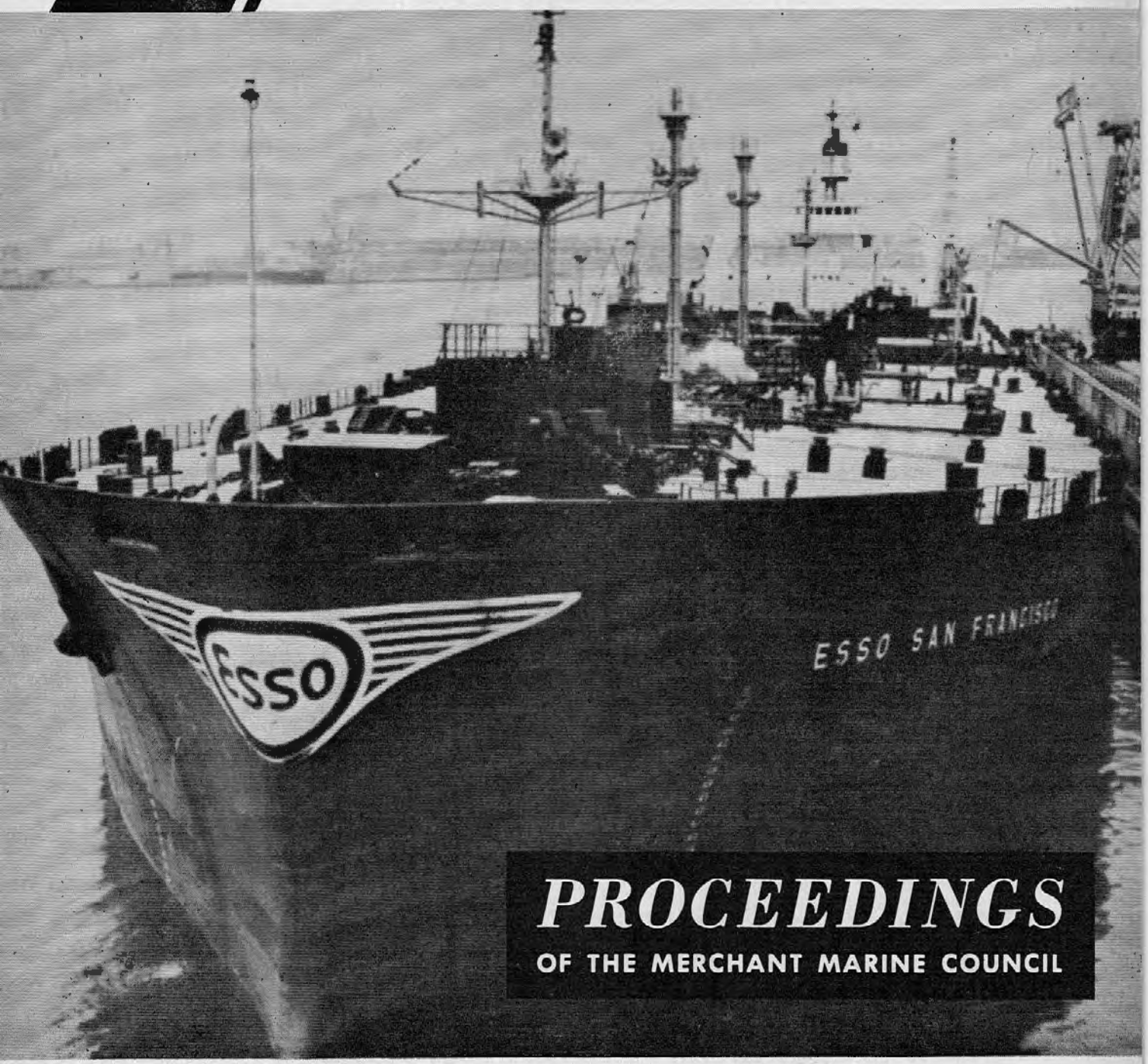
COAST GUARD



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

Vol. 27, No. 8 CG-129 August 1970

IN THIS ISSUE . . .

20-Knot Ships—10-Knot Safety Program . . .

The Many Faces of Corrosion . . .

THIS COPY FOR NOT LESS THAN 20 READERS—PLEASE PASS IT ALONG

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COVERS

FRONT COVER: The *Esso San Francisco* steamed into Baltimore recently carrying the largest petroleum cargo ever shipped in a United States-flag tanker on a coastwise voyage.

The *San Francisco* is the newest member of the Esso fleet, having been launched last summer at Avondale, La., and delivered to Humble early this year. It is 75,000-deadweight-tons, cost $17.8 million. Its record cargo totaled 555,000 barrels of petroleum, or more than 23 million gallons, including gasoline, kerosene, jet, and diesel fuel.

BACK COVER: Care and Maintenance of Pilots, *courtesy Safety Bulletin, Chevron Shipping Co.*

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PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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20-KNOT SHIPS— 10-KNOT SAFETY PROGRAMS

Capt. Robert H. Smith

Head Ship Safety Division, Hull and Cargo Surveyors, Inc., New York, N.Y.

From an address before the 1969 Marine Section, of the National Safety Congress and Exposition.

WHAT IN THE merchant marine is the same as it was in 1928? Obviously not the ships. Who would compare the tramp of the twenties with today's sleek specialized liner? Remember those old ships that reeled off a steady 240 miles day after day, until the last day, that is, when slight adjustments in miles covered, all because of "excessive slip" had the captain and chief at each other's throat.

Remember when approaching the coast and the gear was raised, the mate on watch would automatically run up and take another azimuth to check the standard compass? If the weather was thick, you did not raise your booms. Perhaps that is why wooden booms were highly favored on the Pacific coast for so long.

The men are not the same. In those days a third mate was not required to know how to work out a star sight

Ship's boatcrew exhibits sparkling teamwork as they pull together during lifeboat drill.

to secure his license, and the normal master frequently stood a bridge watch so the mate could go down on deck and swing a chipping hammer. There was no job security, no pension, and little money. Needless to say, the normal forecastle gang left something to be desired.

Compare this with today's crews, where ship's officers have educations with a B.S. degree and a career as an unlicensed seaman is a secure, rewarding and respected one, attracting men of better moral calibre and much greater technical expertise. To say nothing of the skipper who can knock off 12 copies of the crew list on a typewriter in less than an hour, during which hour the ship has traveled twenty miles, the mate on watch has plotted three other ships on the radar, made two accurate Loran fixes which showed the ship slightly left of course, easily rectified by adjusting the rate pilot, and meanwhile keeping his eye on the recording fathometer as a double check.

Have our shore operations changed since the twenties? Anyone looking at Port Newark's Sealand Terminal, or the Europort Petroleum Complex would know he is in a new era. Look at the change in cargo, particularly its size and value; look at the mechanization, palletization and containerization concepts, the gigantic handling facilities for bulk cargo. All of these things have been thrust upon us by a changing technology and the ever-increasing demand of a seemingly insatiable population for the raw materials and finished goods transported by ship.

Then what has stayed the same? The same safety problems still seem to be with us. And if our safety problems appear to be the same, so do our answers appear to be the same as in the past; Safety Meetings; Safety Inspections: Safety Posters (literature). These seem to be the three legs of our marine safety effort and like the Vermont milking stool, need to be brought up to date.

Capt. Robert H. Smith is a 1939 graduate of the Massachusetts Nautical School and holds a Master Oceans unlimited 6th issue, license.

He sailed steadily on various U.S. merchant ships, and during World War II he was Master of a Liberty Ship.

After the war he did a stint of stevedoring and towboating. In 1948 he joined the U.S.P. & I agency of the Marine Office of America as Safety Engineer and has since been employed steadily in safety work. He is presently employed with the Hull and Cargo Surveyors, Inc., in New York City, as Head, Ship Safety Division.

Are safety meetings useless? No. But why is genuine participation almost non-existent?

Are safety inspections necessary? Yes, but why are the same continuing hazards noted in inspection after inspection. If the purpose of these inspections is to eliminate such hazards we are missing the boat somewhere!

Safety Posters, Safety Literature, Safety Films, do they really reach the crew? Or are they like the third class "trash" mail that arrives in the letter box and is deposited in the garbage pail unopened?

We should ask ourselves these questions. We should look at our own fleet, determine what is effective and find out why it is working, determine what is not accomplishing its objective and either get rid of it or change our approach. An ineffective safety program is worse than none at all. It indicates management either lacks the interest or is inefficient. And the crew get the message loud and clear!

At the American Petroleum Institute Marine Transportation Section meeting this past April, Mr. James Reynolds made this comment: "In 1967, 10 times as many man-days were lost to industry because of accidents as were lost because of work stoppages! Can any one name a company whose safety department is 10 times as big as its labor relations dept.?

Having been directly involved in marine safety for the last 20 years, I have been exposed to and participated in a broad spectrum of marine safety activity; have been able to observe the philosophy of different companies; have seen the policymaking efforts ashore, the working programs aboard the ships, the follow-through by company staff, and lastly have seen the ever-increasing costs of injury claims. I will candidly admit that many of my own preconceived ideas on safety have been failures. I will also just as candidly admit that I do not know the absolute answers.

The University of Illinois, in cooperation with the National Safety Council now has a four year curriculum and bestows a degree of B.S. in Safety. So does New York University. What would one of these graduates think about our safety efforts? A recent and thoughtful book on Safety, entitled, "Accident Research—Methods and Approaches". says this:

"One basic reason for the lack of social concern and action is that the folk lore of accidents is perhaps the last folk lore subscribed to by rational man—such extra-rational beliefs, in fact are widely implicit, and even explicit, in the accident research literature, especially in relation to the supposed uniqueness of the field, and even policymakers in such formal organizations as government agencies may also tend to regard "common sense" as a sufficient basis for the design and initiation of accident countermeasures."

The authors are primarily concerned with traffic accidents, but the same fundamentals would apply. Collisions are a serious problem in our industry. Would it not be a blessing

if some accurate test could be devised to pinpoint collision-prone drivers, whether automobile drivers or ship drivers? Adm. Louis B. Thayer, USCG, Ret., a member of the National Transportation Safety Board of whose progressive activities we are becoming increasingly aware, has pointed out that traffic deaths in 1967 were equal to a fully-loaded DC–7 crash everyday! You can imagine the public outcry if that were to occur and the demands to "do something" about it. Yet the consequences are the same. One hundred families without a breadwinner, or the loss of a mother to bring up the family, or the heartbreak of the parents on the death of their child. Most of you have no doubt been faced with the unpleasant task of notifying a wife or parent when a seaman is killed and have done a bit of soul searching afterwards, wondering if some prior action of yours might have prevented it.

In our own industry, it takes the spectacular to arouse enough public awareness to have necessary changes made. A *Morro Castle* to upgrade licensing and certification requirements, as well as construction fire safeguards. A *Torry Canyon*, to cause industry to look squarely at the economic consequences of a lapse in judgment.

I have posed the question in the past, "At what point in size and speed is it economically feasible to place a second watch officer on the bridge?" Not so they can entertain each other during the long night hours, but to prevent that once in a ship's life stranding or collision.

Reading of the recent approval for a 500,000-tonner, I envision the consequences of her piling up on a coral reef at full speed, fully loaded. Can you imagine the sky rocketing spot charter rate with the owners scrambling around trying to find tonnage to fulfill their commitments?

Or would this be a good time to set the wheels in motion to get rid of the bow lookout (I say bow, although usually due to deckload or weather, he is on the bridge wing) properly train him as an "Electronics Petty Officer," and put him on the Radar, Loran, and other surveillance instruments to more effectively "look out," feed the information to the watch officer and thus relieve that gentleman to devote his full attention to conning the vessel and able to make the necessary anticollision decisions or navigating decisions fully informed but not confused by pips, vectors, relative motions, maneuvering board scale conversions, etc.

Shipboard training on the use of a low-velocity fog applicator.

I feel our safety programs are out of date. Let me offier some observations and then make a few positive suggestions.

While most companies have an individual charged with Safety responsibility, this is not usually his only assignment and frequently nther responsibilities must of necessity take precedence. Usually these occur when a ship is in port, so even this less than ideal opportunity to talk Safety is missed.

An individual whose full time job is accident prevention eventually finds himself wound up in too many special projects. The claim department needs his technical assistance to clarify some point, the traffic department wants to know if a particular ship can off-load a 60-ton lift at some flyspeck in the Far East; the construction depart-

ment drops blueprints of the proposed new vessel on his desk for his approval. (Needless to say, they would appreciate the prints back by 5 p.m.) And of course there are the continuing problems of proper type of mooring line, potential hazards of a new chemical tank cleaner, etc.

What is safety man's proper area of operation is difficult to define. As one put it, "Where does maintenance end and safety begin." It is all his field, but when your safety man starts to spend more of his time on claims and special projects than on pure safety, at that point your accident rate will begin to climb.

A second point is the wide variation in safety effort between vessels within a single fleet. It is an unhealthy sign, indicating a lack of shoreside control. How does the loyal master feel, the one who is trying to carryout company directives? While men do change from ship to ship, their individual preferences or loyalty to one fleet is surprisingly constant. The conscientious skipper spends a good bit of his efforts breaking the new crewmembers into developing good safety habits. When they leave and sign on another vessel in the fleet where safety is not stressed to the extent outlined in the Fleet Directives, then interest rapidly drops off and an attempt to revive it at some later date, like an interrupted seduction, is doubly doomed.

The same variation is evident from fleet to fleet. Specific operating conditions are partially responsible for this, but the lack of an industry-wide guides does, to some extent, prevent a beneficial cooperative safety effort.

A third observation is the lack of under-way training and safety discussion by staff safety personnel. I noted earlier the less than ideal opportunities afforded in port. A day aboard ship in port, carrying out a safety inspection is valuable. Most of us do it as frequently as possible. From our physical observations, our prior safety correspondence, and the past voyages injury reports we can make a pretty fair judgment of the level of safety interest and effort aboard. Yet despite the number of items observed during such an inspection, the time to really talk safety, the opportunity to get down to the fundamental basics of accident prevention, the opportunity to really uncover the causes from which the hazards noted originated is seldom present, and the end result is that the next inspection of the vessel will reveal the same general conditions to exist.

Perhaps you followup your shipboard inspection with a letter to the vessel. The written word unaccompanied by voice inflection, smile, or the opportunity to talk back is a cold impersonal tool for use in an area where basic human emotions and attitudes are all important, and while it would be quite improper as well as unsanitary to put such correspondence where many a master has wrathfully suggested, it usually fails to promote a good safety motivation. Specific correspondence, relating to physical deficiencies noted during a safety inspection also has the further drawback of being the piscatorial prize most eagerly sought after by that segment of the admiralty legal fraternity, whose specialty is fishing in troubled waters, using the all encompassing discovery motion as bait.

While it is possible to make a fairly thorough inspection of a vessel while it is in port, it is my belief that it is impossible to correct the underlying causes creating the hazards which our inport inspections reveal. Some years ago, I carried out a fleet-wide safety survey spending 3 weeks inspecting the company's vessels. The company had an international reputation as efficient and cost-conscious operators. Aboard ship after ship, the amount of worn, old, or fishhooked rigging was very evident. Finally, aboard one vessel I noted a pair of runners being changed, not from old to new but from new to old! Asking the mate why, I received this explanation. "Well, we're going to be working bags this afternoon, and these old runners will be good enough."

Further inquiry finally brought out the facts. Every year a vessel's fleet efficiency rating was calculated and published. One of the items included in this was the cost of wire rigging expended. To further compound the crime, a few years prior the comments included with the published rating had made much of a sudden increase in cost of wire replacement. Needless to say, the elimination of this item from the fleet efficiency rating solved the problem. I am also of the firm conviction that this resulted in the saving of many thousands of dollars within that company.

Of course, this is one of the troubles with safety. The cost of a safety department is a chargeable item, continually under the scrutiny of a management, pressed by raising costs on one hand and decreasing return for capital invested on the other. How do we show an entry on the books to balance this cost? We can't, and when the orders come down from on high, "Reduce your operating budget by 10 percent," the safety department is a tempting target. Caught on the horns of this dilemma many a potentially topflight safety man has blown the dust off his sextant and gone back to sea, to higher pay, to more vacation, and to less frustration.

A fourth observation, and one of which I am strongly convinced, is the benefit of under-way safety inspection, demonstration, and discussion. It is only at sea that the opportune moment usually presents itself. A moment when the skipper, first, or bos'n, wants to talk. He has problems (I am sure safety is one of them), and at the proper time he will talk about them, about how he really feels, what he really wants, what's bugging him. You can listen and learn. You, in turn, then have the proper opening to make your points.

Or sit on the corner of a hatch with the bos'n and a couple of the deck gang while they are throwing a splice into a mooring line. Do you know of any better time to start up a

little safety discussion on the special characteristics of synthetic lines?

Two years ago, I carried out an inport inspection of 16 ships followed by a report to management. Afterwards I made a 4-day trip to Puerto Rico aboard one of the vessels. I had the opportunity to plot on the vessel's radar under the same conditions as the ship's officers and could better appreciate their attitude about plotting. I had the opportunity to go over each inspection item, which in my opinion, was not up to standard, at a convenient time for the person involved. Lastly, one night, the skipper and I began talking. We talked until well after midnight and I have the feeling that those few hours were far more beneficial than the whole prior in port period.

The four points I wish to stress:

1. The different levels of safety interest between ship and ship and between company and company.

2. The multiplicity of projects in which company safety personnel are involved.

3. The lack of real safety communication between office and ship.

4. The benefit of more underway safety training.

I feel that our safety approach is not keeping pace with other advances in our industry, or with technological advances in the field of accident prevention itself. The Vietnam war, with its demands for increased tonnage and the resultant thinning out of the reservoir of competent personnel has been coupled to our industries' total preoccupation with the changing concepts of marine transportation; a need to make decisions now which mean economic life or death to the companies now operating. These twn facts have mitigated against the orderly continuing development of marine safety programs.

It is my feeling that these decisions have been made and have been correct ones. It is also my feeling that the dangerous shortage of manpower is about at an end, both because of an expected decline in Vietnam war demands and because of increasing availabilty of larger and faster vessels. Is this not an opportune moment to formulate an industry-wide safety program tailored to face the challenge of the next decade, tailored to fit the technological advances of our new U.S.-flag vessels, tailored to meet the needs of the seamen of the seventies?

Specifically, I propose that under the aegis of the American Institute of Merchant Shipping (A.I.M.S.), a Safety Facility be established to formulate and provide a basic industry-wide accident prevention program which would be made available to every company for every vessel.

Why A.I.M.S.? Because it is a private, industry-sponsored group, whose safety interests are our safety interests. Because it is staffed by such men as Jim Reynolds, whose past participation in industry-labor matters has gained for him international respect. Because it is an ideal forum for working out safety policy and procedures at the top level—i.e., the old bug-a-boo of whether men off watch should be paid overtime to attend safety meetings.

What would be the advantages of such an industry-wide program?

First, it could provide a continuity to safety, so that a seaman moving from ship to ship or from company to company would be regularly exposed to a program with which he is familiar.

Second, by providing a basic safety package at regular intervals, considerable duplication of effort by individual company safety departments would be eliminated, freeing those individuals to spend more time aboard their vessels or researching special projects of interest within their own company's specific operation.

Third, it could be a fact-gathering center whose aim would be to isolate industry accident trends and, making use of the best consultant talent available, develop procedures to prevent and eliminate the causes.

Fourth, it could provide a highly technical, yet specifically marine oriented center for the training of safety personnel, who daily must provide motivation to the safety effort within their fleet, and, who by and large, are not now trained in the disciplines and procedures which current research is revealing as the necessary tools of the practicing safety engineer.

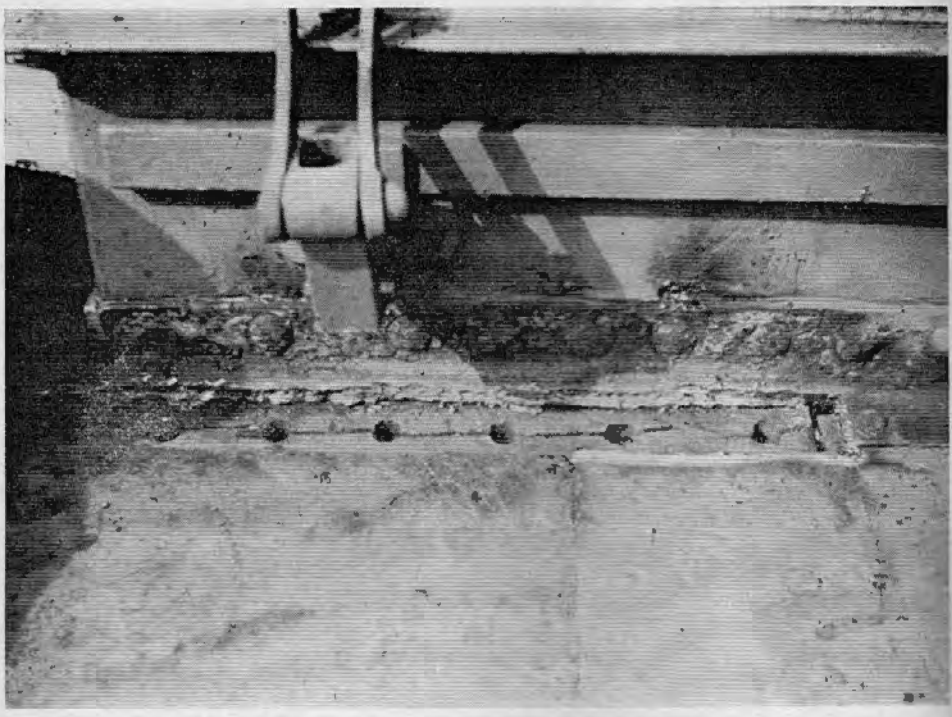
A marine man has one overwhelming advantage when talking safety aboard ship—"Instant acceptance." Giving such a man basic insight into such fields as psychology, leadership principles, accurate statistical analysis, would lend a professionalism and competence hard to beat. Such a program will enable our industry to meet the challenge of "Safety in the Seventies!" ⚓

the many faces of

CORROSION

LCDR Peter J. Rots, USCG

Purdue University NROTC Unit



A crack under the hatch boundary angle which started by corrosion due to water and cargo material trapped underneath.

THE SUBJECT OF corrosion is ever present in any preventive maintenance program. When you consider the conferences, technical meetings, surveys, briefings, studies and libraries written on the subject, it is difficult not to become philosophical and wonder if corrosion should not be an axiom of life as is death and taxes.

First, corrosion by its very nature is insidious. It quietly eats away at the functional efficiency of our system. The hazards it creates are sometimes hidden until it is too late.

Secondly, the problem of corrosion is all encompassing. It's big. In fact, comprehensive corrosion reports look like all the New York City phone books stacked one on the other.

Look at the problem this way: Corrosion can attack every nut, bolt, flange, hinge, tube, etc., all the way up to the fantastically large number of individual pieces of hardware that make up a system. Next, there are about ten types or forms of corrosion depending on how they are defined. Now, multiply the number of things which can corrode by the number of ways corrosion can work and you have an idea of the size of the problem.

Of course, this approach is an over simplification. Not all items are prone to all forms of corrosion, nor does this method allow for the time factors involved. For example, many items in our system can accept a substantial amount of corrosion without any degradation in performance. Items such as large supporting structures, work platforms, etc., fall in this area. After a while they may not look very good, but there is no need to rush into a frantic corrosion control program.

On the other hand, items such as fuel valves, high pressure tubing and environmental life support fixtures are items which require immediate attention when corrosion starts.

Unfortunately, some people launch a corrosion control effort which really ends up being nothing but a beautification program.

Actually, effective corrosion control requires an "across-the-board" approach. This means that the prevention of corrosion should be emphasized during all phases of design, development, and operational use.

The idea of corrosion prevention measures covering all phases of design is not new. We have adequate coverage in specifications, work statements and other documents. However, despite good design and proper protective coatings, poor workmanship often transfers the corrosion problem to the user activity.

Thus far the word "corrosion" has been used frequently with no attempt to describe its many forms. Following is a brief description of the various types of corrosion and a table to sum-

marize the information for quick reference.

Galvanic Corrosion: This is a complete class of corrosion types involving electromagnetic action between two metals or between different areas of the same metal having different heat treatments or other metallurgical differences.

Dissimilar Metal Corrosion: This type of corrosion is a subgroup under the general class of galvanic corrosion. Here, the electro-chemical reaction is caused by two different metals in contact with an electrolyte. The electrolyte in most cases is water. Dissimilar metal corrosion is almost always localized to one or the other of the metals involved. This action is explained by table 1.

If two metals are placed in contact in the presence of an electrolyte, the metal nearer the top of this list will corrode. The further apart the two metals are, the more aggressive will be the corrosion.

Intergranular Corrosion: This type of corrosion is also a form of galvanic action where the metallic grain boundaries and the grain particle create a cell in an ambient corrosive solution or atmosphere. Intergranular corrosion is a particularly bad form of corrosion because it attacks the basic grain boundary structure of metal. Some of the stainless steels are prone to this form of corrosion if they are heated. This could occur during welding. The heating causes chromium carbides to collect at the grain boundaries and the corrosion begins.

Stress Corrosion: This type of corrosion is caused by the inter-action of a corrosive attack and sustained tension stress. Cracking of the surface is usually present. Stress corrosion is intergranular corrosion but with tension loads either from "locked in" stress or externally applied forces. Bolts often fail as a result of stress corrosion.

Pitting Corrosion: This is a localized form of corrosion in which a break in the passive film occurs. Once broken, a cell is formed between the exposed metal and the passive metal. Such breakdowns in the protective coating can occur at a rough spot, machining mark, scratch, or other surface flaw. Pitting corrosion can also occur under a small deposit (weld splatter or dirt) which prevents the access of oxygen to the metal. Pitting corrosion proceeds at a rapid rate if the products of corrosion are conductive.

Erosion Corrosion: In this case, the corrosion products are removed by the action of fluid flow or pressures, thus exposing fresh metal to the corrosion attack. The progress of this type corrosion is very rapid.

Table 1.—Corroded End of List (Least Noble #1)

1. Magnesium
2. Aluminum
3. Manganese
4. Zinc
5. Chromium
6. Iron
7. Cadmium
8. Nickel
9. Tin
10. Lead
11. Copper
12. Silver
13. Platinum
14. Gold

Type	Description	Precaution
Uniform	1. A general attack on unprotected surface. 2. Combined effects of moisture, temperature, condensation and evaporation. 3. Also caused by direct chemical attack.	1. Overdesign structure to accept corrosion. 2. Remove with chemicals or abrasive techniques and apply protective coating. 3. Isolate metal from corrosive environment.
Galvanic	1. Electrochemical corrosion cells are formed. 2. An electrolyte in contact with two different metals or one metal having different characteristics.	1. Avoid dissimilar metals. 2. Use coatings and/or cathodic protection. 3. Place a dielectric barrier between the dissimilar metals. 4. Interrupt the electron flow through the electrolyte.
Intergranular	1. Galvanic cell between grain boundaries (positive) and grain center (negative). 2. Destroys structural bonding of the metal.	1. Different heat treatment, annealing a new metallurgical design. 2. Use stabilized stoinless steels or low carbon steels.
Stress	1. Combined effects of tensile stress and corrosive treatment. 2. Tensile stresses expose metal to the corrodent.	1. Reduce stress level. 2. Use shot-peening or annealing to reduce the residual stresses. 3. Alter the corrosive environment.
Pitting	1. Incomplete protective film or coating. 2. Particles deposited on metal surface break down the film by creating an oxygen deficient area.	1. Any metallic coating which is anodic to the base, i.e., zinc or steel. 2. Organic coatings such as paint, asphalt, epoxys or rubber.
Erosion Corrosion	1. Corrosion products are removed by erosion, thereby exposing fresh metal to the corrodent.	1. Sacrificial, non-metallic coatings. 2. Better design, more metal when it is needed.
Concentration Cell	1. Dissimilar electrolytes in contact with the metal. This includes differences in acidic content of oxygen concentration.	1. Coatings, cathodic protection and corrosion inhibitors.

389-754—70——2

Concentration Cell: A form of galvanic corrosion wherein dissimilar electrolytes are in contact with a metal. Not as prevalent as the preceding types of corrosion, it nonetheless is important.

In conclusion, here are nine methods, depending on the problem, which can be used to control corrosion.

1. Use materials which are compatible with the environment.

2. Use inhibitors which will form a protective coating as the corrosive material comes in contact with the metal.

3. Use coatings such as paint, which do not permit corrosion cells to form since they prevent the completion of the electric path.

4. Use protective materials such as galvanizing or anodizing over the metal.

5. Use counter current electrical flow to oppose the current generated in the corrosion cell.

6. Use environmental controls. Air conditioning processes are sometimes used to remove moisture from the air which might otherwise condense on metallic surfaces and start corrosion cells.

7. Use similar metals whenever possible.

8. Use sacrificial anodes, i.e., more active metals than the metal to be protected. The more active metal will corrode, protecting the original structure.

9. *"Use Common Sense."* ⚓

—U.S. Coast Guard Engineer's Digest

IMCO ACTIVITIES

TRANSPORT OF CARGOES OF ORE CONCENTRATES THE REQUIREMENTS OF THE IMCO CODE OF SAFE PRACTICE FOR BULK CARGOES

At its 21st session (23–27 February 1970) the attention of the Maritime Safety Committee was drawn to accidents which have occurred and certain difficulties which have arisen in the transport of ore concentrates, mainly because those concerned with the transport of such cargoes (producers, port authorities, safety authorities, owners, and masters) have been unfamiliar with the requirements of the IMCO Code.

This particularly relates to section 7.3 of the Code which inter alia requires that a certificate, stating the transportable moisture limit and the certified moisture content of the cargo in question, should be provided at the loading point to the Shipmaster and to the appropriate authority.

In practice it has frequently proved difficult to obtain the above mentioned certificates, thus creating difficulties in the whole chain of transport from the negotiations between owners, charterers, and shippers to the actual loading of the cargo.

In accordance with the Committee's decision, the Secretary-General invites Member Governments and the Governments of States Participants in the International Conference on Safety of Life at Sea, 1960, to draw the provisions of the Code to the attention of all persons concerned with the production and transport of ore concentrate cargoes, including mining companies where possible.

Section 7.3, Certificates, printed belows, is extracted from the "IMCO Code of Safe Practice for Bulk Cargoes":

7.3 *Certificates.*

7.3.1 A certificate stating the Transportable Moisture Limit and the certified moisture content should be provided at the loading point to the shipmaster and to the appropriate authority.

7.3.2 Certificates stating the Transportable Moisture Limit should contain or be accompanied by a statement by the shipper that the moisture content specified in the certificate of moisture content is, to the best of his knowledge and belief, the average moisture content of the cargo at the time the certificate is presented to the Master or government official responsible to authorize commencement of loading. When cargo is to be loaded into more than one compartment of a vessel, the certificate of moisture content should certify to the moisture content of each type of concentrate loaded into each compartment. However, if the moisture content is uniform throughout the stockpile, then one certificate of average moisture content for all compartments should be acceptable. ⚓

DECK

Q. A power-driven vessel backs out of her berth between two piers in a Canadian port, where the International Rules govern. What signal or signals should she use? What if she goes out ahead?

A. When backing out, only three short blasts should be blown to indicate engines are going astern. The signal of one long blast is not authorized under International Rules for this situation.

If going out ahead, no signals are used.

When in sight of other vessels and taking any course authorized or required by the International Rules, the sound signals for passing steamers are used.

Q. When a vessel is searching for survivors in the daytime, what is the most effective way to indicate her presence, so the survivors can communicate or reveal their location with the means at their disposal?

A. When a vessel is on a rescue mission in the daytime and in the vicinity of possible survivors, she may indicate her presence by emitting heavy black smoke.

Q. Given:

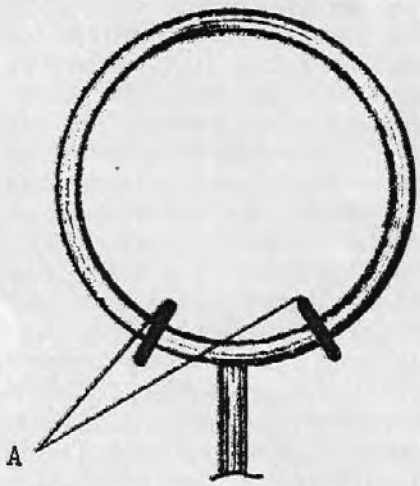
Compass course	296°
Variation	5° East
Deviation	2° East
Gyro Error	1° West
Leeway (Wind S.S.W.)	2° Degrees

REQUIRED: The course to steer per gyro compass to make the true course good.

A. C.C	296°
C.E	7° East
T.C	303°
G.E	1° West
G.C	304°
LEE	2°
P.G.C	302°

RADIO DIRECTION FINDER

Q. Sketched is a marine type radio direction finder loop antenna. Why is it important that the insulator and gasket noted by "A" be kept in good condition and clean from paint or other material?



A. The insulators prevent resonance in the antenna shield which might cause bearing error if a full loop was present. Paint could defeat its purpose. Gaskets prevent water from entering the shield as well as insulation.

ENGINE

Q. How is the "bleed" steam from the turbine controlled?

A. Bleed steam is usually used only when operating at or near full-load conditions and the steam pressure within the bleed stage is greater than the auxiliary exhaust pressure. The bleed steam is usually controlled by a hand operated stop valve with some approved method provided to prevent the entrance of the back pressure steam into the turbine. An excess pressure valve will be located in the auxiliary exhaust line to dump excess steam into the condenser.

Q. What will be the effect of a broken pressure adjusting spring in a fuel injection nozzle of the type usually used with individual jerk type fuel injection pumps?

A. If the pressure adjustment spring is broken there will be no resistance to the opening of the nozzle valve. This will probably cause dribbling, rather than the formation of a spray pattern. This trouble may cause detonation and is also likely to cause crank-case dilution. It will contribute to carbon formation on the nozzle and smoky exhaust.

Q. How is the head pressure in an ammonia compressor controlled?

A. The head pressure in an ammonia compressor can be controlled either by the speed of the engine driving the compressor, or by means of the expansion valve. Increasing the speed of the engine or closing down on the expansion valve will raise the head pressure; reversing these will lower the head pressure. The head pressure may also be varied by the temperature and quantity of the cooling water passing through the condenser.

VADM T. R. SARGENT, III

On April 24, 1970, President Nixon named Rear Admiral Thomas R. Sargent, III to the post of Assistant Commandant of the U.S. Coast Guard, which carries with it the rank of Vice Admiral (succeeding retiring Vice Adm. Paul E. Trimble). He was sworn into office on July 1, 1970 by Adm. C. R. Bender, Commandant U.S. Coast Guard.

His military career began with his appointment as cadet to the U.S. Coast Guard Academy at New London, Conn., on August 1, 1934. He graduated and was commissioned on June 2, 1938.

He performed his earlier assignments of shipboard communications, line duty, and engineering on board the Cutter *Tahoe* out of New Bedford, Mass., from June 1938 to August 1939, then on board the Cutter *Modoc* out of Wilmington, N.C. for the following 3 years.

During World War II, he served as engineer, navigator, executive officer and finally commanding officer on board the Navy Sub-Chaser PC–469 on convoy escort duty in the Caribbean from July 1942 to May 1943. He next served as Engineer Officer on board the Cutter *Duane* out of Boston on North Atlantic convoy escort duty for a year, then commanded the patrol frigate USS *Sandusky* (PF–54) of Escort Division 33 in the Philippine Campaign. For the latter duty he was awarded the Bronze Star Medal.

In addition to the Bronze Star Medal, VADM Sargent has the following World War II campaign service medals and ribbons; American Defense; American Area; European-African-Middle Eastern Area; Asiatic-Pacific Area; Philippine Liberation; Philippine Presidential Unit Citation Badge; Victory Medal. His later awards include the National Defense Service (Korean) Medal as well as the Legion of Merit (Dec. 1966), and the Coast Guard Commendation Medal (Aug. 1968).

From June 1945 to September 1950, he was assigned at the Coast Guard Academy first as, Administrator of Reserve Officers Training School and later as Public Works Officer. After completing a tour of duty as Executive Officer of the Cutter *Bibb* of Boston in April 1951, he was assigned as a student at Rensselaer Polytechnic Institute, Troy, N.Y., where he received a Bachelor of Civil Engineering Degree in October 1952. That was followed by 2 years of duty as Chief, Civil Engineering Section of the 13th Coast Guard District, Seattle.

From November 1954 to September 1956, he commanded the Cutter *Winnebago* out of Honolulu. He served his next tour of duty as Assistant Chief, Aids to Navigation Division at Coast Guard Headquarters, Washington, D.C. After serving as Chief, Civil Engineering Section at the Ninth Coast Guard District, Cleveland, from July 1959 to June 1961, he returned to Headquarters to serve as Chief, Civil Engineering Division for 5 years. While in that post he supervised the development and construction of a chain of Coast Guard Loran Stations in Thailand and South Vietnam for which he later received the *Legion of Merit*.

In August 1966, as a Captain, he became Chief, Operations Division of the 11th Coast Guard District, Long Beach, Calif., which covers Coast Guard activities within the boundaries of Southern California, Southern Nevada, Southwestern Utah, and Arizona.

By nomination of the President (on December 15, 1966) and approval of the Senate, the then Captain Sargent was appointed permanent Rear Admiral to rank as such from July 1, 1967.

He served as Commander, 11th Coast Guard District from May 1967 to May 1968. He was awarded the Coast Guard Commendation Medal for meritorious achievement in that post.

In June 1968, RADM Sargent was assigned to the post as Chief of Staff of the U.S. Coast Guard at Headquarters, where he served until his present position. ‡

RADM W. F. REA, III

On July 6, 1970, Rear Adm. William F. Rea, III, officially assumed the duties of Chief, Office of Merchant Marine Safety at U.S. Coast Guard Headquarters, Washington, D.C. This position has been vacant since the retirement of Rear Adm. Charles P. Murphy in February of this year.

RADM Rea has had extensive background and activity in the Coast Gaurd's Merchant Marine Safety Program since his graduation from the U.S. Coast Guard Academy in December 1941. His assignment as a junior officer to the Marine Inspection Offices in Norfolk and Port Arthur along with a year of specialized industrial training with the Texas Company led him to more responsible positions in the Marine Inspection Office at New Orleans and at USCG Headquarters.

While stationed at Coast Guard Headquarters from August 1960, to January 1964, he was Chief of the Vessel Inspection and Manning Requirements Branch for 2 years after which he became Assistant Chief of the Merchant Vessel Inspection Division.

In July 1967, after completing a duty tour of 3 years as Officer-in-Charge of the Coast Guard's largest Marine Inspection Office in New York, he returned to Coast Guard Headquarters to serve as Deputy Chief, Office of Merchant Marine Safety.

Several of RADM Rea's other duties outside of merchant marine safety include command of the Destroyer Escort *Koiner* (WDE 431) and the USCGC *Tamaroa* (WMEC–166). He also was attached to the U.S. Military Government in Korea assisting in the organization and training of a Korean Coast Guard.

By nomination of the President (November 30, 1967) and approval of the Senate, Captain Rea was appointed to rank as permanent Rear Admiral from July 13, 1968. At that time he became Commander, Ninth Coast Guard District, Cleveland, a position he has held until this reassignment as Chief, Office of Merchant Marine Safety. ⚓

PILOT LADDERS—WHO CARES?

LCDR R. C. TIMS, USCG

Vessel Inspection and Manning Standards Branch, U.S. Coast Guard Headquarters

Who cares about Pilot Ladders? The number will probably surprise you. On an international level, the International Conference On Safety Of Life At Sea, 1960 (SOLAS 60) in regulation 17, chapter V speaks directly to the ladder dimensions, supporting equipment, method of rigging and the persons authorized to use the ladder. On a national level the Coast Guard sets forth rigid specifications and test procedures which must be met in order for a manufacturer to obtain a Coast Guard Approval Number. Additionally, Regulations require that a responsible officer of the ship supervise not only the rigging of the ladder, but also the embarkation and debarkation of the pilot, and further that the provisions of SOLAS 60 be met. Both the Master and the responsible officer assigned to supervise the operation care because they are what is known in the trade as "bag holders". Anyone else? Oh yes, we can probably say with reasonable assurance that the pilot too has a certain interest in the entire matter.

Now, let us get down to the "nitty-gritty". Is your ship prepared to bring a pilot aboard? If you make frequent inspections of the ladder, make repairs when necessary, keep it free of grease, dirt, etc., and can answer yes to the following questions, you are prepared.

a. Is your pilot ladder Coast Guard Approved? If so, the approval number will be branded or otherwise permanently marked on the rungs or ears of the ladder at intervals of not more than five feet.

b. Do you have adequate and sufficient spreaders to keep the ladder from twisting, a man rope (a knotted rope to assist in embarking and debarking the vessel), a safety line readily available for use in conjunction with the pilot ladder should circumstances so require?

c. Is your ship equipped with handholds to assist the pilot safely and conveniently from the head of the ladder into the ship and onto the ship's deck?

d. At night, do you have a light available to shine over the side, and is the deck at the position where the pilot boards the ship adequately illuminated?

e. If the distance to the water exceeds 30 feet, do you have the accommodation ladder or other equally safe and convenient means available to bring the pilot aboard?

f. When the ladder is secured in position, does each step rest firmly against the ship's side?

g. Is the rigging of the ladder as well as the embarkation and debarkation of the pilot supervised by a responsible officer of the ship?

Now that you are properly prepared, exercise due caution and bring him aboard—SAFELY. ⚓

NAVIGATION AND VESSEL INSPECTION CIRCULAR 1–70

3 April 1970

Subject: Repair of Boiler Safety Valves

PURPOSE

The purpose of this circular is to outline conditions of Coast Guard approval and acceptance when safety valves are repaired under the provisions of Section 59.01–5, Title 46, CFR, Subchapter F, Marine Engineering.

BACKGROUND

The history of repairs to safety valves has involved discoveries of patently unsafe conditions as well as other associated problems. For example, safety valves have been found with decreased relieving capacity caused by improper repairs. The manufacturer's name plates had been destroyed, which resulted in an inability to determine whether or not the valve was of approved design or who repaired the valve. If failure of the valve had occurred, there was no means of establishing responsibility. The situation resulted in the valves being rejected for further use on board Coast Guard inspected vessels.

DISCUSSION

Previous history of unsatisfactory repairs to safety valves has demonstrated a need to establish uniform repair and acceptance criteria in order that safety standards will not be diminished when safety valves are repaired. In view of the hazards that prevail when improper workmanship or improper material is used in the repair of safety valves, it is necessary that these repairs be kept under strict Coast Guard inspection so that the repaired valve performs in a manner at least equal to a new approved valve manufactured in accordance with 46 CFR 162.001.

SAFETY VALVE REPAIRS

(*a*) In accordance with 46 CFR 59.01–5, proposed repairs to safety valves must have the prior approval of the Officer in Charge, Marine Inspection, before being undertaken. Safety valve repairs may be made by the original manufacturer or by a repair facility acceptable to the cognizant Officer in Charge, Marine Inspection.

(*b*) Whenever repairs require the replacement of parts, such parts whenever possible shall be made by the safety valve manufacturer. If parts cannot be obtained from the manufacturer within a reasonable time, the repair shop may make the part or purchase it from other sources. However, the workmanship must be of good quality and at least equal to that required in manufacturing the original valve. The materials used in the replacement of parts of safety valves shall have corrosion and heat resisting properties at least equal to the material used by the manufacturer in the original or initial construction. When parts are not supplied by the original manufacturer, the corrosion and heat resisting properties of materials shall be verified by metallurgical reports covering parts produced or used by the repair shop.

(*c*) If a new valve body is supplied, a tapped drain opening of a size and location as specified in 46 CFR 162.001–5(g)[1] shall be fitted (Specification Subpart 162.001). After the repairs have been satisfactorily completed, the safety valve shall be set under steam pressure and shall meet the prescribed blowdown and popping tolerances as given in 46 CFR 162.001–6[1] before the valve can be accepted.

(*d*) The name plate of the original manufacturer of the safety valve shall not be removed. If necessary to remove this name plate to perform repairs, it must be replaced when the work is completed.

ACTION

The following procedures outline criteria for Coast Guard acceptance of repairs of safety valves in accordance with 46 GFR 59.01–5:

(*a*) Repairs effected and replacement parts used shall comply with the standards outlined in paragraph 4 above.

(*b*) The name plate of the repair shop shall be securely attached to the valve body. This corrosion resistant name plate shall show the name and address of the company or person performing the repairs, and the month and year the repairs were made.

(*c*) The nearest Officer in Charge, Marine Inspection, shall be contacted and arrangements made so that the completed work will be satisfactory to the Coast Guard, and the name plate will show the inspector's initials together with the official stamp of the Coast Guard.

[1] Should read 46 CFR 162.001–4.

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 2–70

7 April 1970

Subject: Acceptance of Pressure Vessels used as Decompression Chambers or for other purposes related to diving

PURPOSE

The purpose of this circular is to clarify the requirements for Coast Guard acceptance of pressure vessels used as decompression chambers or for other purposes related to diving on board vessels subject to Coast Guard inspection.

DISCUSSION

The increased use of decompression chambers on board inspected vessels has raised questions about the degree to which they are subject to Coast Guard regulation as unfired pressure vessels. While the applicability of the regulations to permanently installed pressure vessels has not been questioned, the subject chambers, for the most part, inspected vessels, uninspected vessels, and the shore. Since are portable equipment which is interchanged between portable pressure vessels present the same or greater potential safety hazards as permanently installed pressure vessels they should be handled in the same manner. In order to bring all chambers used on board inspected vessels into uniform compliance with the applicable regulations, the procedures outlined below will be followed.

ACTION

(*a*) All decompression and other diving chambers subject to an internal pressure of over 15 p.s.i. that are installed on board vessels subject to Coast Guard inspection will be constructed in accordance with 46 CFR 54 (pressure vessels). Alternatively they will be accepted by the Officer-in-Charge, Marine Inspection if they satisfactorily meet the following requirements:

(1) The pressure vessel is constructed in accordance with the ASME Code as evidenced by the manufacturer's data sheet submitted when applying for inspection.

(2) The plans are approved in accordance with 46 CFR 54.01–18.

(3) The vessel passes the Hydrostatic test described in 46 CFR 54.10–10. (In the event this test is not practicable, the OCMI may authorize the substitution of the pneumatic test described in 46 CFR 54.10–15).

(4) A spot radiographic survey of welded joints in the presence of a Coast Guard inspector (consisting of at least 12 radiographs taken at locations designated by the inspector) reveals no unacceptable welding defects.

(5) The pressure vessel passes such additional tests as the Officer-in-Charge, Marine Inspection may require.

(*b*) External pressure design will not be reviewed in the case of a pressure vessel designed to be subjected to both internal and external pressure such as a personnel transfer capsule.

(*c*) The Coast Guard approval of these chambers is only as unfired pressure vessels and does not purport to pass on the operating efficiency of the system.

(*d*) In addition to the markings required on permanently installed pressure vessels, the portable chambers will be required to have a plate suitable for stamping the dates of the periodic inspections that are required by 46 CFR 61.10. ⚓

THE SAFE WAY IS THE BEST WAY

Accidents are not a necessary part of a job, but safety is. Knowing the safe way to do your job is only the basic step. Doing it safely—not occasionally when it suits your convenience, but at all times—is the trademark of an efficient worker.

A person may consider himself a "safe worker" simply because he never gets hurt, and yet he can be a menace to safety. When you can say that you do your own job safely and are equally alert to protect the welfare of your fellow workers—that is safety. Think out each job carefully and act on the basis of your knowledge of the joh. Ask yourself the question, "How can I prevent accidents to myself and others?"

Experience has proven that most accidents on the job are caused by unsafe work practices and unsafe acts on the part of a person at the work scene, or a combination of both.

Therefore, it is the responsibility of each individual to think about their job and to be alert if we are to stay free from accidents. Obey safety rules at all times. ⚓

—Lykes Line Safety Bulletin

AMENDMENTS TO REGULATIONS

Title 46 Changes

Chapter I—Coast Guard, Department of Transportation

MISCELLANEOUS AMENDMENTS TO CHAPTER

The purpose of this document is to make miscellaneous amendments to Subchapters A (Procedures Applicable To The Public), B (Merchant Marine Officers and Seamen), D (Tank Vessels), F (Marine Engineering), H (Passenger Vessels), I (Cargo and Miscellaneous Vessels), N (Dangerous Cargoes), and R (Nautical Schools).

The majority of the amendments concern Subchapter F, which was extensively revised by a document published in the FEDERAL REGISTER of December 18, 1968 (33 F.R. 18808) which became effective on July 1, 1969. This document corrects manifest errors that have been found in this revision and eliminates a number of unnecessary duplications. Also, the document reflects changes in the names and addresses of a number of societies which issue the codes and standards which are incorporated by reference in this subchapter. Since these amendments are editorial in nature, it is hereby found to be unnecessary to comply with the requirements of the Administrative Procedure Act concerning notice and public procedure thereon.

Under the terms of the incorporation by reference presently contained in Subchapter F of the various industry standards and codes, changes to these standards and codes made by the societies issuing them are also adopted by the Coast Guard, unless expressly disaffirmed. Some of the amendments in this document are made to reflect recent changes in the standards and codes which by the terms of the existing regulations have already been adopted. The existing § 50.15–30(b) expressly provides that these amendments to the regulations caused by changes in the standards and codes will be made by the Coast Guard without notice of rulemaking.

Under the present regulations, the manufacturer of boilers, pressure vessels, or nuclear pressure vessels is required to complete the Manufacturers' Data Report prescribed by the ASME Code, as modified by the appropriate Officer in Charge, Marine Inspection of the Coast Guard. This ASME form consists of eight pages and experience has indicated that the modifications directed by the local Coast Guard official, if incomplete or incorrect, can cause confusion. In place of the modified ASME form, the Coast Guard has developed an abridged Coast Guard Form (Form CG–2936, Rev. 11–69) consisting of only one page. This form has been approved by the Bureau of the Budget. Several of the amendments in this document require that the manufacturer complete this abridged Coast Guard Form instead of the previously required ASME Code Form, as modified. This substitution will result in less burden to the manufacturer and will eliminate possible confusion to all concerned. In view of these circumstances, it is hereby found to be unnecessary to comply with the requirements of the Administrative Procedure Act concerning notice and public procedure thereon.

Several amendments in this document disaffirm the general adoption of Code Cases issued by the Societies interpreting and applying certain sections of the codes and standards to specific factual situations. This disaffirmance is necessitated by the fact that experience has shown that many of these Code Cases are manifestly inapplicable to marine installations. Section 50.15–60(b) provides, inter alia, that when the Coast Guard determines that a Code Case is unsatisfactory for marine use, a prohibition against its use will be published in the first instance as a rule without notice of rule making. Thereafter, the matter will be placed in the Public Hearing Agenda so that all interested persons may present comments thereon. This procedure will be adhered to with respect to all the amendments in this document which disaffirm the existing adoption of these Code Cases. The sections involved are 46 CFR 50.15–5, 50.15–10, 50.15–13, 56.01–5. These amendments will be placed on the next public hearing agenda and notice thereof will be published in the FEDERAL REGISTER.

The minor changes made by this document in the other subchapters are, in the main, self-explanatory. However, some of the changes warrant comment. Sections 10.05–33(a)(4), 10.10–2(a)(4), and 10.10–23(a)(4) are amended to provide that the completion of a prescribed deck or engineering course at a school operated by a union or nonprofit organization approved by the Commandant may be accepted as the equivalent of sea service up to a maximum of 4 months. The effect of these amendments is to equate training at a school operated by a union or nonprofit organization, after approval by the Commandant, to training at similar schools operated by the Government. The purpose of these amendments is to further alleviate the existing shortage of licensed deck and engineering officers. Since these schools operated by the unions are approved by the Commandant in the same manner as Government operated training schools and since time is of the essence in effectuating this change, it is hereby found to be unnecessary to comply with the requirements of the Administrative Procedure Act concerning notice and public procedure thereon.

Sections 70.05–30 and 90.05–35 are added to Subchapters H and I, respectively to repeat in those subchapters the provisions of 46 CFR 30.01–5 permitting the carriage of limited quantities of flammable and combustible liquids in bulk on passenger, cargo, and miscellaneous vessels, and to state the requirements of 46 U.S.C. 391a(4) that the permit to carry these cargoes be endorsed on the vessel's certificate of inspection. These changes are editorial in nature and notice and public procedure thereon are not required.

A note is added to § 146.20–9, a new § 146.22–3 is added, and a new article is added to Table C of § 146.22–100 to provide that smokeless powder for small arms in quantities not exceeding 100 pounds net weight, contained in one vehicle, container, or other authorized packaging may be transported as a flammable solid. These changes are made pursuant to the statutory direction contained in 46 U.S.C. 170(7)(a) to establish consistency with the regulations of the Department of Transportation contained in 49 CFR 173.197 (a). Accordingly, notice and public procedure on these amendments are not required.

Sections 146.24–21, 146.24–25, and Table G of § 146.24–200 are revised to exempt food, cosmetics, and related products in aerosol packages, charged with nonflammable, nontoxic gases from the on-deck stowage requirements for "Compressed gases, N.O.S." These revisions are consistent with the regulations of the Department of Transportation contained in 49 CFR Parts 170–179 governing these products when moving in land transportation. Carrier associations and terminal operators have pointed out that it is manifestly unreasonable to require on-deck stowage of containers of foodstuffs and cosmetics charged with nonflammable and nontoxic propellants. Furthermore, the present requirement for on-deck stowage prohibits stowage in refrigerated spaces which is required for the proper preservation of some of these products. The need for the revisions accomplished by this document is considered to be extremely acute. Since time is of the essence in effectuating these amendments to achieve consistency with the stowage requirements in land transportation notice and public procedure thereon are not required.

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.)
Double A Products Co., Manchester, Mich. 48158	Hydraulic Control Valve	YB–04	2000
Do	do	WW3–165	2000
Do	do	D4–195	2000
Do	do	QWA–185	2000
Do	do	QXA–02	2000
Do	do	BTP–01	2000
Do	do	WAP–01	2000
Do	do	YB–06	2000
Do	do	AA3–165	2000
Vickers Marine & Ordnance Division, Troy, Mich. 48084	Sub plate	DG**M–01*–1*	3000

Section 167.01–5(c) is added to subchapter R in accordance with a legal opinion of the Chief Counsel, U.S. Coast Guard to provide that documented nautical school ships of 500 gross tons or over when engaged on an international voyage shall comply with the standards of the International Convention for Safety of Life at Sea, 1960, for cargo vessels. Consistent with this requirement, § 167.60–1(d) is added to provide that those vessels which do not comply with these standards shall have their certificate of inspection endorsed "Domestic Voyages Only". These amendments involve an interpretative ruling and do not require notice and public procedure thereon.

All of the amendments contained in this document have been thoroughly considered by the Merchant Marine Council of the Coast Guard. The Council has recommended to the Commandant the approval of these amendments. After due consideration the Commandant, U.S. Coast Guard has approved the amendments.

The complete text of these changes was published in the "Federal Register" of June 17, 1970, part II.

These regulations may be obtained from the local marine inspection office or by writing Commandant (CAS–2) U.S. Coast Guard, Washington, D.C. 20591.

Chapter III—Coast Guard (Great Lakes Pilotage), Department of Transportation

PART 401—GREAT LAKES PILOTAGE REGULATIONS

Miscellaneous Amendments

1. On February 28, 1970, a notice of proposed rule making regarding amendments to Part 401, Chapter III, Title 46, Code of Federal Regulations, was published in the FEDERAL REGISTER (35 F.R. 3919). In accordance with the notice, a public hearing regarding the proposed amendments was held on March 26, 1970, in Cleveland, Ohio. Interested parties were given the opportunity to participate in the rulemaking by submitting written data, views, arguments or

comments regarding the proposed amendments before or at the public hearing and by making oral comments at the public hearing.

2. After the public hearing, the data, views, arguments, and comments submitted by interested parties regarding the proposed amendments were thoroughly considered by the Coast Guard. Thereafter, the representatives of the United States entered into discussions with the representatives of Canada. As a result of these discussions, a new memorandum of arrangements concerning Great Lakes Pilotage was executed by the Secretary of Transportation and the Minister of Transport, to become effective July 7, 1970.

3. Certain changes have been made in the amendments proposed in the February 28, 1970, notice. In § 401.110 minor clarifying changes have been made in the proposed additional definitions. These minor clarifying changes in definitions, have been reflected in § 401.400. Further, § 401.400 has been made applicable to § 401.425. In § 401.405, the basic rates for pilotage in the designated waters have been decreased from the proposed. Also in § 401.410 the basic rates for pilotage in the undesignated waters have been modified slightly. Both of these adjustments have been made based on a detailed joint review of traffic projections and revenue requirements. The provisions of § 401.420 have been made applicable to both the undesignated and the designated waters, an upper limit of basic rates has been retained, and minor clarifying language changes have been incorporated. Finally, in § 401.425 the conditions under which an additional pilot may be required are more clearly delineated. It is intended that the provisions of § 401.425 will be utilized only after careful review of the need in each individual case.

4. Since these amendments involve a foreign affairs function of the United States, they can be made effective in less than 30 days.

5. Part 401 of Title 46 of the Code of Federal Regulations (46 CFR Part 401) is amended.

(Federal Register of June 26, 1970.)

DEPARTMENT OF TRANSPORTATION

Coast Guard

HOUSE FLAG OF UNITED STATES STEEL CORP. (INTERCOASTAL AND GREAT LAKES FLEET)

Notice of Registration

1. The Commandant, U.S. Coast Guard, in accordance with the provisions of 46 CFR 67.87–5, issued under the authority of the Act of May 28, 1908, as amended (46 U.S.C. 49), has registered the house flag of the United States Steel Corp. (Intercoastal and Great Lakes Fleet) as described below:

(a) The house flag is rectangular in shape. The hoist is 5 feet, the fly 8 feet. Superimposed on the center of a blue field is a white circle, the outside diameter of which is 46½ inches, and the inside diameter is 39½ inches, the width of the stroke is 3½ inches. Centered in the circle are the letters USS in white. The letters are 16½ inches in height, 9½ inches in width, and the width of the stroke is 3½ inches with the middle letter lower than the others in the circle.

(b) A colored scale replica drawing of the house flag described above is on file with the Office of the Federal Register, National Archives and Records Service.

2. The registration of the house flag of United States Steel Corp. described in Treasury Decision 56112 dated February 13, 1964, as amended by a notice published on September 6, 1967, in the Federal Register (32 F.R. 12767) is hereby canceled.

Dated: March 19, 1970.

W. J. SMITH,
Admiral, U.S. Coast Guard,
Commandant.

[F.R. Doc. 70–3573; Filed, Mar. 23, 1970; 8:51 a.m.]

(Federal Register of Mar. 25, 1970.)

STORES AND SUPPLIES

Articles of ships' stores and supplies of a dangerous nature certificated from May 1, 1970 to May 31, 1970, inclusive, for use on board vessels in accordance with the provisions of Part 147 "Regulations Governing Use of Dangerous Articles as Ships' Stores and Supplies on Board Vessels" are as follows:

CERTIFIED

Polar Chemicals Limited, 34 Ebury St., London SW1, England. Certificate #880, dated May 13, 1970, PANORIN.

Marine & Ship Supply Inc., 110 Brannan St., San Francisco, Calif. 94107. Certificate #881, dated May 19, 1970, NYSTOL #78.

John B. Moore Corp., Outer Main St., P.O. Box 65, South Amboy, N.J. 08879. Certificate #882, dated May 25, 1970, M–111.

AFFIDAVITS

The following affidavits were accepted during the period from May 15 to June 15, 1970:

Todd Shipyards Corp., Nuclear Division, P.O. Box 1600, Galveston, Tex. 77550, FITTINGS.[1]

Crall Products, Inc., P.O. Box 1640, Pampa, Tex. 79065, FITTINGS.[2]

McDonnel and Miller, Inc., 3500 North Spaulding Ave., Chicago, Ill. 60618, FITTINGS.[3]

Allied Piping Products Co., Mt. Pleasant and Railroad Ave., Ambler, Pa. 19002, FITTINGS.

CHANGE OF NAME AND ADDRESS

From: Manatrol Corp., The, 2372 West 7th St., Cleveland, Ohio 44113. To: Manatrol Division of the Parker-Hannifin Corp., 200 Perry Court, Elyria, Ohio 44035.

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[1] Type 304 Stainless Steel Socket Welding fittings only.

[2] Crall Coupling Styles No. 380 and No. 400 only (Limited to a maximum allowable working pressure psi).

[3] Models FS1, and FS4, FS6, FS7, and FS8 Series Flow Switches only.

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 will be furnished by mail to subscribers, free of postage, for $2.50 per month or $25 per year, payable in advance. The charge for individual copies is 20 cents for each issue, or 20 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office. Washington, D.C. 20402. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1970 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. 12–18–68, 6–17–70.
123	Rules and Regulations for Tank Vessels (5–1–69). F.R. 10–29–69, 2–25–70, 6–17–70.
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, 10–29–69, 11–29–69.
172	Rules of the Road—Great Lakes (9–1–66). F.R. 7–4–69.
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, 6–5–69, 7–26–69, 10–29–69.
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, 5–11–67, 12–23–67, 6–4–68, 11–29–69.
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320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (11–1–68). F.R. 12–17–68, 10–29–69.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (7–1–69). F.R. 10–29–69, 2–25–70, 4–30–70.
329	Fire Fighting Manual for Tank Vessels (7–1–68).

CHANGES PUBLISHED DURING JUNE 1970

The following have been modified by Federal Register:

CG–115, CG–123, CG–191, CG–256, CG–257; and Subchapters A, N and R of Title 46 CFR, Federal Register, June 17, 1970.

CARE AND MAINTENANCE OF PILOTS

The Sea and Harbor Pilots bring special skills and local knowledge to your bridge. They have the latest news, gossip and orders. They'll even drink your coffee and mail your letters.

They shouldn't have to walk on water, fly, or run obstacle courses in the dark to provide these services.

How does your ship shape up when viewed from the pilot boat? Check this list of common complaints:

a) Pilot ladders in a bad state of repair, broken steps, dirty and covered with oil.

b) Insufficient illumination at night at the boarding area.

c) No safety lines rigged with the pilot ladder.

d) No life ring with line attached at the head of the ladder.

e) No responsible crew member attending the ladder when the Pilot boards or leaves the ship.

f) No escort to and from the bridge.

g) The main engine is not stopped while the Pilot is boarding.

h) Large tankers with high freeboards do not rig their accommodation ladder with the Pilot ladder.

Score your ship ZERO if you had to answer "true" to any of them — then, get them corrected. Give yourself a "plus" point if you provide a heaving line and canvas bag to lift small gear aboard.

* * *

Of course, the same consideration of safety and courtesy extends to all boarding parties.