safe distance away. These trucks have a tendency to swerve out of control when the wheels are blocked or

impeded by obstructions on the pier surface.

One should use extra care when passing through pier areas where the trucks are operating and where sunlight is blocked off by large vessels docked on both sides of the pier. A voyage is not ended until safe arrival at home with your loved ones.

Courtesy G. Tranchina



nautical queries

DECK

Q. A vessel's draft is 24 feet 6 inches at a dock where the hydrometer floats at 10. What will be her draft when she gets to sea where the hydrometer floats at 25?

A. As 1025:1010::24 ft. 6 ins.: draft at sea

$$\text{Draft at sea} = \frac{1010 \times 24.5}{1025} = 24 \text{ ft. } 1.7 \text{ ins.}$$

Q. a. Define a "flammable solid"?
b. Define an "oxidizing material"?

A. a. A flammable solid is a solid substance other than one classified as an explosive, which is liable, under conditions incident to transportation, to cause fires through friction, through absorption of moisture, or through spontaneous chemical changes.

b. An oxidizing material is a substance such as a chlorate, permanganate, peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.

Q. On vessels carrying mail, is it permissible to break bulk prior to discharging of the mail in ports of the United States?

A. "No vessel arriving within a port or collection district of the United States shall be allowed to break bulk until all letters on board are delivered to the nearest post office, except where waybilled for other ports of call and the Postmaster General does not determine that unreasonable delay in the mails will occur."

... 18USC1699

An answer such as, "All mail aboard should be discharged first," should be acceptable for this question.

Q. A vessel ran 3,000 miles at her normal speed of 12 knots, using 200 tons of fuel. With 3,500 miles yet to run and only 160 tons of fuel remaining, find the speed to which the vessel should be checked to arrive at her destination with 10 tons remaining.

$$A. C_o = \frac{S_o^2 \times d}{C_n} \text{ or } \frac{S_n^2 \times d}{C_n}$$

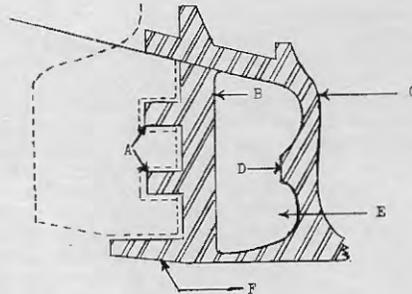
$$\frac{200}{150} = \frac{12^2 \times 3,000}{x^2 \times 3,500}$$

$$x^2 = \frac{150 \times 12^2 \times 3,000}{200 \times 3,500}$$

$$x^2 = 92.6 \text{ or } x = 9.52 \text{ knots}$$

SHIP CONSTRUCTION

Q. Name the parts of the stern frame sketched below which are marked A, B, C, D, E, and F.



- A. A=Gudgeons
B=Rudder Post
C=Propeller Post
D=Boss
E=Propeller Aperture
F=Skeg

ENGINE

Q. Describe the general procedure for starting the main air ejectors. Under what conditions will both sets of ejectors be used?

A. The general procedure for starting the main air ejectors should be accomplished as follows:

1. Drain the steam supply lines to the air ejector assembly.

2. Start circulating condensate cooling water through the air ejector inter-and-after condensers. Recirculation of condensate will probably be necessary to provide sufficient cooling water.

3. Open valves in inter-and-after condenser drain lines.

4. Open first-and-second stage suction and discharge valves of the air ejector elements to be started.

5. Open wide the second-stage ejector steam inlet valve, and check the steam supply line pressure.

6. When the condenser vacuum rises to 20 inch mercury or above, open wide the first-stage steam inlet valve.

7. The ejector should now be in full operation.

In order to raise vacuum more quickly or when large air leaks are present,

both second-stage elements may be started simultaneously and both first-stage elements started when a vacuum of 20-inch mercury has been obtained. Adequate recirculation must be provided for condensing the additional steam being discharged to the air ejector condensers.

Q. A turbine and condenser are designed for an exhaust vacuum of 27½ inches of mercury. Explain how operating this plant under full power conditions at a 29-inch vacuum will affect its efficiency

A. In the average installation, as the full power vacuum becomes higher than 1 inch of mercury above that for which the turbine was designed, the extra steam required for heating the condensate in the vessel's feedwater heaters tends to outweigh the added economy of turbine operation due to the higher vacuum. Under these conditions, reducing the flow of circulating water in general will result in improved overall plant efficiency by also reducing the pumping costs, air-removal costs, and condenser tube deterioration as well as decreasing the feed heating costs.

Q. Explain why the safety valve escape piping is fitted with an open drain.

A. The open drain is to remove any condensate formed from the escaping steam. After a safety valve has blown many times, it is not uncommon for slight leakage to develop. Condensation of this leakage may gradually fill an undrained escape pipe with water. This condition would prevent the safety valve from blowing at its set pressure. Also, when blown the water hammer may damage the escape piping.

Q. Assuming that a boiler is operating at a steam pressure of 150 pounds and the safety valve installed on the boiler is just of sufficient area (by calculation) it is decided to reduce the pressure to 100 pounds, will the same safety valve take care of the boiler at this pressure? Explain.

A. If the safety valve was just large enough to relieve the boiler at 150 pounds pressure, it would not have sufficient relieving capacity to relieve the boiler operating at 100 pounds pressure for the reason that steam at a higher pressure has a greater velocity and would relieve a certain volume in a given time more quickly than at a lower pressure.

CASUALTY TO STEAM SOOT BLOWER LINE

A recent casualty on the steam line to the soot blowers on a T-2 tanker points up the need for all inspecting and operating personnel to pay particular attention to this system particularly where the installation is such that sharp changes in direction occur in the piping.

During a routine blowing of tubes on the vessel, the main steam supply line ruptured only 18 inches from the position where the wiper performing the operation was standing. At the time of the casualty, the wiper was operating the element control for the first superheater element. He received severe burns of the face and arms and fragments were imbedded in his arms, face, and neck.

Investigation of the failed line revealed that the break occurred at a point of change of direction of the steam flow. Over the years internal deterioration of the pipe wall had reduced its thickness to 0.032 until finally the casualty occurred.

It is recommended that all operators and inspectors visually check the steam supply line to the soot blowers at their next opportunity paying particular attention to points where changes in direction occur, and also areas which may be subject to accelerated corrosion due to the collection of condensation. These precautions are particularly advisable in older or aging vessels.



THE SWEDISH freighter *Helga Smith* sinks in the North Atlantic off Newfoundland in early April.

Officers and men of the vessel were rescued by the Coast Guard cutter *Campbell* after the Coast Guard in *Argentia* had received an SOS from the stricken vessel. The ship had a 12-foot crack in her hull.

THE TROUBLE WITH SAFETY IS PEOPLE

It's not the wrench that slips and strikes
Or the circuit you thought was dead;
It's not the machine that grabs your hand
Or the stairs with the slippery tread;
It's not the hole that you fall in,
So please don't be misled;
The thing that causes the accident is YOU
Not using your head.

—“Safety Review”

July 1963

POLLUTION

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

TO ALL SHIPS' MASTERS

Gentlemen:

The additional traffic on the Great Lakes due to the opening of the St. Lawrence Seaway has increased the hazard of pollution of municipal water supplies which depend on the Great Lakes as a source of drinking water. The discharge of sewage, contaminated ballast and bilge water by vessels near offshore city water supply intakes presents possible serious disease hazards to public health. Extra care is required to avoid discharge of the vessel wastes mentioned above in areas where they might be introduced into a municipal water supply intake or contaminate bathing beaches. In order to acquaint you with regulations and minimize the possibility of delays for your vessel, Federal regulations and local laws which specifically prohibit the discharge of particular liquid or solid wastes to certain waters of the Great Lakes are discussed below. Section 72.121 of the Interstate Quarantine Regulations reads as follows:

“Discharge of wastes. Vessels operating on fresh water lakes or rivers shall not discharge sewage, or ballast or bilge water, within such areas adjacent to domestic water intakes as are designated by the Surgeon General.”

IT IS IMPORTANT THAT YOU COMPLY WITH THIS REGULATION BY WITHHOLDING DISCHARGE OF ALL SEWAGE, BALLAST, OR BILGE WATER FROM YOUR VESSEL WHILE IT IS WITHIN THE DESIGNATED RESTRICTED AREAS, AS SHOWN ON THE ATTACHED SHEET, ENROUTE TO AND FROM YOUR PORT (OR PORTS) OF CALL.

In addition, section 13 of the River and Harbor Act of March 3, 1899 makes unlawful the dumping of refuse matter of any kind, including garbage, from any vessel into navigable waters of the United States. This act is also interpreted by United States authorities to prohibit the discharge of oil and oily wastes. Bilge and ballast water contaminated by oil may be discharged overboard outside the restricted areas after the oil has been removed by an oil and water separator.

Title 9, Code of Federal Regulations, section 94.5, prohibits the discharge of garbage containing meats

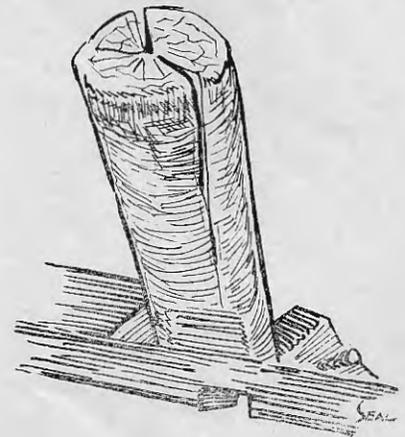
of foreign origin into any territorial waters of the United States. Also, title 7, Code of Federal Regulations, section 330.400, requires that garbage from any conveyance arriving in the United States must be disposed of in such manner as to prevent dissemination of plant pests. To comply with these regulations, all garbage must be retained aboard until it may be unloaded in port for incineration or other method of disposal as may apply to the ports visited.

Garbage should be stored aboard in sound, liquid-proof containers with tight-fitting lids. Storage containers should be of such size that they may easily be handled. Thirty gallon metal or plastic cans are recommended. The number of cans on board your vessel should be sufficient to hold all garbage which may be accumulated between ports of call. Canvas chutes tied at the bottom and similar containers which are installed for sea dumping of garbage are not permitted.

Other restrictions, such as title 33, United States Code, section 421, which prohibits the dumping of refuse in Lake Michigan within eight miles from shore at Chicago, Ill., also must be observed. Similarly, local ordinances which regulate the discharge of vessel wastes and otherwise affect vessel operations have been established in many ports. It is suggested that you consult the *Great Lakes Pilot* to review all such ordinances enacted in your ports of call.

Although your vessel will transit areas of apparent safe water, past experience indicates that all waters of the Great Lakes are unsafe for potable uses without adequate disinfection. Adequate disinfection may be obtained by chlorination or distillation of overboard water which is loaded in areas remote from pollution.

Your cooperation in abiding by the above rules which apply to waste discharges is requested.



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

INTERSTATE QUARANTINE

Discharge of Vessel Wastes in Fresh Water Rivers and Lakes—the Great Lakes and Connecting Waters

Notice is hereby given that pursuant to § 72.121 of the Interstate Quarantine Regulations of the Public Health Service (42 CFR 72.121) the Surgeon General of the Public Health Service has designated the areas described herein adjacent to the below listed domestic water intakes in the Great Lakes and connecting waters as restricted areas within which the discharge of sewage, or ballast or bilge water from vessels is prohibited.

Except as otherwise specifically indicated, in each case the restricted area includes the water within a circle having a radius of three miles with the domestic water intake as its center, in no event, however, extending beyond the international boundary line with Canada.

This restriction applies to all vessels which are under way, moored or anchored within the restricted areas subject to the following provisions:

1. Vessels moored at docks shall not discharge sewage, ballast or bilge water overboard if dock facilities for the disposal of such waste are available.

2. Vessels required to anchor within a restricted area under an emergency condition for the safety of the vessel are exempted.

3. Vessels which provide sewage or waste treatment approved by the Surgeon General are exempted from that portion of the restriction applicable to sewage.

These designations will become effective on October 1, 1960.

The list of intakes and the extent of the restricted areas may be revised from time to time by the Surgeon General. Copies of this designation and revisions, if any, may be obtained from the following sources:

Surgeon General, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C.

Regional Medical Director, Public Health Service, Department of Health, Education, and Welfare, Room 712, New Post Office Building, 433 West VanBuren Street, Chicago 7, Ill.

Regional Medical Director, Public Health Service, Department of Health, Education, and Welfare, Room 1200, 42 Broadway, New York 4, N.Y.

Regional Medical Director, Public Health Service, Department of Health, Education, and Welfare, 2305 Federal Office Building, 911 Walnut Street, Kansas City 6, Mo.

Medical Officer in Charge, Foreign Quarantine Station, c/o American Consulate General, 1558 McGregor Street, Montreal 25, Canada.

Dated: August 30, 1960.

[SEAL] L. E. BURNEY,
Surgeon General.

Approved: September 9, 1960.

EDWARD FOSS WILSON,
Acting Secretary of Health,
Education, and Welfare.

DOMESTIC WATER INTAKES IN THE GREAT LAKES AND CONNECTING WATERS

Source, State, and consumer served	Intake location by U.S. Lake Survey Chart Number	Intake location by geographical coordinates					
		North Latitude			West Longitude		
		Deg.	Min.	Sec.	Deg.	Min.	Sec.
ST. LAWRENCE RIVER							
New York:							
Reynolds Metals Co. 1	11	44	59	10	74	45	15
Aluminum Co. of America 1	11	44	57	29	74	55	23
Ogdensburg 1	14	44	41	10	75	30	58
Morristown 1	14, 113	44	35	07	75	39	21
Alexandria Bay 1	115, 116	44	20	11	75	55	27
Thousand Island State Park 1	16, 116	44	17	33	76	01	58
Clayton 1	16, 17, 21, 117	44	14	25	76	06	31
Cape Vincent 1	18, 21	41	07	44	76	20	32
LAKE ONTARIO							
New York:							
Oswego	22, 225	43	28	40	76	33	20
Wolcott Village	22, 23	43	18	45	76	54	40
Sodus Point Village	234	43	16	28	76	59	54
Sodus Village	23	43	16	58	77	03	48
Williamson Water District	23	43	17	25	77	11	17
Ontario Water District	23	43	16	55	77	17	15
Monroe County Water Authority	23, 238	43	17	38	77	37	07
Rochester	23	43	17	40	77	37	50
Hilton	24	43	20	40	77	47	10
Brockport	24	43	21	55	77	55	20
Lyndonville	24	43	22	40	78	23	20
Barker	25	43	22	12	78	33	25
Wilson	25	43	19	12	78	49	40
NIAGARA RIVER							
New York:							
Niagara Falls 1	31, 312	43	03	40	79	00	12
Lockport 1	31, 312	43	02	00	78	53	40
North Tonawanda 1	31, 312	43	01	35	78	53	27
Tonawanda 1	31, 312	43	01	20	78	53	30
Grand Island 1	31, 312	42	57	55	78	58	15
Town of Tonawanda 1	31, 312	42	57	15	78	56	10
LAKE ERIE							
New York:							
Buffalo	31, 312, 314	42	52	47	78	54	46
Erie County Water Authority	31	42	48	00	78	52	20
Waukegan	31	42	44	50	78	54	28
Erie County Water Authority	31, 312	42	41	40	79	03	00
Angola	32	42	39	25	79	04	05
Silver Creek	32	42	33	07	79	10	40
Dunkirk	32	42	29	50	79	21	15
Pennsylvania, Erie (2 intakes)	33, 332	42	07	50	80	10	15
		42	09	45	80	09	10
Ohio:							
Conneaut	33	41	57	55	80	34	40
Union Carbide Metals Co.	34	41	55	25	80	45	55
Ashabula	34, 342	41	54	30	80	48	38
Lake County	34	41	50	00	81	04	40
Industrial Rayon Co.	34	41	47	15	81	12	50
Diamond Alkali Co.	34, 346	41	46	06	81	15	46
Fairport	34, 346	41	45	46	81	17	20
Painesville	34, 346	41	45	46	81	18	11
Mentor Township Park	34	41	43	35	81	22	10
Cleveland: (a) Nottingham plant	35	41	37	10	81	37	05
(b) Baldwin	35	41	32	55	81	45	00
(c) Division Ave	35	41	31	10	81	45	50
(d) Clague Rd.	35	41	31	10	81	53	00
Avon Lake	35	41	30	40	82	03	00
Lorain	35, 357	41	28	22	82	11	40
Elyria	35	41	27	24	82	13	15
Vermillion	35, 36	41	25	45	82	22	15
Huron	36, 363	41	24	20	82	33	24
Pium Brook Ordnance Works	36	41	25	50	82	35	40
Sandusky	36, 39, 364, 365	41	27	55	82	38	55
Kelleys Island	36, 39, 364	41	35	30	82	42	35
Put-In-Bay	36, 39, 364	41	38	45	82	48	45
Marblehead	36, 39, 364	41	32	40	82	43	40
Lakeside	36, 39, 364	41	32	50	82	44	45
Port Clinton	36, 37, 39, 364	41	31	15	82	56	20
Camp Perry	37, 39	41	33	50	83	01	10
Toledo	37, 39	41	42	00	83	15	35
Michigan:							
Monroe	37, 39, 376	41	56	15	83	14	20
Enrico Fermi Atomic Power Plant	37, 39	41	57	20	83	14	15
DETROIT RIVER							
Michigan:							
Wyandotte 1	41, 412	42	12	35	83	08	25
Wayne County Water Authority 1	41, 412	42	13	40	83	07	55
Detroit 1	41, 416	42	21	00	82	57	20
LAKE ST. CLAIR							
Michigan:							
Grosse Pointe Farms	42, 416	42	24	12	82	52	45
Mount Clemens	42	42	33	25	82	49	40
New Baltimore	42	42	40	40	82	43	55
Ira Township	42	42	40	10	82	39	20
ST. CLAIR RIVER							
Michigan:							
The Old Club 1	42, 43	42	32	15	82	40	05
The Colony 1	42, 43	42	37	50	82	38	45
Algonac 1	42, 43	42	37	15	82	31	35
Marine City 1	42	42	43	05	82	29	25
East China Township 1	42	42	45	20	82	28	25
St. Clair 1	43	42	49	30	82	28	50
Marysville 1	43	42	54	25	82	27	50
Port Huron 1	43, 51	42	59	00	82	25	30

See footnotes at end of table.

AMENDMENT TO REGULATIONS

[EDITOR'S NOTE.—The following regulations have been promulgated or amended since the last issue of the PROCEEDINGS. A complete text of the regulations may be found in the Federal Register indicated at the end of each article. Copies of the Federal Register containing the material referred to may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER G—REGATTAS AND MARINE PARADES

[CGFR 63-22]

PART 100—SAFETY OF LIFE ON NAVIGABLE WATERS

Pursuant to the notices of proposed rule making published in the Federal Register on February 2, 1963 (28 F.R. 1052-1058), and February 16, 1963 (28 F.R. 1510, 1511), and the Merchant Marine Council Public Hearing Agenda dated March 25, 1963 (CG-249), the Merchant Marine Council held a public hearing on March 25, 1963, for the purpose of receiving comments, views and data.

The proposals considered were identified as Items I through XI. Item X contains proposals regarding Rules of the Road. This item included proposals regarding "Regattas and Marine Parades" which are adopted with minor changes. A number of comments objected to the proposals permitting States to continue to regulate certain regattas. Several States are now performing this work in accordance with existing requirements. This practice will be continued.

The title for Subchapter G is changed from "Marine Regattas or Marine Parades" to "Regattas or Marine Parades." The heading for Part 100 is changed from "Safety of Life on Navigable Waters During Marine Regattas or Marine Parades" to "Safety of Life on Navigable Waters." These heading changes reflect the purpose and intent of regulations and remove words no longer considered necessary.

The provisions of 46 CFR 100.10, regarding Coast Guard-State agreements, were revised on the basis of comments received. The require-

Source, State, and consumer served	Intake location by U.S. Lake Survey Chart Number	Intake location by geographical coordinates					
		North Latitude			West Longitude		
		Deg.	Min.	Sec.	Deg.	Min.	Sec.
LAKE HURON							
Michigan:							
Harbor Beach.....	51	43	51	30	82	38	45
Port Hope.....	51	43	56	45	82	42	00
Point aux Barques.....	52	44	04	15	82	55	20
Bay City.....	52, 524	43	43	02	83	54	05
Saginaw-Midland.....	52	44	06	30	83	31	45
Pinconning.....	52	43	51	25	83	64	10
Alabaster.....	52	44	11	35	83	35	15
East Tawas.....	52	44	16	40	83	29	30
Alpena.....	53	45	02	40	83	25	50
Stoneyport.....	6, 53, 537	45	17	55	83	25	05
St. Ignace.....	6, 60, 70	45	49	45	84	42	25
Mackinac Island.....	6, 60, 70	45	50	60	84	37	50
LAKE MICHIGAN							
Michigan:							
Traverse City.....	70, 706	44	46	20	85	37	30
Ludington.....	77	43	57	45	86	28	30
Muskegon.....	76, 707	43	12	25	86	21	05
Muskegon Heights.....	76	43	10	50	86	10	40
Grand Haven.....	76, 765	43	03	00	86	14	45
Grand Rapids.....	76	42	58	15	86	14	45
Holland.....	76, 763	42	48	00	86	13	40
South Haven.....	76	42	24	00	86	17	40
Benton Harbor.....	75, 758	42	07	50	86	29	10
St. Joseph.....	75, 758	42	05	50	86	30	10
Bridgman.....	75	41	56	35	86	35	05
Menominee.....	702, 723	45	06	40	87	35	55
Escanaba.....	70, 701, 718	45	44	35	87	02	15
Gladstone.....	70, 701, 718	45	50	40	86	59	50
Nahma.....	70, 701	45	50	00	86	59	40
Indiana:							
Long Beach.....	75	41	45	00	86	51	25
Michigan City.....	75	41	44	10	86	54	10
Gary.....	75, 751	41	38	35	87	20	40
East Chicago.....	75, 751	41	39	50	87	24	25
Whiting.....	75, 751, 755	41	40	50	87	28	25
Hammond.....	75, 751, 755	41	42	15	87	20	50
Illinois:							
Chicago: (a) 68th St. crib ¹	75, 751	41	47	10	87	31	55
(b) Four Mile crib ²	75, 751	41	52	50	87	32	45
(c) Harrison crib ²	75, 751, 752	41	55	00	87	34	30
(d) Wilson Ave. crib ²	75, 751	41	58	00	87	35	30
Evanston.....	75, 751	42	03	45	87	39	15
Wilmette.....	75	42	05	15	87	41	00
Kenilworth.....	75	42	06	00	87	42	10
Winnetka.....	75	42	07	15	87	43	30
Glencoe.....	75	42	08	45	87	44	30
Highland Park.....	75	42	11	45	87	45	55
Highwood.....	75	42	12	30	87	47	25
Fort Sheridan.....	75	42	13	40	87	47	40
Lake Forest.....	75	42	16	16	87	48	50
Great Lakes Naval Training Center.....	75	42	18	50	87	48	05
North Chicago.....	75	42	19	25	87	48	45
Waukegan.....	74, 75	42	21	30	87	48	25
Wisconsin:							
Kenosha.....	74	42	35	45	87	47	55
Racine.....	74, 745	42	44	45	87	45	30
Oak Creek.....	74	42	52	45	87	50	00
Carrollville.....	74	42	53	00	87	50	00
South Milwaukee.....	74	42	54	05	87	50	15
Cudahy.....	74	42	57	20	87	50	00
Milwaukee: (a) North intake.....	74	43	04	55	87	50	50
(b) South intake.....	74	43	00	10	87	51	15
Whitefish Bay.....	74	43	08	10	87	53	00
Port Washington.....	74	43	23	30	87	51	00
Sheboygan.....	73	43	46	35	87	41	10
Manitowoc.....	73, 735	44	04	44	87	38	55
Two Rivers.....	73	44	07	55	87	33	25
Green Bay.....	70, 73, 703	44	30	15	87	27	35
Marinette.....	702, 723	45	05	00	87	35	00
LAKE SUPERIOR							
Michigan:							
White Pine.....	95	46	50	10	89	34	15
Calumet.....	94	47	16	45	88	32	10
Copper Harbor.....	94	47	28	25	87	53	20
Baraga.....	94, 943	46	46	40	88	28	50
L'Anse.....	94, 943	46	45	45	88	27	30
Marquette.....	93, 935	46	32	45	87	21	55
Munising.....	93, 931	46	26	40	86	40	50
Sault Ste. Marie.....	93, 92	46	29	30	84	25	20
Wisconsin:							
Ashland.....	96, 961, 964	46	36	20	90	52	30
Washburn.....	96, 961, 964	46	40	25	90	52	50
Superior.....	96, 966	46	43	05	92	02	05
Minnesota:							
Duluth.....	96	46	51	40	91	57	30
Two Harbors.....	96	47	01	10	91	39	25
Beaver Bay.....	96, 97	47	15	10	91	18	00
Silver Bay.....	97	47	17	50	91	14	30
Grand Marais.....	97	47	44	40	90	20	45

¹ Restricted area extends from three miles upstream to one-half mile downstream of the intake.
² Restricted area is a circle having a radius of four miles around this intake.

[F.R. Doc. 60-8578; Filed, Sept. 15, 1960; 8:45 a.m.]

ment in 46 CFR 100.15(c) that the application shall be submitted not less than 60 days prior to the start of the regatta or marine parade was modified to 30 days as suggested in one of the comments. Minor changes were also made in 46 CFR 100.20, 100.25 and 100.30. This document is the third in a series containing the regulations considered at the March 25, 1963, Public Hearing.

(Federal Register of May 23, 1963.)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER K—SECURITY OF VESSELS [CGFR 63-26]

PART 124—CONTROL OVER MOVEMENT OF VESSELS

Vessels After Arrival at First U.S. Port of Call on Great Lakes No Longer Required To Furnish Itineraries

By Executive Order 10173 the President found that the security of the United States is endangered by reason of subversive activities and prescribed certain regulations relating to the safeguarding against destruction, loss, or injury from sabotage, or other subversive acts, accidents, or other causes of similar nature to vessels, ports, and waterfront facilities in the United States and all territory and waters, continental or insular, subject to the jurisdiction of the United States exclusive of the Canal Zone.

Pursuant to the authority of 33 CFR 6.04-5 in Executive Order 10173 (15 F.R. 7007; 3 CFR, 1950 Supp.) the Captain of the Port may supervise and control the movement of any vessel and shall take full or partial possession or control of any vessel or any part thereof when within the territorial waters of the United States under his jurisdiction whenever it appears to him that such action is necessary in order to secure such vessel from damage or injury to any waterfront facility or waters of the United States or to secure the observance of rights and obligations of the United States.

The provisions of 33 CFR 124.10 set forth the regulations governing the advance notice of a vessel's estimated time of arrival to be furnished to the Captain of the Port. The purpose for canceling 33 CFR 124.10(b)(3) is to remove the requirement that certain vessels after arrival in U.S. ports on the Great Lakes shall furnish the Captains of the Port itineraries giving

the intended ports of call on the Great Lakes and the estimated dates of arrival. This information is no longer necessary in providing an effective control over the movement of vessels on the Great Lakes.

It is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule-making procedures thereon, and effective date requirements thereof) is unnecessary.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order 10173, as amended by Executive Orders 10277 and 10352, I hereby cancel only the provisions in § 124.10(b)(3), effective upon the date of publication of this document in the Federal Register:

§ 124.10 Advance notice of vessel's time of arrival to Captain of the Port.

(b) * * *

(3) (Canceled.)

(Sec. 1, 40 Stat. 220, as amended; 50 U.S.C. 191; E.O. 10173, 15 F.R. 7005, 3 CFR, 1950 Supp., E.O. 10277, 16 F.R. 7537, 3 CFR, 1951 Supp., E.O. 10352, 17 F.R. 4607, 3 CFR, 1952 Supp.)

Dated: May 23, 1963.

[SEAL]

D. MCG. MORRISON,
Vice Admiral, U.S. Coast
Guard, Acting Commandant.

[F.R. Doc. 63-5692; Filed, May 28, 1963; 8:50 a.m.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER C—UNINSPECTED VESSELS [CGFR 63-24]

PART 25—REQUIREMENTS

Lifesaving Appliances and Fire Extinguishers

Pursuant to the notices of proposed rule making published in the Federal Register on February 2, 1963 (28 F.R. 1052-1058), and February 16, 1963 (28 F.R. 1510, 1511), and the Merchant Marine Council Public Hearing Agenda dated March 25, 1963 (CG-249), the Merchant Marine Council held a Public Hearing on March 25, 1963, for the purpose of receiving comments, views and data.

The proposals considered were identified as Items I to XI, inclusive. Item II contained proposals regarding uninspected vessels. The first proposal concerned "life preservers and other lifesaving equipment," and dealt with markings required,

maintaining lifesaving equipment in good and serviceable condition, and permitting motorboats and motor vessels, when the service is such that children are never carried, to be relieved of the requirement for providing 10 percent additional life preservers suitable for children. The second proposal concerned "fire extinguishers: barges carrying passengers," and dealt with requiring barges when actually carrying passengers to be fitted with portable fire extinguishers. These proposals are adopted without change. This document is the sixth of a series covering the regulations and actions considered at the March 25, 1963, Public Hearing.

(Federal Register of May 14, 1963.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER B—MERCHANT MARINE OFFICERS AND SEAMEN [CGFR 63-20]

PART 10—LICENSING OF OFFICERS AND MOTORBOAT OPERATORS AND REGISTRATION OF STAFF OFFICERS

Licenses for Deck and Engineer Officers

Pursuant to the notices of proposed rule making published in the Federal Register on February 2, 1963 (28 F.R. 1052-1058), and February 16, 1963 (28 F.R. 1510, 1511), and the Merchant Marine Council Public Hearing Agenda dated March 25, 1963 (CG-249), the Merchant Marine Council held a public hearing on March 25, 1963, for the purpose of receiving comments, views and data.

The proposals considered were identified as Items I through XI. Item III contained proposals regarding examination subjects for licenses as chief mate, ocean and coastwise, and for licenses as engineer officers of steam or motor vessels. These proposals are adopted without change. The amendment to 46 CFR 10.05-45 (b) adds the subject "stability and ship construction" to the list of required examination subjects for licenses as ocean or coastwise chief mate. The new regulation designated 46 CFR 10.10-4 describes the examination subjects for licenses as engineer officers of steam or motor vessels. This document is the second in a series containing the regulations considered at the March 25, 1963, Public Hearing.

The amendments to 46 CFR 10.02-5 (g)(1) and 10.02-7(f)(2) provide for

a change in Coast Guard procedures regarding license applications. In the future the certificates of discharge furnished by applicants for original licenses or for raises of grade will be returned after the applicant's service has been authenticated. It is hereby found that these changes are exempt from the requirements of the Administrative Procedure Act. (Federal Register of May 15, 1963.)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

[CGFR 63-23]

SUBCHAPTER E—NAVIGATION REQUIREMENTS FOR THE GREAT LAKES AND ST. MARYS RIVER

PART 90—PILOT RULES FOR THE GREAT LAKES

Starting, Stopping and Backing Signals

The following revision of § 90.15(d) is prescribed and shall be effective 30 days after the date of publication of this document in the Federal Register.

§ 90.15 Distress signals; posting of rules; diagrams; starting, stopping and backing signals.

(d) *Starting, stopping and backing signals.* (1) The signals between the master or pilot and the engineer, when made by a bell, gong or whistle, shall be as follows:

- | | |
|---------------------------------|------------|
| 1 whistle, bell or gong----- | Go ahead. |
| 1 whistle, bell or gong----- | Stop. |
| 2 whistles, bells or gongs----- | Back. |
| 3 whistles, bells or gongs----- | Check. |
| 4 whistles, bells or gongs----- | Strong. |
| 4 whistles, bells or gongs----- | All right. |

(2) Two whistles, two bells or two gongs shall always mean back, irrespective of other signals previously given.

(Federal Register of May 11, 1963.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 63-19]

DANGEROUS CARGO REGULATIONS

Miscellaneous Amendments

Pursuant to the notices of proposed rule making published in the Federal Register on February 2, 1963 (28 F.R. 1052-1058) and February 16, 1963 (28 F.R. 1510, 1511), and the Merchant

Marine Council Public Hearing Agenda, dated March 25, 1963 (CG-249), the Merchant Marine Council held a Public Hearing on March 25, 1963, for the purpose of receiving comments, views and data. The proposals considered were identified as Items I to XI, inclusive. Item VIII contained the proposals regarding dangerous cargoes and Item XI contained the proposals regarding the inflammable and combustible liquids and compressed gases (CG-249, VIII, pages 211-257, XI, pages 277-293). This document is the fourth of a series covering the regulations and actions considered at this public hearing and annual session of the Merchant Marine Council.

As announced at the public hearing, the final actions with respect to the proposals regarding "poisonous articles—radioactive materials" (CG-249, VIII, pages 220-246) were deferred so that the requirements of the Interstate Commerce Commission and the Coast Guard will be in agreement when published. The ICC notice of proposed rule making on this subject was published in the Federal Register on April 19, 1963 (28 F.R. 3876-3888). This postponement of final action was also requested by the Atomic Energy Commission so that the Commission could review both the ICC and Coast Guard proposals and submit identical comments with respect to identical proposals. The text of all comments received by the Coast Guard have been made available to the Interstate Commerce Commission. The comments submitted to the Interstate Commerce Commission on subjects included in the Coast Guard proposals will be also considered as comments on the Coast Guard proposals.

Based on comments received at the public hearing, the proposed entry for castor beans and castor pomace in 46 CFR 146.27-100 was changed to provide for sift proof bags as containers for the castor beans as well as for the pomace.

The other proposals in Item VIII which were changed to reflect improvements based on comments received were 46 CFR 146.20-100 and 146.20-200. These changes substituted "Commandant" for "ICC" with respect to approving alternate methods for packing "jet thrust units (jato) Class A and Class B."

With respect to the proposals regarding "inflammable and combustible liquids and compressed gases" in Item XI (CG-249, pages 283, 287, 288), changes were made as a result of comments received. The provisions of 46 CFR 146.21-15 and 146.21-100 were

modified so as to allow inflammable liquids to be transported on a train-ship or trailership on a first deck below the weather deck stowage. A number of comments reflected concern if these proposals were applicable to specific types of vessels; however, no change in the proposals were deemed to be necessary.

Except for the proposals concerning "poisonous articles—radioactive materials," which will be acted on at a later date, the proposals in Items VIII and XI, as revised, are adopted and they are set forth in this document.

The provisions of R.S. 4472, as amended (46 U.S.C. 170), require that the land and water regulations governing the transportation of dangerous articles or substances shall be as nearly parallel as practical. The provisions in 46 CFR 146.02-18 and 146.02-19 make the Dangerous Cargo Regulations applicable to all shipments of dangerous cargoes by vessels. The Interstate Commerce Commission in Order Nos. 57, 58, and 59 has made changes in the ICC regulations with respect to definitions, descriptive names, classifications, specifications of containers, packing, marking, labeling, and certification for certain dangerous cargoes, which are now in effect for land transportation. Various amendments to the Dangerous Cargo Regulations in 46 CFR Part 146 have been included in this document in order that these regulations governing water transportation of certain dangerous cargoes will be as nearly parallel as practicable with the regulations of the Interstate Commerce Commission which govern the land transportation of the same commodities. For those changes in 46 CFR Part 146, which involve changes other than shippers' requirements, the proposed amendments were considered at the Merchant Marine Council Public Hearing held on March 25, 1963.

The amendments to 46 CFR Part 146, which were not described in the Federal Register of February 2, 1963 (28 F.R. 1056) and February 16, 1963 (28 F.R. 1510), are considered to be interpretations of law, or revised requirements to agree with existing ICC regulations, or relaxations of previous requirements, or changes which are editorial in nature, and it is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule-making procedure thereon, and effective date requirements thereof) is unnecessary with respect to such changes.

(Federal Register of May 30, 1963.)

DEPARTMENT OF DEFENSE

Department of the Navy

[No. 22c]

CERTAIN CLASSES AND TYPES OF NAVAL VESSELS

Navigational Light Waivers

Whereas, 33 United States Code, sections 143a and 360, provides that the requirements of the Regulations for Preventing Collision at Sea, 1948, the Inland Rules, the Great Lakes Rules and the Western River Rules as to the number, position, range of visibility, or arc of visibility of lights required to be displayed by vessels shall not apply to any vessel of the Navy where the Secretary of the Navy shall find or certify that, by reason of special construction, it is not possible for such vessel or class of vessels to comply with the statutory provisions as to navigation lights, and

Whereas, a recent study indicates that the military design characteristics of the command ship, known as the CC-2 class of vessels converted from an aircraft carrier preclude the installation of the masthead, range and towing lights in conformance with currently existing waivers as to masthead and range lights and with Rules 2a (ii) and (iii) and 3a of the Regulations for Preventing Collision at Sea (33 United States Code, sections 145 and 145a).

Now, therefore, I, Fred Korth, Secretary of the Navy, do hereby certify that command ships, of CC-2 class converted from aircraft carriers, are naval vessels of special construction and with respect to the position of masthead, range and towing lights on such vessels, it is not possible to comply with the requirements of the statutes enumerated in sections 143a and 360, Title 33, United States Code.

Further, I do find that it is feasible to locate the said navigation lights as follows:

(a) The masthead light shall be carried at a height of 15 feet or more above the hull.

(b) The ratio of the horizontal to the vertical distance between the masthead light and the range light shall be 2.0 or greater to 1; however, the horizontal distance between the forward and after 20 point white lights shall be 30 feet or greater.

(c) The towing lights will meet the requirements for vertical separation; however, the lower light will be located from three to nine feet above the hull.

(d) The visibility of the range light will be obstructed for several degrees on the port side.

Further, I certify that such locations and installation constitute compliance as closely with the applicable statutes as I hereby find to be feasible.

I do specify that this waiver amends the consolidated tabulation of lights described in Waiver Certificate No. 22 published in Federal Register, Volume 25, page 5791, 1960 by adding "CC2 (command ship converted from aircraft carrier)" to those vessels described in Table One as Aircraft Carriers and adding in the succeeding columns applicable to such ships the following:

	1st column	2d column
CC2 command ships.	25	None.
	3d column	4th column
CC2 command ships.	2.0 or greater to 1.	30 or greater.

Note 11 to follow Table 2 is attached to and is made a part of this waiver certificate.

I do specify further that the effective date of this certificate is May 1, 1963.

Dated at Washington, D.C., this 19th day of April 1963.

[SEAL]

FRED KORTH,
Secretary of the Navy.

11. On certain command ships (CC2 type converted from aircraft carrier hull), the following additional variations exist:
(a) Towing lights, when displayed, will meet the requirements for vertical separation; however, the lower light will be located 3-9 feet above the hull.



161.009 CELLS, DRY (FOR FLASHLIGHTS)

The following dry cell has been found to comply with paragraph 161.008-5(d) of U.S. Coast Guard Specifications Subpart 161.008 for Flashlights, Electric, Hand, dated January 11, 1950. This cell may be used for lifeboat and liferaft flashlights:

Union Carbide Consumers Products Co., 270 Park Ave., New York 17, N.Y. EVEREADY NO. E95.

(b) 5 degrees of the arc of visibility of the range light is obstructed at a point commencing approximately 2½ points forward of the port beam.

(c) The number and position of the forward and after anchor lights is the same as other classes of aircraft carriers herein described in Note 3b and 3c attached to Waiver Certificate No. 22.

(d) The lights mentioned in Table One with respect to CC2 type ships are located on the center or keel line.

[F.R. Doc. 63-4806; Filed, May 3, 1963; 8:49 a.m.]

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from May 1 to May 31, 1963, 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" is as follows:

CERTIFIED

Lester Laboratories, Inc., Post Office Box 4897, Atlanta 2, Ga., No. 563, dated May 10, 1963, VAPSOL.

AFFIDAVITS

The following affidavits were accepted during the period from April 15, 1963, to May 15, 1963:

Farris Engineering Corp., 400 Commercial Ave., Palisades Park, N.J., VALVES.

Russell, Burdshall & Ward Bolt & Nut Co., Port Chester, N.Y., BOLT-ING.

Carlton Products Corp., P.O. Box 133, Aurora, Ohio, PIPE AND FITTINGS.

Coast Industrial Supply Co., 4494 East 49th St., Los Angeles 58, Calif., BOLTING.

The Dynex Co., 777 Dynex Drive, Pewaukee, Wis., VALVES AND FITTINGS.

Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh 30, Pa., PIPE AND TUBING.

William E. Williams Valve Corp., 143 Waterbury St., Brooklyn 6, N.Y., VALVES.

Frank Wheatley Corp., 125 West First St., Tulsa, Okla., VALVES.

Stockham Valves & Fittings, 4000 10th Ave., North, Birmingham 4, Ala., VALVES, FITTINGS & FLANGES.

Nibco Inc., 500 Simpson St., Elkhart, Ind., FITTINGS.

¹The following names will be deleted in the Formerly approved Affidavit Section in the revised edition of CG-190. Jones & Laughlin Steel Corp., Stockham Valves & Fittings, and Nibco Inc.

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications that are directly applicable to the Merchant Marine are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard. The date of each publication is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7-1-58).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8-1-62).
115	Marine Engineering Regulations and Material Specifications (2-1-61). F.R. 9-30-61, 9-11-62, 12-28-62, 4-4-63.
123	Rules and Regulations for Tank Vessels (1-2-62). F.R. 5-2-62, 9-11-62, 2-6-63, 4-4-63, 5-30-63.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (6-1-62), F.R. 1-18-63, 5-23-63, 5-29-63.
172	Rules of the Road—Great Lakes (6-1-62). F.R. 8-31-62, 5-11-63, 5-23-63, 5-29-63.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (7-2-51).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (9-1-60).
176	Load Line Regulation (9-1-61). F.R. 7-27-62, 11-14-62, 2-2-63.
182	Specimen Examinations for Merchant Marine Engineer Licenses (12-1-59).
184	Rules of the Road—Western Rivers (6-1-62). F.R. 1-18-63, 5-23-63, 5-29-63.
190	Equipment Lists (4-2-62). F.R. 5-17-62, 5-25-62, 7-24-62, 8-4-62, 8-11-62, 9-11-62, 10-4-62, 10-30-62, 11-22-62, 11-24-62, 12-29-62, 1-4-63, 1-8-63, 2-7-63, 2-27-63, 3-20-63, 4-24-63.
191	Rules and Regulations for Licensing and Certifying of Merchant Marine Personnel (6-1-62). F.R. 10-4-62, 12-28-62, 1-22-63, 5-15-63.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (7-1-58). F.R. 3-30-60, 5-6-60, 12-8-60, 7-4-61, 5-2-62, 10-5-62.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4-1-57).
227	Laws Governing Marine Inspection (7-3-50).
239	Security of Vessels and Waterfront Facilities (8-1-61). F.R. 11-3-61, 12-12-61, 8-8-62, 8-31-62, 11-15-62, 1-30-63, 3-27-63, 5-29-63.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (1-2-62). F.R. 5-2-62, 9-11-62, 12-28-62, 4-4-63, 5-30-63.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (11-1-62). F.R. 2-1-63, 2-6-63, 3-13-63, 4-4-63, 5-30-63.
258	Rules and Regulations for Uninspected Vessels (9-1-61). F.R. 1-20-62, 4-24-62, 5-2-62, 9-11-62, 5-14-63.
259	Electrical Engineering Regulations (12-1-60). F.R. 9-30-61, 9-23-61, 5-2-62, 9-11-62.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-62). F.R. 9-11-62.
268	Rules and Regulations for Manning of Vessels (2-1-63).
269	Rules and Regulations for Nautical Schools (3-1-60). F.R. 3-30-60, 8-18-60, 11-5-60, 7-4-61, 9-30-61, 12-13-61, 5-2-62, 9-11-62.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11-19-52). F.R. 12-5-53, 12-28-55, 6-20-59, 3-17-60.
293	Miscellaneous Electrical Equipment List (6-1-62).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10-1-59). F.R. 10-25-60, 11-3-61, 4-10-62, 4-24-63.
323	Rules and Regulations for Small Passenger Vessels (Not More Than 65 Feet in Length) (6-1-61). F.R. 9-11-62, 10-5-62, 12-28-62, 1-22-63.
329	Fire Fighting Manual for Tank Vessels (4-1-58).

Official changes in rules and regulations are published in the Federal Register, which is printed daily except Sunday, Monday, and days following holidays. The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. It is furnished by mail to subscribers for \$1.50 per month or \$15 per year, payable in advance. Individual copies desired may be purchased as long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue and will be 15 cents unless otherwise noted in the table of changes below.

CHANGES PUBLISHED DURING MAY 1963

The following have been modified by Federal Registers:

- CG-172 Federal Register, May 11, 1963.
- CG-258 Federal Register, May 14, 1963.
- CG-191 Federal Register, May 15, 1963.
- CG-169, CG-172 and CG-184 Federal Register, May 23, 1963.
- CG-169, CG-172, CG-184 and CG-239 Federal Register, May 29, 1963.
- CG-123, CG-256, CG-257 and Dangerous Cargo Regulations Federal Register, May 30, 1963.

