



COAST GUARD

PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



Safety Aboard General Agency Agreement Ships. . .

Some Safety Training Tools. . .

PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, Washington, D.C. 20591, 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 Director of the Bureau of the Budget, February 26, 1968.

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FRONT COVER: A Striking photograph of the *African Glade* and *J. L. Luckenback*, as viewed close by from the tug *Margaret A. Moran* by Jeff Blinn. *Courtesy of Moran Towing Co.*
 BACK COVER: "Work with and under a Safety Knot", *Courtesy of the National Safety Council.*

DIST. (SDL NO. 88)

A: abcde(2); fghijklmnopqrstuv(1)
 B: n(40); c(16); e(5); f(4); gh(3); bikmpq(1)
 C: abcdefginnou(1)
 D: i(5); abdefklmruvw(1)
 E: d(1)
 F: p(1)
 Lists 141M, 111, 203

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SAFETY ABOARD GENERAL AGENCY AGREEMENT SHIPS

Norman L. Queen

Safety Officer, Maritime Administration, Washington, D.C.

WHEN SPEAKING OF safety among seamen aboard ship, we are often tempted to resort to statistics to support our remarks. Certainly, the safety of our seamen deserves more than a passing remark bound between numerical covers. Figures presented often relegate our seamen into a faceless mass of humanity mixed with such a conglomeration of figures that their image becomes hazy. Statistics, when they produce this result, rob the listener of much of his enthusiasm for safety. Please do not misunderstand me—statistics are important; we can hardly discuss safety without them. They are a very important tool for presenting an overall portrait of any particular program, but surely we can limit them. The seaman is not just a number—he is actually a relatively scarce commodity in the labor field. It is our job, then, to help him protect himself, and in so doing we will be keeping the U.S. pipeline to the world open.

We are ever mindful of what accidents represent—they are human suffering accompanied by the loss of income, jobs, and in some cases, the loss of life. There is no need for me to dwell on the many after effects that an accident has upon the seaman's family—we don't have to be told that an accident often produces personal tragedy. When multiplied in numbers accidents extend far beyond what is seen on the surface. Under

From an address before the 1968 Marine Section, of the National Safety Congress and Exposition.

the surface, accidents resulting in injuries become personal tragedies not only to the individual concerned but in some cases for the shipping companies as well.

By agreement, the Federal Government either directly or indirectly pays the majority of the costs for injuries to personnel and damage to property resulting from accidents involving the operation of government ships. A tremendous amount of capital is paid out, or must be held in reserve for future payment on injury claims. It is an acknowledged fact that injuries are expensive, not only in suffering and lost time, but in actual cash as well.

For example, in 1967 the cost of injuries only aboard General Agency agreement ships amounted to approximately \$970,000 and an additional \$1,087,000 is in reserve to cover future judgements which may be handed down on these injury claims. Combining these figures we arrive at a total of approximately \$2,057,000, and if that sum seems tremendous let us look in retrospect. From the inception of the General Agency program in July 1965 until March 31, 1968, the latest date for which complete figures are available, some 11,000

claims of varying types have been reported. Many of these claims have been settled. However, a large number are still pending, and it is estimated that these 11,000 accident claims, which include claims of sickness and property damage in addition to injuries, will eventually cost about \$12,743,000. A total of \$8,469,000 has already been paid by the insurance carrier.

The General Agency operation is commercially insured in part, with the protection and indemnity insurance, covering such contingencies as injury or illness of seamen, fines and penalties, and other hazards. This coverage becomes effective for each ship as the ship is accepted by the Military Sea Transportation Service, the day the vessel leaves the reactivation yard, or the day the crew signs articles, whichever comes first. The insurance premium for the period from July 1965 to March 1968 was \$8,391,000. These figures illustrate that business and the government suffer as well as the seamen when accidents and injuries occur aboard ship.

A prime reason for commercially insuring for protection and indemnity is that we receive the use of the World-wide claims settling facilities of companies engaged in servicing P&I insurance claims. Hull and machinery accident losses are wholly assumed obligations of the United States.



Photo courtesy Esso Shipping Co.

Training is essential in any safety program. The correct response to an emergency must be automatic. Here a crew prepares for the worst—fire aboard ship. This training drill allows the crew to practice the proper method of extinguishing a fire in an upper pumproom, using water fog.

What has been done to help the seaman help himself? During the Korean War when many ships were re-activated from our National Defense Reserve Fleet it was found that a large number of general agents did not have a formal safety program in force in the ships they were operating. The Maritime Administration, accordingly, developed and promulgated *Minimum Requirements for Safety Procedures for National Shipping Authority Ships*. These standards have been adopted by quite a number of companies as the nucleus of their present safety programs. During the present Southeast Asian conflict, the Maritime Administration has again distributed these standards to all general agents for their guidance. It should be understood that these standards did not have to be adopted by any company—they were intended to be used as a guide to start

a safety program, or to supplement an existing program.

As may be expected with programs of the national scope of ours, we have not had 100-percent cooperation. A few general agents have not sent us *Tabulation of Accident* reports covering all quarters for National Shipping Authority ships which they operate.

Our objective is to attain the same goal in maintaining a safe place to work—eliminating accidents and injuries, preventing human suffering and loss, and reducing the high costs which result from injuries. Our policy is to promote the safe operation of General Agency operated ships for the protection of personnel and government property. The general agents in turn, are required to issue statements of policy on safety, to instruct their shore staff, their ship masters, and other officers aboard their

ships in the prevention of accidents involving personnel and property under their supervision. They are urged to take reasonable steps to encourage shipboard personnel to improve their job proficiencies by correspondence courses, and on the job training. They are required to create a minimum safety organization consisting of a coordinator and shipboard safety committees. This establishes, promotes, and perpetuates the accident prevention effort; it also makes the ship masters aware of their responsibilities for the adequacy of the safety program.

Each general agent is also expected to consider and act promptly upon suggestions and recommendations for safer operation. The coordinator would under our policy, be the safety officer designated by the general agent. This safety officer is assigned from qualified personnel of the general agent's port staff. It's this person's duty to stimulate and direct the safety program. He directs the program, within the limits of authority granted him by management, at all levels of supervision on matters pertaining to safety. He reviews accident reports and submits regular statements to the general agent or his designee on the accident rate and the status of the safety program generally; and, finally, he prepares reports for submission to the National Shipping Authority by the general agent.

Here are a few of the National Shipping Authority general agent reports for which he is responsible: The GAA safety officer must review shipboard committee minutes and accident investigation and inspection reports. He is required to maintain a log on the status of recommendations and suggestions for guidance of management, and to screen and prepare digests of those recommendations and suggestions considered to be of sufficient interest and value as to warrant dissemination to all NSA ships.

The GAA safety officer also initiates activities which will stimulate

and maintain the interest of employees in safety. This is definitely the point where enthusiasm is a prerequisite to success. Enthusiasm, as we see it, must come from the top if it is to have a penetrating effect on the employees aboard ship, otherwise they remain unimpressed and are blind to the hazards around them. We endeavor to be enthusiastic about our safety program—we must be, for it is a guide for the preservation of health and life among seamen aboard ship.

Our safety procedure requirements do not end with the GAA safety officer. On the contrary, they are prominent among the responsibilities of ship masters, and on down the line. Ship masters are responsible for the adequacy and direction of the safety program in their ships, including but not necessarily limited to the following:

A shipmaster is required to acquaint all shipboard personnel with safety policy of the company. He must apply accepted safety standards to all shipboard operations and take prompt decisive action on safety suggestions and recommendations. It is the master's duty to report and investigate accidents, review and take prompt action on accident records, and inaugurate the shipboard training necessary to eliminate accidents. This training includes instruction in the utilization of firefighting and damage control equipment and in the use and maintenance of personal protective and rescue equipment.

The master is required to organize a shipboard safety committee or committees composed of himself or his designee, as chairman. Heads of departments and unlicensed crew members from each department usually constitute shipboard safety committees. The primary purpose of a shipboard safety committee is the stimulation and maintenance of interest, and education of shipboard personnel, in accident prevention. The safety committee is required to undertake, but



During an emergency drill a crew learns to man and launch a lifeboat in a matter of seconds. Regular training makes for swift execution of the necessary procedures.

not necessarily be limited to, these items of responsibility:

The committee must consider, discuss, and recommend action on safety recommendations and suggestions. They must review reports of accidents, participate in the investigation of serious accidents, and make specific recommendations toward the prevention of recurrences. They are required to check and report on progress being made to correct firefighting and damage control deficiencies found during shipboard instruction-demonstration drills.

They must report on training progress in the utilization of firefighting and damage control equipment. It

deserves mention here that though there have been a number of fires at sea recently, there have been none reported aboard GAA ships—this will serve as testimony on behalf of the excellent fire safe procedures and practices employed aboard the GAA ships.

Briefly then, the minimum program includes four items:

1. Top management interest in sponsoring formal accident prevention programs.
2. Assignment of a member of the operating staff to the duty of safety officer to coordinate safety activities of the company.

3. Establishment of safety committees aboard every ship for the purpose of investigating and discussing accidents at regular intervals and recommending steps to prevent similar accidents in the future.

4. Keeping adequate records of all injuries and accidents and disseminating pertinent information for corrective action and future guidance.

I have outlined the responsibilities incorporated in the suggested safety program of the Maritime Administration. We do not, however, assume that all safety measures are contained in it, or that additional measures may not be required to satisfy exceptional conditions or circumstances.

We have published, and made available sufficient copies for each GAA ship, a manual called *Safety Aboard Ship* which contains information on accident reporting, investigation, analysis, and summarization. It also covers safety inspection procedures and on the job training methods, and has a chapter on hand tools, fire prevention and galley safety, to mention a few. This safety information was compiled as minimum guidance material and is in no way intended to displace or materially modify any safety standards presently prescribed by the general agents.

On the job safety training is one of the most important aspects of a safety program. This is the phase in which the trainee is taught to assume his share of the responsibility of working safely. Many accidents can be prevented when men are made safety conscious. Safety and morale go hand in hand. Developing safety through an effective safety program represents good seamanship and it is an essential management practice.

The number of disabling injuries sustained by seamen on GAA ships in each million manhours of operation has been substantially lower than the all-industry marine rate. For example, in 1967 the GAA frequency rate was 6.6 as compared with the overall marine industry rate of 20.2. In arriving at the frequency rate for the year we considered only the ex-

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From 1939 to 1954 Mr. Queen served in various positions with the Bureau of Training, U.S. Maritime Commission, and was associated with the Division of Reserve Fleets, U.S. Maritime Administration, from 1956 to 1961. Mr. Queen, who is a retired commander in the Naval Reserve, has held his present position since 1961.

posure hours for those ships from which injury data reports were received.

Granted that seagoing men are supposed to know how to do their work, there is nevertheless a real need for continuing job instruction aboard ship. Little mistakes and errors of judgment are usually found to have been the cause of most accidents involving seamen. We find that our greatest injury incidence is in two categories—first, "striking against"; second, "falls on the same level." This brings out the fact that it is absolutely essential for each person aboard ship to assume the responsibility for protecting his own physical well being as well as that of his shipmates by promptly cleaning up oily and greasy decks, keeping areas clear of obstruction, and giving full time and attention to work being performed around him. He must avoid unnecessary haste, chance-taking, poor judgment, and, lastly, he must be able to recognize and respect hazardous conditions.

There are a multitude of other minor unsafe physical conditions to be encountered aboard ship. The only way to avoid the injuries these conditions can cause is through constant, effective, and interesting on the job instructions for all members of a ship's crew. We strive to influence them to work safely. By doing so, we teach them to conserve material, save time, and prevent injuries; all of

which goes toward improving the operating efficiency of the vessel.

It is in basic work functions that instruction is most needed. Workers must be taught the proper way to use knives and other hand tools, how to lift or move heavy bulky objects, and the proper way to ascend and descend ladders and ship's rigging. It takes time, of course, to instruct men—but it is more time consuming and costly to treat the injured and to repair the damage that results from accidents. The cost of an accident far exceeds the cost of preventing it!

One other source of accidents which is of great concern to us are fights aboard ship, misbehaving, and imbibing too freely. This is understandable when we consider the fact that many seamen do things that they should not, and occasionally they are not proud of the things they do. I believe we received a first in a tabulation report we received from one of our general agents. This report indicated that a seaman who had come aboard "under the influence" decided to go swimming. He proceeded to the rail of the flying bridge, from which he projected himself into space. His diving form was beautiful but his aim was poor, and he landed on deck instead of in the water. His sudden stop must have been very painful; and the long stay he had in the hospital, confining; to say nothing of the tremendous cost involved in repairing the physical damage his accident caused.

With the return to service of ships from the National Defense Reserve Fleet, seamen who have not been to sea for years are returning to seagoing jobs. They are understandably a little rusty in their techniques. They need instruction in the proper and safe way of doing their jobs, and such instruction must include serious discussions of the hazards of their particular job and the way these dangers can be avoided.

Teaching is basically a matter of helping a man learn, and this learning process is the prime purpose behind our suggested safety outline, our

manual, and our safety directives. We are trying to help a man learn and form the habit of taking an active and enthusiastic part in a program designed to protect him as he works.

We do not wish to give the impression that our safety outline is foolproof and not subject to becoming outdated or in need of revision. We keep an open mind and try to keep abreast of the rapid changes taking place aboard ship. We believe our outline, in its present state, is the best that can be maintained on a current basis.

A definite obligation of the Maritime Administration under the *Merchant Marine Act of 1936* is to foster the construction of the safest ships

afloat by cooperating with steamship companies in their efforts to further marine safety. While we can help at the government level, the steamship companies must assume strong initiative and exercise untiring vigilance in their respective organization for safety.

I would be remiss if I did not give credit where credit is due. I have been saying all along, "Our safety program," because we are enthusiastic about it. We have, however, drawn on materials and data prepared by many agencies engaged in helping to make our outline a good one. We acknowledge contributions, and appreciate being a party to the exchange of safety information. There is informa-

tion contained in the manual *Safety Aboard Ship* from the Pacific Maritime Association, the National Safety Council, the Department of the Navy, and our own Maritime Administration. This booklet is helping us reach our common goal, and that goal is the reduction of accidents among seamen. As I said at the beginning, seamen are not just statistics or a faceless mass of humanity with us at the Maritime Administration. They are real people with special needs and dreams of their own and a right to a safer life aboard their ship. Let us be enthusiastic enough to give them meaningful guidance to a safer life, and by so doing help reduce the tremendous cost of injuries aboard GAA ships that you and I as taxpayers indirectly pay. \$

CARGO GEAR SAFETY

A thorough inspection should be made of all ships' cargo handling gear and equipment prior to the beginning of each loading or discharging operation. The following facts must be understood by every seaman to ensure the gear is in safe working condition.

FALLS

Falls are subject to wear in the eye and on the drum, and must be inspected frequently, even during the course of operations to see that they have not been seriously damaged through unusual conditions.

BLOCKS

The sheaves and swivels of blocks should be inspected frequently to be sure that they are properly lubricated and turn freely; otherwise, severe and wasteful abrasion of the fall and of the block itself will occur. Shackles holding blocks and all other gear aloft should be inspected frequently to be sure that mousings, or preferably, the nuts on safety-type shackles, are secure.

BOOMS

Proper lubrication of the gooseneck

is very important. At the high angles at which booms on double-gearred hatches are used, a great deal of force applied to slew the boom acts to bend it at the gooseneck. Unless the pin turns freely in the socket, it is very likely that the gooseneck will be bent or cracked. It would be advisable to avoid trying to slew the boom while it is topped very high under any circumstances. Fair leads on the booms should be inspected to see that the sheave turns freely.

GUY

Depending on where the head of the boom is spotted, the guy may be subject to a heavy strain. Therefore, it is important that the hauling parts of them be inspected frequently and replaced as soon as any deterioration is noted. On occasion, the thimbles securing the end of the guy to the becket may become twisted causing the sharp edges of the throat of the thimble to cut into the manila. This is a small matter which can easily be corrected but which, if ignored, increases the chance of failure.

TOPPING LIFTS

The most common problem with topping lifts is that they become badly kinked and wickered, making them difficult and dangerous for men to handle on the gypsy. Where topping lift winches are provided, care should be taken to see that the topping lift is long enough to permit the boom to be lowered to deck level even if the boom rest may be considerably higher. If the size of the drum will not permit such a long topping lift, the end of the wire should be securely fastened to the drum so that if it is all payed out, the boom will not be dropped.

BRIDLES

Beam and pontoon bridles should be kept in good condition. Splices should be served to prevent hand injuries. Bridles should be equipped with a substantial fiber rope lanyard at least eight feet long.

A SHORT-CUT CAN SHORTEN
A LIFE

‡

Courtesy Lykes Lines Safety Bulletin

SOME SAFETY TRAINING TOOLS

Hugh M. Stevens, President

Ships' Operational Safety, Inc., Port Washington, N.Y.

ARE YOU "getting through" to the men on your ships? Can you walk in a foc'sle and discuss a safety problem with a deckhand and not get the proverbial chill? Does anyone in your crews write you on non-labor connected safety suggestions or questions? Are you training or just talking? Are you exchanging words only with management and other safety directors?

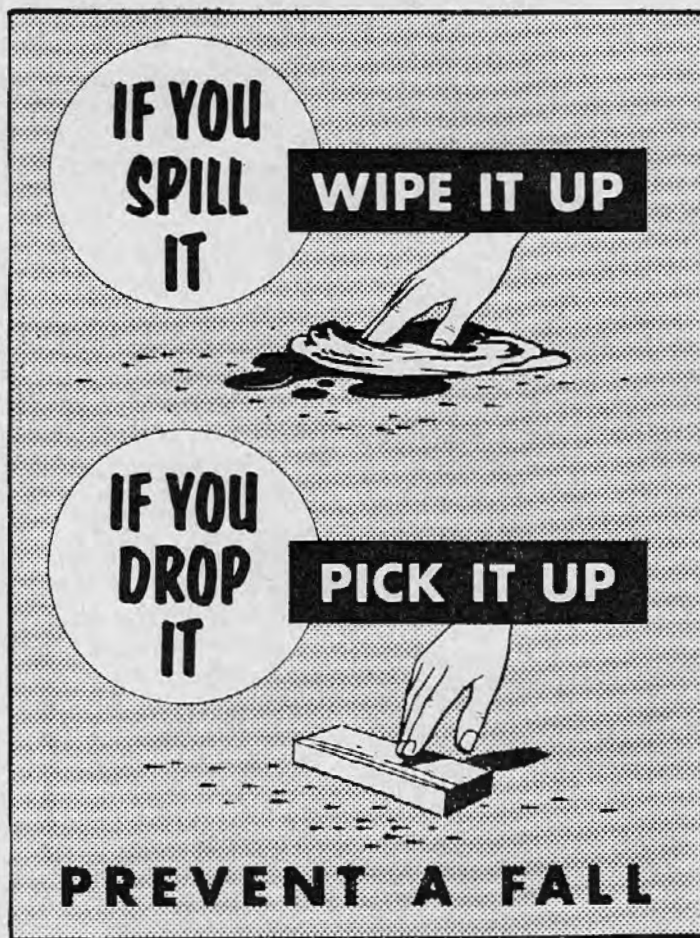
If you're simply talking and not "getting through," the example set by Ships' Operational Safety, Inc., may be useful to you. This organization was formed to provide the services of an effective safety department to owners not having such divisions, and to provide supplementary services to owners, unions, and others already having established safety set-ups. The organization's program was developed from the basic training theory that if you tell a man something three times, he'll remember it. The program therefore consists of three parts (the "training triplets"): in-port observation, Safety Bulletins for each crew member, and an Audio/Visual (A/V) "Safety On Slides" series.

IN-PORT OBSERVATION

This is the key to pertinent, non-theoretical safety man to seaman contact. Observers tactfully and thoroughly range through a ship in port, preferably while it is working cargo. The first visits are spent establishing rapport with the master, mate, chief and delegates. Discussions are held with anyone who wants to talk. Safety

men convince the captain they're there to supplement his owners' and his own interest in his crew's and

ship's safety. In time, everyone talks comfortably and there is cooperative concern for the men's safety.



Courtesy National Safety Council



Carelessness on ladders=Quick trip to sick bay.

SAFETY BULLETINS

Ships' Operational Safety publishes **LIFELINE** and **SAFETY LINE**, the latter bulletin produced for specific clients. Articles are based primarily on unsafe practices seen during observations. As most men prepare to do a job almost as a reflex action, they take most suggested changes as a personal reflection on their professional skill. If you can feed them the ideas from the side, so to speak—make them change a working habit of their own volition, you have a much better chance of getting your ideas planted. Some of the most stubborn men will adopt ideas from bulletins, where no amount of direct talk could agreeably sell them. This is a hopeful step forward. In today's manpower shortage, you don't just issue circular letters or pronouncements—you have to sell!

AUDIO/VISUAL

The last, but the most promising of the triplets is an A/V program. The Audio/Visual world we live in has reshaped many of us and molded our

Extracts from a paper delivered to the Atlantic Coast Discussion Group, Marine Section of the National Safety Council at the U.S. Coast Guard Officers' Club, Governors Island, N.Y., January 16, 1969.

children. We stay mesmerized in front of our television set and buy everything under the sun because we've seen it there. Why not sell safety in a similar way?

There are many possible arrangements of slides in an A/V presentation. Cartoon slides may be used, as well as actual pictures of the men themselves in daily work situations aboard ship. Additional variety is possible through the use of synchronized soundtracks, sound effects, and professional models. Each arrangement can be designed to appeal to different types of seamen, in different trades on different types of ships.

To assure maximum effectiveness, special attention must be given to the location and timing of A/V presentations. Ships' Operational Safety has made presentations during coffee



Fell asleep with burning cigarette which fell into pant's cuff=Deep burns to ankle.



Cleaning generator=Eyes sprayed with fluid cleaner.

breaks, in recreation areas, and even while men are having their hair cut. There are plans to show safety slides at the tail end of Fire and Boat Drills, when everyone except watchstanders is together.

Many men have expressed an interest in the A/V approach, indicating that if their training is packaged right, they'll accept it. Seamen can be motivated and can be reached. It behooves both management and labor to create the necessary climate.

As leaders in the safety struggle, safety people have to motivate themselves and their managements before they can motivate the seaman. Above all, safety people shouldn't become complacent and accept memoranda and debate as substitutes for "getting through" to the guy who has the accidents.

Ask yourselves:

How effective is my training program?

Is it on one flat plane, or do I have at least two dimensions to my safety program?

Am I "getting through"?

‡

ONLY A BREATH AWAY

Breathing is an automatic bodily function so common that you're seldom aware of it. Only when breathing becomes difficult do you realize the job your lungs must do. For instance, if you step into a closed compartment, and there is insufficient oxygen in the air to support human life, the results will be painfully swift. You will be immediately weakened; your body may not respond to even the most desperate efforts to return to normal air. If the oxygen content is particularly low, you may have time for only a few futile gasps before losing consciousness. Death may be only a breath away in an oxygen deficient atmosphere.

Aboard ship, extra caution must be used in entering closed compartments because many factors can decrease the amount of oxygen in the air. Fire, rusting, the drying of paint, and the decomposition of organic cargo materials can all contribute to oxygen deficiency. In some cases, decomposing materials may also give off potentially harmful gases, such as carbon dioxide.

Scaled compartments should always be checked for oxygen deficiency before entering. The following casualties could have been avoided had this precaution been observed. But in each case the first evidence of oxygen deficiency was the discovery of a man's body.

SUDDEN DEATH

A marine surveyor was hired to conduct a survey of a drydocked barge. The operation consisted of opening tanks, inspecting them, then closing them again. There was no

atmosphere testing equipment on hand at the time.

The surveyor entered a recently opened compartment and was immediately overcome by lack of oxygen. Workmen present on the deck quickly came to his rescue, removed him from the compartment, and applied artificial respiration. A doctor who was summoned to the barge continued efforts to revive the surveyor, but to no avail.

The quick action by workmen saved four other men who had followed the surveyor into the deadly compartment. They responded to the fresh air as soon as they were removed from the compartment.

A FINAL CHECK

Help was not close at hand for a Third Mate standing watch aboard a freighter inbound to New York harbor last summer. The vessel had been discharging sea water ballast from its No. 4 port and starboard forward deep tanks. The Chief Mate had told his watchstanders to have their standby men on watch check the deep tanks periodically and advise the engineroom when they were empty. When the Third Mate was relieved he went to check the tanks himself, since his men hadn't done so during his watch. The tanks were to be checked by use of a flashlight, looking into the tanks through an open manhole located at No. 4 lower 'tween deck.

Over an hour later the Chief Mate was relieved by the Master and sent below to check the ballast in No. 4 deep tanks. He checked the starboard

forward deep tank and saw that it was dry. When he looked into the port tank he saw the Third Mate lying on the bottom, his clothes dry, his still-burning flashlight nearby, and no apparent signs of a fall.

The Chief Mate immediately notified the Master, who contacted shore facilities to have emergency equipment ready when the vessel docked. The Chief Mate entered the tank to check the Third Mate's pulse. He was unable to breathe in the tank and could only remain there for several seconds. The Third Mate's body was retrieved by means of a stretcher and an Oxygen Breathing Apparatus (OBA). Mouth-to-mouth resuscitation failed.

It should be noted that the use of an OBA to recover the Third Mate assured that the casualty wouldn't be compounded. In many cases well-meaning seamen have rushed to the aid of another man, and their exertions have caused them also to succumb to an oxygen deficient atmosphere.

It was never learned why the Third Mate decided to enter the deep tank, but his decision was a particularly dangerous one, since there was no one nearby to summon help and no means for testing the atmosphere.

ANOTHER METER NEEDED

If you have your mind on something else, it's very easy to forget that there may not be enough oxygen to breathe in the space you're entering. Such was apparently the case when a certified gas chemist entered the No. 3 port wing tank of a barge under-

going repairs. The chemist was conducting an inspection prior to "hot" work, so he was equipped with a meter to indicate the percentage of explosive potential in the atmosphere. The meter was not designed to indicate the amount of oxygen present within a space.

The chemist, accompanied by another worker, got a 5 percent reading

on the barge's No. 3 port wing tank. He entered the tank, in an effort to determine the reason for the partial explosive atmosphere. His companion looked into the tank, saw the chemist's glasses lying on the bottom, and entered the tank to render assistance. He passed out. Another worker looked in, called for help, entered the tank, and also passed out.

Help arrived and air hoses were led into the compartment. The stricken men were removed and the two workers revived. But the chemist was dead.

It was later determined that oxygen deficiency in the tank had resulted from the natural chemical reaction between oxygen and steel: simple rusting. ‡

DON'T LET YOUR FEET KILL YOU

All occupations and environments require particular types of footwear for the wearer's comfort and safety. Recent injury and death reports, however, seem to indicate that some officers and crewmembers of American-flag vessels are more concerned with comfort than safety.

The most numerous casualties seem to result from the combination of shower clogs and ladders. Shower clogs are probably the most dangerous and least functional of all footwear worn on board ship. They provide no support and are held on the foot only by a strap over the forepart of the foot. This leaves the remainder of the shower clog loose and, consequently, free to catch on ladder rungs and steps. Shower clogs are also potentially dangerous, since they become slick with age and are often slippery when wet.

Falling and slipping accidents caused by "go aheads," thongs, and clogs are not peculiar to any particular shipboard group; casualties of this nature have befallen persons of all capacities on board ship. They can best be prevented by the individ-



"SAFETY SHOES, PLEASE."

Courtesy Lykes Fleet Flashes

ual's personal attention along with routine safety warnings.

Other less numerous casualties do occur in which open sandals or cloth shoes play a major role. Galley acci-

dents involving spills have caused scaldings and severe burns. There are always the ever-present incidents of crushed feet and broken toes which result from accidents involving heavy work when other than the proper hard-toed workshoes are worn.

A recent death, where the immediate cause was improper footwear, was one in which the entire sequence of events was witnessed. An individual on an American-flag ship went into the 'tween decks with the announced intention of freeing the cargo runner which had become fouled. The victim was wearing house slippers which were similar to unlaced oxfords held on by elastic side straps. While others watched, he reached the bottom of the ladder and stepped onto the bevel plate at the square of the hatch with his right foot. The man's left foot was on the bottom rung of the ladder, and his left hand held the ladder about midway between top and bottom. At this point, the slipper on his right foot came partially off causing him to lose his balance and topple backward into the lower hold, landing on his head. ‡

AN

AVOIDABLE ACCIDENT

A Chief Officer fell from a Jacob's ladder when attempting to read the midship draft after completion of loading at a Persian Gulf Port. Ship's report states that the Jacob's ladder was secured to the ship's rail. The ladder was not attended. As the ship came down in the water the slack was pulled up and laid across the ship's rail. The Chief Mate failed to notice this and stepped on the ladder. The ladder payed out under his weight and fetched up with a jerk. This caused him to lose his hold on the ladder and fall approximately 13 feet between the ship and the dock. On the way down he bounced back and forth between the ship's hull and wharf structure. His injuries included a deep laceration of the right leg approximately 2 inches in length inflicted by a steel beam under the wharf. Reports from the Ship Committee further stated that serious head injury was avoided because the man was wearing his safety hat.

OUR COMMENTS

The surest way to "booby trap" a Jacob's ladder is to pull the slack rungs across the ship's rail without securing them properly.

The deck watch is responsible for attending the Jacob's ladder and ensuring that it is properly secured at all times. Any person planning to use a Jacob's ladder should first make a visual check to see that it is properly secured. Secondly, he should weight

test it by standing on the ladder while still holding onto the ship's rail.

Going over the side on a Jacob's ladder presents some degree of risk. Particularly when you go over the stern. Here you must demonstrate agility, dexterity, muscular coordination and development of the type that should be reserved for circus acrobats.

We suggest that this is unnecessary and that the draft can be measured from the deck with a hand tape. It will be necessary to make a few measurements first to determine the height of the poopdeck above the keel. The simple way to do this is to wait until the ship is at a wharf in calm water where the draft can be read accurately. First read the draft then measure the distance from the gunwale to the water. Add these two figures and you have the height of the poop above the keel. Once this figure has been established you can determine the draft by measuring the distance to the water and subtracting it from the height figure.

To obtain the midship draft add the height of the gunnel above the main deck to the International Load Line draft and freeboard as shown on the Load Line Certificate. This combined figure will be a constant from which the tape-measured distance from gunnel to water can be subtracted to give the midship draft. ⚓

*Safety Bulletin,
Chevron Shipping Co.*



NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 1-69

8 January 1969

Subj: Automated Main and Auxiliary Machinery

PURPOSE

This circular distributes a "Guide for the Automation of Main and Auxiliary Ship's Machinery" to all interested and affected members of the marine community. With the current trend to fewer engineering watchstanders, it is essential that all concerned be aware of the equipment and systems necessary to reduce the manning in machinery spaces without compromising the safety of life and property. This circular and the enclosed guide supersedes the information previously issued as NVIC 5-67.

DISCUSSION

One provision of 46 U.S.C. 222 (R.S. 4463) specifies that no vessel subject to the inspection laws shall be navigated unless she shall have in her service and on board such complement of licensed officers and crew, as may in the judgment of the Coast Guard be necessary for her safe navigation. Thus the number of watchstanders required on any particular vessel is specified by the Officer in Charge, Marine Inspection of the appropriate marine inspection zone based upon his evaluation of the vessel, equipment, route, and service. With the rapid application of modern control technology to marine power systems, the Coast Guard has found it necessary to publish this circular for guidance and for uniformity in considering automation features to permit a reduction in the customary number of engineering watchstanders.

In recent years it has been customary to operate a steam propulsion plant with a three man watch. This consisted of a fireman/watertender supervising the boiler; an oiler or better acting as a data recorder, roving patrol and general assistant to; the licensed engineer, who supervised the watch, performed as throttlemaster, and conducted or supervised minor or routine maintenance. Additionally these three men by their sense of sight, sound, smell and engineering judgment or intuition, performed as trouble detection systems in the event of fire, flooding or machinery malfunction.

The evolution from manned to unmanned engine rooms as proposed by the industry is:

a. The elimination of the fireman/watertender by the installation of a fully automated boiler or by the installation of a self regulating boiler with certain reallocations of responsibilities to the remaining watch-

standers. Automatic boiler alarms and safety shut-down devices have been incorporated in both of these approaches.

b. The elimination of both the fireman/watertender and the oiler by the installation of a fully automated boiler, pilothouse throttle control, and a centralization of controls and instrumentation within the machinery space. The arrangement must permit the engineer to monitor and control the machinery from a single location.

c. The elimination of all watchstanders by the installation, in addition to that of b above, of a sophisticated and extensive monitor and alarm system. The emphasis on machinery operation is from remote control to self regulation, i.e. fully automated. Alarm systems are required for fire and flooding detection. With this total substitution of machinery for human intelligence, the problems of reliability and maintenance must be considered and evaluated.

The final manning requirements established for any vessel will be based upon the results of: (1) a complete plan review of the equipment, and the monitoring safety and labor saving devices installed, (2) a period of proven operation and reliability following the initial testing and de-bugging, (3) a period of Coast Guard on-board observation, and (4) for unattended machinery operation, an acceptable plant maintenance program which insures the continued quality of the demonstrated plant reliability. Acceptance of an unattended engine room will not eliminate the requirement for engineering personnel to be on board. Sufficient qualified personnel will be required to: (1) Operate and monitor the plant in event of control failure, (2) make emergency repairs in event of machinery casualties, and (4) perform daily or periodic operations, inspections, and maintenance to insure the continued quality of plant performance.

The purpose of the enclosed guide then, is to provide an indication of the operational capabilities of the equipment and systems necessary to comply with the above concepts.

Design standards for shock, vibration, endurance, power supply fluctuation, and other environmental conditions have not been specified. These will be developed as experience is gained. Equipment which proves inadequate shall be replaced or the vessel manning shall be modified to compensate for the equipment failure.

The various sections of the guide should be applied as indicated above for the different manning levels. For diesel vessels the concepts of b and c above are applicable. Although the enclosure is a guide and therefore not man-

datory by law, it does represent our experience and/or evaluation to date, and therefore in the context of 46 U.S.C. 222 represents the "judgment of the Coast Guard." Deviation from the enclosed guide must be well founded and acceptable to the cognizant Officer in Charge, Marine Inspection.

ACTION

Coast Guard marine inspection personnel, shipbuilders,

ship designers and operators should consider the principles contained in enclosure (1) when considering automated machinery systems. Constructive comments and suggestions are invited.

Copies of this circular with enclosure (1) may be obtained at the local marine inspection office or by writing Commandant (CAS-2), U.S. Coast Guard, Washington, D.C. 20591.

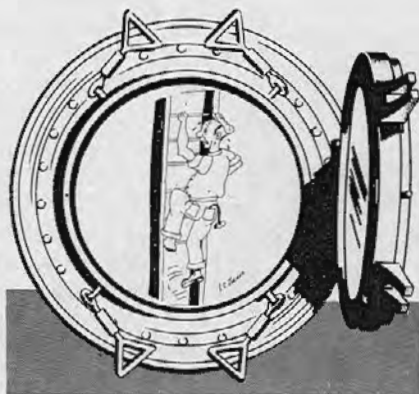
‡

You Bet Your Life

Some wag has suggested that if naval architects were required to climb an outside straight steel ladder four stories up to their offices until they came up with some better design for access to holds of ships—in a very short period there would either be no naval architects, or one would come up with a decent solution to this problem. Yet, every longshoreman has to climb 50 feet down a straight steel ladder to go to work, 50 feet back up at the noon hour, with intermittent trips for a smoke or rest period.

Under the circumstances, it is apparent that these hatch ladders must be kept in the very best physical condition. Bent or missing rungs, distorted sides, extreme amounts of grease or other slippery substances cannot be tolerated for even the shortest period. Because these hatch ladders are exposed, they are bound to suffer damage from large drafts of lumber, long steel or heavy lifts. Hatch beams and deep tank covers are also responsible for a great many hatch ladder damages. The point of damage is usually at the connection of the rung to the ladder side. This point is the one to watch closely during an inspection.

A ladder can be damaged within hours of its installation, so it must be a routine part of the duties of the mate on deck cargo watch to look closely at these ladders as he goes from hatch to hatch, and if he sees any evidence of a severe bang, bent



rungs, distortion of the ladder side rails, such condition should be immediately checked. It is important to bear in mind that the rungs above and below the bent or missing rung, which might appear to be sound are often broken as well, and only hanging on by the merest thread of sound metal. When inspecting damaged areas of a ladder, these should be avoided until they can be properly checked and tested. The use of a safety belt while checking damaged sections is recommended. A close visual inspection and a hammer testing is the most practical when the ladders are in place.

If a ladder is damaged, it should be blocked off immediately and repairs made as soon as possible. Frequently, a temporary bolted-on-rung can be installed, or portable rungs hooked over the rungs above and below a missing or damaged rung.

These, however, are only temporary measures and at the earliest opportunity the section of the hold ladder should be removed and repaired permanently. If there are shore workers aboard the vessel, it is conceivable that a normal repair could be done within the noon hour by removing the ladder section holding bolts, bringing it on deck or ashore where welding can be done without the hazard of fire, and reinstalling the ladder prior to the longshoremen turning to.

Welding in place is unsatisfactory. First, there is the fire hazard; second, it is more hazardous for the welder; and third, the welding can be done much more effectively and thoroughly on deck where the ladder section can be turned over, and the back side of the rungs down-welded.

Because it is usually impossible to grab the sides of the hold ladder, the climber's life literally depends upon the rungs. Their safe condition can only be maintained by constant visual inspection with prompt action taken when damage, or what may appear to be damage, is noted or suspected. It is everybody's job to watch these hold ladders, to immediately see that they are blocked off when damaged, and to see that the repairs are taken in hand as promptly as possible. DO YOUR SHARE!

‡

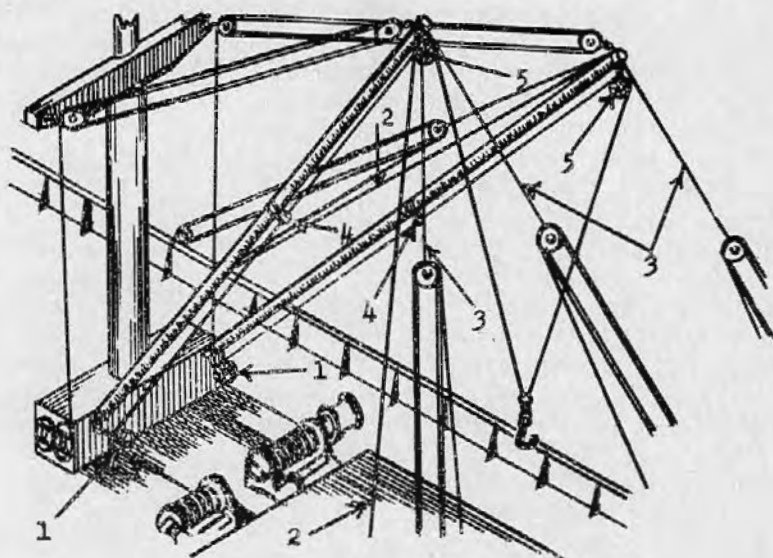
Robert H. Smith,
U.S.P. & I. Agency.

nautical queries

DECK

CARGO GEAR

Q. Name the numbered parts of the booms and cargo gear fittings illustrated.



- A. 1=HEEL BLOCK
2=PREVENTER
3=GUY PENDANT
4=FAIRLEADER
5=HEAD BLOCK

Q. In the event of any collision with a lightship, buoy or other aid to navigation, what is the duty of the person in charge of the colliding vessel?

A. Whenever a vessel collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such vessel to report the accident to the nearest Officer in Charge, Marine Inspection.

Q. What is meant by the slip of a propeller?

A. A propeller driving a ship in the water does not meet sufficient resistance to prevent all losses; therefore, if by figuring the distance the ship should have gone by multiplying the pitch of the propeller by the revolutions it has made in a given time, and subtracting from the result the distance the ship actually traveled during the given time, the difference will be the slip or loss of the propeller by slipping through the water.

ENGINE

Q. Where are zincs installed in condensers, and what care should be taken with their installation?

A. Zincs are fitted in the salt water side of the condenser to prevent corrosion from galvanic action. Care must be taken to secure the zincs so they will have a good metallic contact with the heads.

Condenser heads in contact with salt water should be protected by zinc.

Q. What installation test shall be made on new fuel oil discharge piping?

A. Fuel oil discharge piping between the pump and the burners shall be hydrostatically tested in the presence of an inspector at a pressure of $1\frac{1}{2}$ times the maximum pressure but not less than 500 pounds per square inch.

Q. Rectifiers are used for:

- Power supply for switch-board indicator lamps
- Straining insulating varnish
- Changing AC current to DC current
- Changing DC current to AC current

A. (c) Changing AC current to DC current

Q. Adding Resistance in series:

- Increases the flow of current in the combined circuit
- Decreases the flow of current in the combined circuit
- Have no effect on the flow in the combined circuit
- Change the polarity of the potential

A. (b) Decreases the flow of current in the combined circuit

AMENDMENTS TO REGULATIONS

Title 33 Change

SUBCHAPTER A—GENERAL

PART 2—GENERAL DUTIES AND JURISDICTION

Miscellaneous Amendments and Determinations

The Coast Guard has administrative responsibilities with respect to the enforcement of Federal laws, rules, and regulations upon the high seas and waters subject to the jurisdiction of the United States. Descriptions of these general duties and jurisdiction of the Coast Guard are in 33 CFR Part 2. The purpose of this document is to bring these regulations up to date. The amendment to 33 CFR 2.01-5 describes the assignment of functions to the Coast Guard under the Department of Transportation Act. The amendments to 33 CFR 2.01-10, 2.05-5, and 2.15-15 are editorial to bring the regulations into agreement with present practices and to correct references to amended laws. There are also included as interpretations the determinations regarding jurisdiction made by the Commandant, U.S. Coast Guard, with respect to certain navigable waters of the United States in Alabama, Arkansas, Colorado, Florida, Georgia, Louisiana, Maryland, Mississippi, Montana, New Mexico, New York, Pennsylvania, Texas, and Wyoming, as well as the determinations that certain waters are not under Coast Guard jurisdiction in Arkansas, Colorado, Kansas, Nebraska, and Tennessee.

In the administration and enforcement of various navigation and vessel inspection laws, rules, and regulations, determinations are made

whether or not certain bodies of waters of the United States are subject to laws administered by the Coast Guard. The information in this document is intended also to further the development, use, and enjoyment of all the navigable waters within the United States, and to clarify responsibility with respect to laws, rules, and regulations intended to promote safety of life and property on those waters as further described in 33 CFR 2.10-5 and 2.15-1. The determinations represent additions to or amendments of listings of navigable waters of the United States in 33 CFR Subparts 2.21 through 2.74, and the listing of waters not under Coast Guard jurisdiction in 33 CFR Subpart 2.99. Lakes and reservoirs situated on those waters described are included in the determinations but are not necessarily listed separately. These determinations represent the opinion of the Coast Guard since the jurisdiction of the United States can be conclusively determined only through judicial or legislative proceedings.

As the amendments and rules in this document are descriptions of organization, editorial corrections, and interpretations, it is hereby found that the Coast Guard is exempted from compliance with section 553 of title 5, United States Code, with respect to notice of proposed rule making, public rule making procedures, and effective date requirements.

By virtue of the authority vested in me as Commandant, U.S. Coast Guard, by section 632 of title 14, United States Code, and the delegations of the Secretary of Transportation in 49 CFR 1.4(a)(2) and (f), to promulgate rules and regula-

tions in accordance with the laws cited with the regulations below, the following amendments and new regulations are prescribed and shall be effective on the date of publication of this document in the FEDERAL REGISTER.

The complete text of these amendments is published in the Federal Register of February 14, 1969.

Title 46 Change

SUBCHAPTER N—DANGEROUS CARGOES

PART 146—TRANSPORTATION OR STOWAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES, AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

Miscellaneous Amendments

1. Pursuant to the notice of proposed rulemaking published in the FEDERAL REGISTER of February 29, 1968 (33 F.R. 3564-3570), and the Merchant Marine Council Public Hearing Agenda dated March 25, 1968 (CG-249), the Merchant Marine Council held a public hearing on March 25, 1968, for the purpose of receiving comments, views, and data. The proposals considered were identified as Items PH 1-68 to PH 8-68, inclusive. Item PH 2-68 contained the proposals regarding dangerous cargoes (CG-249, pages 121 to 182, inclusive). This document contains miscellaneous amendments to the dangerous cargo regulations, which were identified as Item PH 2c-68 and Item PH 2d-68 (CG-249, pages 124 to 182, inclusive) (33 F.R. 3566), and deal primarily with radioactive materials. Another document (CGFR 68-66) was published in the FEDERAL REGISTER of June 7, 1968 (33 F.R.

8450-8452) setting forth miscellaneous amendments other than those concerning radioactive materials.

2. The written comments received were considered and changes based thereon have been made. Other changes were made in response to written comments submitted to the Department of Transportation on a parallel proposal for 49 CFR Parts 170 to 189, also regarding radioactive materials. The changes (other than those of an editorial nature) made for these reasons are as follows:

a. In § 146.19-1, definitions have been added for Type A and Type B packaging and quantities, and these terms are used throughout Subpart 146.19 for consistency with international usage.

b. A new Transport Group VII is added in § 146.19-5 for consistency with international usage.

c. In § 146.19-14 the allowable quantities of certain transport groups of radioactive material in radioactive devices have been changed.

d. A new § 146.19-25 is added to provide labeling criteria for radioactive materials.

e. Section 146.19-27 is changed to specify performance standards for Type A and Type B packaging.

f. In § 146.19-100, the entry for radioactive devices is amended by requiring the marking to be placed on the inner packaging rather than the outside packaging, for consistency with international practice.

3. The Hazardous Materials Regulations of the Department of Transportation (49 CFR Parts 170-189) (formerly of the Interstate Commerce Commission in 49 CFR Parts 71-90) and the Dangerous Cargo Regulations (46 CFR Parts 146 and 147) refer in many places to "Interstate Commerce Commission" and "I.C.C." in safety regulatory requirements. The I.C.C. regulations were redesignated as DOT regulations upon the establishment of the Department of Transportation pursuant to 49 U.S.C. 1657, effective April 1, 1967. Because it is impracticable at

this time to change all references to the I.C.C., such references are deemed to have the same purpose and meaning as references to the "Depart-

ment of Transportation" and to "DOT" in the Dangerous Cargo Regulations. Therefore, packagings with the specification markings "ICC"

ACCEPTABLE HYDRAULIC COMPONENTS

Nonductile hydraulic components which have passed high impact shock tests. Unless otherwise noted, the material is cast iron.

Manufacturer	Valve type	Identity	Maximum allowable pressure (p.s.i.)
Vickers.....	Directional control.....	DIL--**2*	3000
Marine & Ordnance Division			
Troy, Michigan 48084			
Do.....do.....		DG*S*-01**5*	3000
Do.....do.....		DG*S*-04*2*	2800
Do.....do.....		DG*S*-06**5*	3000
Do.....do.....		DG15S2-060-*1*	2000
Do.....do.....		DG*S*-10**5*	3000
Do.....do.....		DF*S*-16**5*	3000
Do.....do.....	Check valves.....	4CG-03--**2*	3000
Do.....do.....		4CG-03--**2*	3000
Do.....do.....		4CG-06--**2*	3000
Do.....do.....		4CG-10--**2*	2875
Do.....do.....		C4G-815	3000
Do.....do.....		C4G-825	3000
Do.....do.....	Relief valves.....	CG-03--**1*	3000
Do.....do.....		CG-06--**4*	3000
Do.....do.....		CG-10--**2*	3000
Do.....do.....		CG-10**4*	3000
Do.....do.....		CG5-06**--**4*	3000
Do.....do.....		CG5-10**--**3*	3000
Do.....do.....		CG5-10**--**4*	3000
Do.....do.....	Sequencing valves.....	RG-03--**2*	3000
Do.....do.....		RG-06--**2*	3000
Do.....do.....		RG-10--**2*	2875
Do.....do.....		RCG-03--**2*	3000
Do.....do.....		RCG-06--**2*	3000
Do.....do.....		RCG-10--**2*	2875
Do.....do.....	Reducing and unloading.....	XCG-03--**2*	3000
Do.....do.....		XG-03--**2*	3000
Do.....do.....		XGL-03--**1*	2000
Do.....do.....		XCG-06--**2*	3000
Do.....do.....		XG-06--**2*	3000
Do.....do.....		XCG-10--**2*	2875
Do.....do.....		XG-10--**2*	2875
Do.....do.....		URG*-06-*1*	2800
Do.....do.....		URG*-10-*1*	3000
Do.....do.....	Flow control.....	FG-03--**2*	2500
Do.....do.....		FRG-03--**2*	2500
Do.....do.....		FG-02-1000-3*	2000
Do.....do.....		FCG-02-1000-3*	2000
Do.....do.....		FRG-02-1000-11	2000
Do.....do.....		FRG-06--**1*	2000
Do.....do.....		FRG-10--**1*	2000
Do.....do.....		FG-06--**1*	2000
Do.....do.....		FG-10--**1*	2000

placed thereon may be continued in service as marked.

4. 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 practicable. 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 Department of Transportation, through the Hazardous Materials Regulations Board, prescribes the implementing regulations for "hazardous materials" under the statutory authority in sections 831 through 835 of title 18, United States Code. These hazardous materials regulations are published in 49 CFR Parts 171 through 189 (formerly ICC regulations published in 49 CFR Parts 70 to 90). 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 which govern the land transportation of the same commodities.

5. The amendments to 46 CFR Part 146, which were not described in the FEDERAL REGISTER notice of proposed rule making published on February 29, 1968 (33 F.R. 3566, 3567), are considered to be interpretations of law, or revised requirements to agree with existing regulations, or editorial in nature, and it is hereby found that compliance with the Administrative Procedures Act (5 U.S.C. 551-559) (respecting notice of proposed rule making, public rule making procedures thereon, and effective date requirements thereof) is unnecessary with respect to such changes.

6. By virtue of the authority vested in me as Commandant, U.S. Coast Guard, by section 632 of title 14, United States Code, and the delegation of authority by the Secretary of

Transportation in 49 CFR 1.4(a) (2), to promulgate regulations in accordance with the laws cited with the regulations below, the following amendments are prescribed and shall be effective May 1, 1969; however, the regulations in this document may be complied with in lieu of existing requirements prior to that date.

The complete text of these amendments is published in the Federal Register of February 12, 1969 Part II.

SUPPLEMENT

No Dangerous Cargoes Regulation, 46 CFR 146 and 147 (Subchapter N) Supplement will be published this year. Copies of the regulations in lieu of the supplement may be obtained from the local marine inspection office or by writing Commandant (CAS-2) U.S. Coast Guard, Washington, D.C. 20591.

Approved Equipment

Commandant Issues Equipment Approvals

By Commandant Action of February 5, 17 and 19, 1969, Coast Guard approval was granted to certain items of lifesaving, and other miscellaneous equipment and materials.

Those interested in these approvals should consult the Federal Registers of February 11, 18, 21 and 26, 1969, for detailed itemization and identification.

STORES AND SUPPLIES

Articles of ships' stores and supplies certificated and cancelled from February 1 to February 29, 1969, inclusive, for use on board vessels in accordance with the provisions of Part 147 of the regulations governing "Explosives or Other Dangerous Articles on Board Vessels" are as follows:

CERTIFIED

Haviland Products Co., 421 Ann St., N.W., Grand Rapids, Mich.

49502: Certificate 848, dated January 30, 1969, SAF SOLV 1000.

BP (North America) Limited, 620 Fifth Ave., New York, N.Y. 10020: Certificate 849, dated January 31, 1969, BP MARINE TANK CLEANER.

CANCELLED

Mine Safety Appliances Co., 201 North Braddock Ave., Pittsburgh, Pa. 15208: Certificate 182, VELOCITY POWER ELECTRIC CABLE PRESS, MODEL 1C; Certificate 181, VELOCITY POWER WIRE ROPE PRESS, MODEL SA-2; Certificate 179, VELOCITY POWER PIPE BONDING PRESS; certificate 178, VELOCITY POWER CABLE CUTTER, SWINGING BREECH TYPE; Certificate 177, VELOCITY POWER DRIVER.

Pennsalt Chemicals Corp., Three Penn Center, Philadelphia, Pa. 19102: Certificate 584, PENNSALT 3005 NEUTRALIZER; Certificate 459, PENNSALT 3023 HEAVY FUEL ADDITIVE; Certificate 456, PENNSALT 3016 INJECTOR & BURNER TIP CLEANER.

Octagon Process Inc., 596 River Rd., Edgewater, N.J. 07020: Certificate 361, KLEARALL 90 OCTAGON SAFETY SOLVENT; Certificate 465, OCTAGON SAFETY SOLVENT 3116.

AFFIDAVITS

The following changes were accepted during the period from January 15, to February 15, 1969:

CHANGE OF ADDRESS

Contromatics Corp. Division of Litton Industries From: 67 West St., Rockville, Conn. 06066. To: 200 West Main St. Rockville, Conn. 06066.

CHANGE OF NAME

From: Fluid Power Accessories, Inc., 2051 Railroad Ave., P.O. Box 64 Glenview, Ill. 60025. To: Fluid Power Systems Division AMBAC Industries, Inc.

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard. Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Sunday, Monday, and days following holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Subscription rate is \$1.50 per month or \$15 per year, payable in advance. Individual copies may be purchased so long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue but will be 15 cents unless otherwise noted in the table of changes below. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1969 are now available from the Superintendent of Documents, price: \$3.75.

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7-1-63).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (5-1-68).
115	Marine Engineering Regulations and Material Specifications (3-1-66). F.R. 12-6-66, 12-20-67, 6-1-68, 12-18-68.
123	Rules and Regulations for Tank Vessels (5-2-66). F.R. 12-6-66, 12-9-67, 12-27-67, 1-26-68; 1-27-68, 2-10-68, 4-12-68, 6-1-68, 10-2-68, 12-18-68, 12-28-68.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (9-1-65). F.R. 12-8-65, 12-22-65, 2-5-66, 3-15-66, 7-30-66, 8-2-66, 9-7-66, 10-22-66, 12-23-67, 6-4-68.
172	Rules of the Road—Great Lakes (9-1-66).
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-65).
176	Load Line Regulations (1-3-66). F.R. 12-6-66, 1-6-67, 9-27-67, 7-12-68.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
184	Rules of the Road—Western Rivers (9-1-66). F.R. 9-7-66, 12-23-67.
190	Equipment Lists (8-1-68). F.R. 11-7-68, 11-8-68, 11-16-68, 11-19-68, 11-20-68, 12-11-68, 12-18-68, 2-11-69, 2-18-69, 2-21-69, 2-26-69.
191	Rules and Regulations for Licensing and Certifying of Merchant Marine Personnel (5-1-68). F.R. 11-28-68.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4-1-57).
227	Laws Governing Marine Inspection (3-1-65).
239	Security of Vessels and Waterfront Facilities (5-1-68).
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (5-2-66). F.R. 12-6-66, 1-13-67, 4-25-67, 8-29-67, 12-20-67, 1-27-68, 4-12-68, 10-2-68, 12-18-68, 12-28-68.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (1-3-66). F.R. 4-16-66, 12-6-66, 1-13-67, 12-9-67, 1-26-68, 1-27-68, 2-10-68, 4-12-68, 6-1-68, 10-2-68, 12-18-68, 12-28-68.
258	Rules and Regulations for Uninspected Vessels (3-1-67). F.R. 12-27-67, 1-27-68, 4-12-68, 12-28-68.
259	Electrical Engineering Regulations (3-1-67). F.R. 12-20-67, 12-27-67, 1-27-68, 4-12-68, 12-18-68, 12-28-68.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-68).
268	Rules and Regulations for Manning of Vessels (5-1-67). F.R. 4-12-68.
293	Miscellaneous Electrical Equipment List (9-3-68).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (11-1-68). F.R. 12-17-68.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (1-3-66). F.R. 12-6-66, 1-13-67, 12-27-67, 1-27-68, 4-12-68, 11-28-68, 12-18-68, 12-28-68.
329	Fire Fighting Manual for Tank Vessels (7-1-68).

CHANGES PUBLISHED DURING FEBRUARY 1969

The following have been modified by Federal Registers:

CG-190, Federal Registers, February 11, 18, 21, and 26, 1969.
Dangerous Cargoes Regulations, Federal Register, February 12, 1969, Part II.

WORK WITH AND UNDER A SAFETY KNOT



A ROUND
TURN AND
TWO HALF
HITCHES

