

PROCEEDINGS

OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

IN THIS ISSUE . . .

Great Lakes Shipping Maritime History

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FRONT COVER

United States Steel's *Roger Blough* is shown while underway in Lake Superior. For details on new developments in Great Lakes shipping, turn to page 55.

BACK COVER

The Equitable Equipment Company built this specialized anchor handling tug, the M/V *Martha Theriot*, for Nolty J. Theriot, Inc. She is the first of seven such vessels scheduled for delivery to the New Orleans based marine and towing contractor.

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Lieutenant (jg) G. D. Szczurek, Editor

The Coast Guard, Marine Safety, and the Great Lakes Merchant Fleet

By Commander John Deck, USCG, Chief of the Merchant Marine Technical Branch, 9th Coast Guard District, Cleveland, Ohio. Any opinions expressed in this article are those of the author and not necessarily those of the U.S. Coast Guard.

The winds of change are blowing across the Great Lakes. The Extended Navigation Season Demonstration program, Merchant Marine Act of 1970, energy shortages, environmental considerations, and the need for greater productivity are making changes, both subtle and sweeping, in the Great Lakes marine transportation complex. Because the Coast Guard responsibilities are so far-reaching in the marine industry, these changes to the fleet require changes in Coast Guard regulation, policy, and direction of its programs relative to its position as a national maritime safety organization.

Cognizant of its national responsibility, the Coast Guard strives to maintain the highest level of safety and yet facilitate development and progress of the maritime industry. To do this, a continuing dialogue with industry and continuing research for proper realistic standards is maintained. The following paragraphs describe the activities of the Great Lakes marine transportation industry and the response of the Coast Guard in regulating and facilitating those activities.

New ship construction is underway at full capacity. Those shipyards capable of new construction have a backlog of orders for bulk carriers up to 1,000 feet in length. Those shipyards not in new construction are gearing up for it and, in the in-

terim, are up to capacity in major conversions to self-unloading vessels and lengthenings.

About the Author

Commander John Deck is presently the Chief of the Merchant Marine Technical Branch of the 9th Coast Guard District in Cleveland, Ohio. A native of Conneaut, Ohio, he graduated from the Coast Guard Academy in 1959. After serving nearly 5 years in various deck and engineering assignments on Pacific Coast cutters, he was assigned to the Portsmouth, Va., Marine Inspection Office. He attended postgraduate school at Massachusetts Institute of Technology and graduated in 1969 with the degrees of Naval Engineer and Master of Science (Mechanical Engineering). He then served 2 years on the staff of the Merchant Marine Technical Division in Coast Guard Headquarters. In 1971 he was transferred to his present assignment. Commander Deck is a member of SNAME and has served on various technical panels. He is also the chairman of the Human Factors Subcommittee for the Great Lakes Extended Navigation Season Demonstration Program.

Incentive for this activity has come from the Merchant Marine Act of 1970, which allows Great Lakes vessel owners the same economic advantages that are enjoyed by those trading on the ocean. Further, the national energy picture has brought incentive for construction of bulk carriers with large cubic capacity to haul western coal to the industrial and population centers of the Midwest.

The advent of these larger vessels has not been without some problems. The majority of the existing vessels have been in the 600- to 700-foot range and have established good service experience. Therefore, the rules for structural strength in those lengths were adequate. However, with vessels contracted to 1,000 feet in length, there was genuine disagreement amongst the designers, classification society, and the Coast Guard as to the extrapolation of the rules from 700 out to 1,000 feet. An interim standard was adopted and a program of research was laid out.

For the past three seasons, the 1,000-foot-long vessel, *M/V Steward J. Cort*, and the 806-foot-long vessel, *SS Charles M. Beeghley*, have been instrumented with strain gauges, accelerometers, and recorders to document the stresses and strains experienced by the vessels in service. The work is being carried out by Teledyne Materials Research in a

contract funded by the Coast Guard and the American Bureau of Shipping. The work is being monitored and technical direction given by HS-1, the Hull Loadings Panel of the Society of Naval Architects and Marine Engineers.

The structural analysis necessary to make a viable standard is not nearly as straight forward for Great Lakes vessels as one might imagine. Great Lakes bulk carriers are characterized by long lengths, narrow beams, and shallow depths, all of which are due to constraints of operating through locks and under fixed loading facilities. These conditions demand a vessel of very high length to depth ratio, with some vessels reaching a ratio as high as 21. A more normal seagoing vessel L/D ratio is on the order of 11 to 15.

These high L/D ratio vessels are susceptible to a phenomenon known as "springing". Springing is the resonant response of the ship hull girder to specific wave energy. In this response, the ship hull actually bends in vibration akin to wave bending. The ship does not respond to all waves, but to certain portions of waves depending upon heading, wave height and length, and ship speed of advance. Thus this phenomenon

contributes stress to the hull girder along with that stress provided by wave bending.

Not all of the details of springing, its mechanisms, and vessel response in terms of peak stress level and frequency, long term stress, and relation of the spring stress level to wave bending stress level are clearly understood. Accordingly, the American Bureau of Shipping and the Coast Guard have contracts with Webb Institute of Naval Architecture and the Naval Ship Research and Development Center to unravel the phenomenon of springing and its effects. When the research is completed, the Joint Canada/United States Technical Committee on Great Lakes Load Lines will adopt the final standards.

The need for greater productivity has led to a continuing number of existing "straight deckers" being converted to self unloaders. This involves reconfiguration of the cargo holds in order to provide a tunnel area in which conveyor belts that run the length of the vessel carry cargo fed on to the belts by hoppers. The cargo is then carried up to the unloading boom where it is fed on to the boom conveyor belt and to the stockpile. The self-unloading capability allows quicker unloading time than that of

the shore based Hewletts and also allows discharge of cargo in ports which have no unloading facilities.

The need for increased productivity has also been responsible for a growing trend towards reduced manning in both the engineroom and pilot house. The Coast Guard policy in manning reductions through automation is a true tested set of requirements which have had good service experience. A number of existing vessels have automated their boilers and enginerooms in order to qualify for reductions in manning force. With some vessels having scotch boilers and reciprocating steam engines dating back a number of decades, there have been a number of circumstances which have required masterful ingenuity to bring the plant up to the required automated level. New construction has been diesel powered and has gone to the unmanned or single-man engineroom.

Innovative vessel construction is another step toward greater productivity, as exemplified by the 1,000-foot-long M/V *Presque Isle*. The *Presque Isle* is actually two vessels, a 150-foot tug and a 975-foot barge, which are rigidly connected to operate and navigate as a single vessel. Because regulations covering tugs and



Two methods of personnel evacuation are shown undergoing tests in these photos. On the left a davit launched inflatable liferaft is being examined on board the M/V *Joseph Frantz*. A winter test of an inflatable evacuation slide in Lake Superior is shown in the photo at right.

barges do not speak to both acting as one, the Coast Guard had to establish a level of safety for such a unit and then apply existing regulations to insure that level. In this way the Coast Guard is able to regulate and facilitate commerce at the same time.

Concern for the environment has led to regulations for the prevention of pollution by oil and sewage. The regulations have caused a number of changes in engineering operations. Past practices of allowing copious oil flow to the bilges from the older pieces of equipment have been changed. Oil waste to the bilges has been almost completely eliminated and bilge water is essentially oil free when pumped over the side. Where the oil cannot be eliminated from the bilges, the bilge water is treated in an oil-water separator.

The factor that is causing the greatest economic and sociological changes in Great Lakes shipping is the Extended Navigation Season Demonstration program. The fact that more vessels are sailing longer than ever before is changing not only the patterns of commerce but also the patterns of the lives of the men who sail the vessels. A recent labor-management negotiation has led to a work pattern which heretofore had never been used on the Great Lakes.

Attitudes and programs on vessel personnel safety have also changed as a result of the extended navigation season. Because the Great Lakes region provides a wide variety of climatic regions, and because of the absence of international regulations in the area, the Lakes are an ideal testing ground for new ideas of personnel safety. The demonstration program merely added incentive and extra funds to an active re-evaluation of shipboard lifesaving equipment.

A systems approach was implemented to study problems in life-saving gear. The systems approach entails defining the lifesaving problem as a set of system requirements. By satisfying those requirements, the problem is solved. Where those requirements are not satisfied, technol-



A liferaft in Lake Michigan was the site for this test of a radar transponder.

ogy has to be advanced to do so. Where those requirements cannot be satisfied, technology has to be advanced as far as possible to achieve partial satisfaction, or alternative systems have to be devised.

To implement this approach, two contracts were made with Battelle Institute. One provided a description of the Great Lakes climatological environment and the other developed the requirements for lifesaving gear systems. The conclusions reached by these two studies were that (1) the extended season did not provide any greater hazard than was found during the normal season; (2) optimization of a given piece of equipment, such as a davit-launched lifeboat, did not yield any significant improvement in survival; (3) increased capability of early alert of distress enhanced detection of the survival craft; and (4) improvements in both group and individual exposure protection would yield the greatest improvement in survival.

In response to increased group exposure protection, the Coast Guard

is looking at three different group survival craft which can all be activated by one man and launched without leaving anyone on deck. These are the davit-launched inflatable liferaft, aircraft-type evacuation slide, and the Brucker capsule. Test work on the davit-launched liferaft is fairly complete; it has been accepted in a substitute for lifeboatage. Rough-weather testing on the slide has shown that this concept is sound but needs further refinement. The Brucker capsule is already an approved piece of lifesaving equipment but has never been used on the Great Lakes. A test installation is scheduled for spring 1975.

In the area of personal survival gear, a number of existing exposure suits were tested with disappointing results. Each one had a flaw which negated its survival capability. A contract was then negotiated with the Naval Air Development Center to develop a constant wear jacket which would provide buoyancy and thermal protection. Further work is being con-

(Continued on page 60)

The Smithsonian Institution's Hall of American Maritime Enterprise

If all goes according to plan, visitors to Washington, D.C., during next summer's Bicentennial will find an outstanding new attraction in the National Museum of History and Technology—a hall that will bring the hint of sea-fresh breezes to travel-weary tourists. The new Hall of American Maritime Enterprise, portions of which are scheduled to open in 1976, promises to offer some 7 million visitors an unsurpassed variety of exhibits depicting the Nation's maritime history.

The hall, which will occupy an 8,500 square-foot space, has as its nucleus the present gallery of ship models collected by Howard I. Chapelle, historian emeritus of the Museum of History and Technology. From this eminent collection the exhibit will expand to cover blue water ships, river steamers, work-a-day craft of bay and harbor, fisheries, research vessels, and the lives of those who went down to the sea in ships.

Visitors entering the hall will pass through the Discovery Pavilion, which will contain a replica of Martin Behaim's 15th century globe—a product of a world that viewed Cathay facing Europe. In this pavilion will be models of the *Nina*, *Pinta*, and *Santa Maria*, sailing in the formation they kept on the night of October 12, 1492. A Norse *knarr*, a type of vessel which brought Vikings to North America 500 years before Columbus will also be displayed.

From the Discovery Pavilion the visitor will begin a journey through time, beginning with the "Forging of the Nation" period. Here the story of the first American shipyards will be portrayed, featuring a 12-foot model of the square rigger *Brilliant*. Scaled an inch-and-a-half to a foot, this replica will give visitors a sizeable view of the early American shipwrights' art. An alcove in the hall will hold a three-dimension exhibit showing a curving waterfront of the 19th century, complete with 5 yards working on ships ranging from a small coasting schooner to an oceangoing screw steamer.

A corner of a colonial warehouse will introduce visitors to another important facet of the Nation's history—the variety and growth of American maritime commerce. Here viewers will be able to see the features of trade that epitomized a century and a half of British colonial

activity. Hogsheads, tierces, pipes, firkins, and puncheons in which cargoes were shipped will be on display, and visitors will learn about tecklenburgs, bombazines, calimancos, durants, dowlas, and pulicats.

SHIPS, PHOTOS, FIDDLES AND EPHEMERAE

If you are a seaman, an ex-seaman, a shipyard or a shipping line, you may have something to give to the Hall of American Maritime Enterprise.

In return you may receive a bit of immortality.

The Hall needs:

- Photos of engine rooms, forecastles, and glory holes, identified as to ship.
- 19th century ephemerae—posters, shipping and boarding house handbills, sailors' souvenirs and knick knacks.
- Waterfront photos from anywhere in the world.
- Wartime photos of merchant ships under attack.
- Memorabilia of maritime strikes—posters, picket signs.
- A decorated 19th century sea chest.
- Shipping calendar art.
- Musical instruments—fiddles, ocarinas, concertinas—made or used aboard ship.
- Old ships in bottles, and fancy work.
- Homemade games used aboard ships.
- Historic models.
- Discharges and continuous discharge books.

If you think you can help the Hall of American Maritime Enterprise, contact Dr. Melvin H. Jackson, Curator of Maritime Transportation, Room 5010, National Museum of History and Technology, Smithsonian Institution, Washington, D.C. 20560. Cash donations, which are tax deductible, may be sent to Marine Hall Fund, C/O Robert G. Tillotson, Assistant Director of Administration, National Museum of History and Technology, Smithsonian Institution, Washington, D.C. 20560. All donors will receive special cards or plaques recognizing their role in the new exhibition.

The colorful history of the Nation's seafarers will also be on display in the hall. An early evening scene complete with dimly lit streets, distant ship's whistles and fog horns, and the tune of a Salvation Army Band will carry the imaginative museum goer back to the typical waterfront at the turn of the century. The setting would not be complete, of course, without a tattoo "parlor" where the patterns, color pots, needles, and samples of the "professor's" art will be displayed.

Dioramas, a dramatic museum technique, will allow viewers to sample a variety of shoreside scenes. Visitors will be able to compare the sights and sounds of a heavily congested waterfront of the last quarter of the 19th century to the streamlined efficiency of container ships, the roll-on, and the LASH (lighter aboard ship).

An exhibit devoted to the Pioneers of American Steam Navigation will start the museum goer on a learning journey which will continue to the space portraying the Age of the Engineer. Highlighting this journey will be a completely equipped engineroom of a small steam vessel, complete with triple expansion main propulsion plant, steam pumps, evaporator, hot well, and bilge, fire, and sanitary systems.

The former Coast Guard Cutter *Oak*, decommissioned in 1964, was the source for this display. After painstakingly dismantling the engine while the vessel was docked at the Coast Guard Yard in Curtis Bay, Dr. Melvin Jackson, the Curator of Maritime Transportation, oversaw the reassembling of the exhibit at the Smithsonian.

The entire plant, operated by compressed air, will execute a series of programmed operations in response to an engine order telegraph. Audio aids will allow the visitor to hear the roar of the oil burner, the whine of the ventilators, the thump of the screw, and the swashing of bilge water. Olfactory effects simulating the smell of fuel oil and lubricants will complete this rendition of an engineroom in the Age of Triple Expansion.

Occupying almost one-quarter of the total exhibition space will be the story of the American inland waterways. A variety of media, including such artifacts as Colonel Stevens' original steamboat engine of 1802 and a wide variety of models of rivercraft, will relate the history of inland maritime commerce. Visitors will be able to compare models ranging from the early keelboats to a magnificent 7½-foot model of the Gothic masterpiece *John M. White* to the 10,000-horsepower diesel giants of today. Structural models will teach visitors the evolution of inland vessel construction from the classic steamboat to the modern towboats now being built in river shipyards across the Nation.

Capping this portion of the hall will be a replica of a modern towboat pilothouse complete in every detail. From

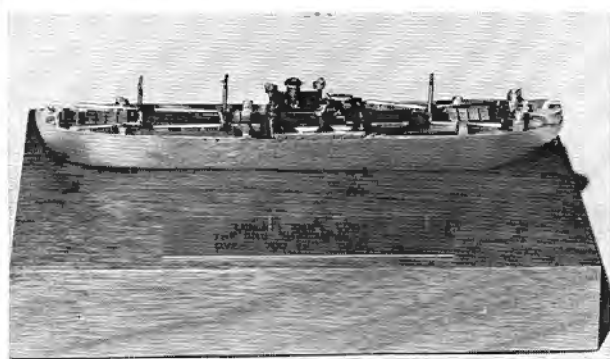
his vantage point at the controls of this replica, the visitor will be able to watch the 1,000-foot tow being pushed not only through the history of the river system, but through the seasonal changes as well.

While there will be plenty of history and nostalgia to delight museum goers at the Hall of American Maritime Enterprise, there will be a good deal of space devoted to the new directions of the maritime industry. Containerization and the integration of sea-land transport, the LASH system, harbor development, the ground-effect machine, and hydrofoils will be displayed. Included in this "System Age" exhibit will be a large model of a bulk carrier, and a display of the instrumentation of the American built steamship *Manhattan*.

This panorama of two centuries of American maritime history will cost an estimated \$1,500,000. From its conception the hall was designed to be financed by private contributions as a gift of the American maritime community to the Nation. The Smithsonian has received gifts from many sectors, but substantial donations are still needed. To learn how you can contribute, consult the boxes on these pages.

RECEIVE A PIECE OF HISTORY

In return for a modest contribution to the Hall of American Maritime Enterprise, you can receive a tangible piece of history. Models of Liberty ships, each one measuring 5 inches long and containing a piece of steel from the famous vessels, are available from the Propeller Club, Port of New York. The proceeds from the sale of these models, already totalling almost \$5,000, are being contributed to the Smithsonian Institution to help in the construction of the hall.



They are available in three variations: An unmounted model, \$9; a wood-base model (shown above), \$13; and a model encased in lucite, \$15. Checks should be made out to the Propeller Club, Port of New York, 80 Broad Street, New York, N.Y. 10004.

maritime sidelights

LOAD LINES—CHEDABUCTO BAY AREA

The Secretary-General of the Inter-Governmental Maritime Consultative Organization has informed all contracting governments to the International Convention on Load Lines, 1966, of the following information received from the Government of Canada:

"The Government of Canada, taking cognizance of Article 11(2) of the International Load Line Convention, 1966, regards Chedabucto Bay and the Strait of Ganso to the Canso Causeway as a port standing on the boundary line between the North Atlantic Winter Seasonal Zone II and the North Atlantic Winter Seasonal Area as defined in Regulation 46(1)(b) and 46(2) respectively in Annex II of the International Load Line Convention, 1966."

Article 11(2) of the International Convention on Load Lines, 1966, states:

"A port standing on the boundary line between two zones or areas shall be regarded as within the zone or area from or into which the ship arrives or departs."

Therefore, vessels over 328 feet in length will no longer be considered to be passing through the North Atlantic Winter Seasonal Zone II when sailing directly to or from the Chedabucto Bay area to or from the North Atlantic Winter Seasonal Area. The effective dates for loading to the applicable load line for vessels over 328 feet in length on these North American coastal voyages are changed accordingly. These vessels may now load to the summer load line from February 16 through December 15 and must not exceed the winter load line from December 16 through February 15 as indicated in Regulation 46(2) of the International Conven-

tion on Load Lines, 1966, and 46 CFR 42.30-5(b).

DANGEROUS DRUMS

Tetraethyl lead (TEL), an extremely toxic liquid shipped worldwide for use as a motor fuel antiknock compound, can be harmful if ingested, inhaled, or absorbed through the skin. Because of its hazardous properties, TEL is generally shipped in heavy duty 55-gallon drums which meet Department of Transportation specifications 5 or 5A. For reasons of safety and economy, these relatively expensive drums are returned to the shipper once they are emptied.

Although these drums are emptied as completely as possible, the residual TEL in them poses a serious threat to anyone who may come in contact with it. Once they are emptied, the drums are usually washed externally

and securely closed to minimize this danger.

In the past few years, however, an alarming number of these empty TEL drums have been lost at sea, thereby creating a potential hazard of being washed ashore and breached. Upon notification of TEL drums lost at sea, the Coast Guard plots their drift and notifies all countries whose shorelines fall within the drift area. This process is both time consuming and costly.

All of the empty drums that were lost overboard were stowed on deck—even though the regulations permit under deck stowage. Carriers should be aware that whenever possible, these drums should be stowed under deck to prevent their loss at sea. If stowage is to be on deck, contrary to this recommendation, the drums should be lashed with steel cable and turnbuckles so that the lashings may be tightened as the cargo shifts.

Great Lakes Safety

(Continued from page 57)

ducted at the University of Victoria, British Columbia on extending the survival time of an individual in cold water. (See March 1975 *Proceedings*.)

In the area of early distress alert and detection enhancement, a number of tests have been carried out using different raft canopy material, pyrotechnics, radar transponders, and chemical lights. The latest test involved setting four men adrift in a liferaft in Lake Huron last December. They were located by radar transponder at a range of 17 miles. This test also involved a successful helo recovery of one man from the raft. Work in these areas is continuing and will be expanded to include a number of radar transponders and EPIRB's

(Emergency Position Indicating Radio Beacon) this spring.

Other activities within this program include the development of a cold-water survival pamphlet, improvement in cold weather inflation capability of liferafts and improvement in exposure protection of inflatable liferafts.

While most of the improvements gained thus far are being applied directly in the Great Lakes area, all of the knowledge gained will be used in the lifesaving studies now being conducted at the international level. As this increased knowledge points the way for changes in the marine industry, the Coast Guard will continue to make the changes in its safety programs needed to meet its responsibilities.

COAST GUARD RULEMAKING

(Status as of 1 March 1975)

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1972 PUBLIC HEARING							
Tailshaft inspection and drawing (67-71, 4-71).....	3-1-72	3-27-72	4-3-72	×			
ANCHORAGE REGULATIONS							
Indian River, Sebastian, FL (CGD 74-104).....	7-2-74		8-5-74			1-15-75	2-17-75
Beverly and Salem Harbors, MA (CGD 74-189).....	12-18-74		1-20-75			2-11-75	3-14-75
Los Angeles & Long Beach Harbors, CA (CGD 75-022)...	2-4-75		3-7-75				
BOATING SAFETY							
Lifesaving devices on white water canoes & kayaks (CGD 74-159).....	2-4-75		4-17-75				
BRIDGE REGULATIONS							
Sacramento R. et. al., CA (CGD 73-142).....	5-24-74		7-2-74	×			
Cheesapeake Ck., NJ (CGD 73-162).....	8-10-73		9-11-73	×			
AIWW, Mile 342, Lauderdale By The Sea, FL (CGD 74-180).....	8-7-74		9-6-74	×			
Stony Ck., MD (CGD 73-242).....	10-12-73		11-20-73	×			
San Joaquin River, Georgiana Slough, Sacramento River, CA (CGD 73-172).....	5-24-74		7-2-74	×			
AIWW, Hillsboro Inlet, FL (CGD 74-22).....	1-25-74		3-1-74	×			
Chesapeake & Del. Canal, Del. (CGD 74-72).....	3-29-74		4-30-74	×			
New River, FL (CGD 74-114).....	4-22-74		5-20-74	×			
Manatee River, FL (CGD 74-101).....	4-22-74		5-20-74	×			
Chicago River, IL (CGD 74-137).....	6-3-74		7-16-74	×			
Columbia and Snake Rivers, WA (CGD 74-223)...	9-20-74		10-22-74	×		2-4-75	3-7-75
Bayou Little (Petit), Caillou, LA (CGD 74-215)....	9-19-74		10-22-74	×		1-21-75	2-21-75
Bayou Dularge, LA (CGD 74-234).....	10-9-74		11-12-74	×			
Franklin Canal, LA (CGD 74-235).....	10-9-74		11-12-74	×			
AIWW, Hallandale, FL (CGD 74-257).....	11-5-74		12-5-74	×			
North Miami Beach, FL (CGD 75-013).....	1-21-75		2-21-75	×			
Coney Island Creek, NY (CGD 74-300).....	1-29-75		3-4-75				
Matanzas River, FL (CGD 75-024).....	1-29-75		3-4-75				
Fox River, WI (CGD 75-035).....	2-6-75		3-7-75				
HAZARDOUS MATERIALS							
Miscellaneous Dangerous Cargoes (CGD 72-182).....	11-11-72	12-12-72	12-29-72	×			
Dangerous Cargo Regulations, miscellaneous (CGD 73-249).....	1-16-74		3-4-74	×			
Notice of arrival of laden vessels (CGD 73-253).....	6-25-74		8-8-74			1-29-75	1-29-75
Sodium sulfide solution and sulfur dioxide (CGD 73-275)...	7-16-74		12-5-74	×			
Corrected	9-5-74						
Vinyl chloride (CGD 74-167).....	7-23-74	8-15-74	9-6-74	×			
Vinyl chloride, supplementary notice (CGD 74-200)...	9-19-74		11-4-74	×			
Unmanned barges carrying certain bulk dangerous car- goes (CGD 74-275).....	1-15-75		2-28-75	×			
Unslaked lime in bulk (CGD 74-225).....	1-29-75	2-25-75	3-17-75				
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Marine Sanitation Devices (CGD 73-83).....	3-1-74	5-1-74	5-14-74	×		1-30-75	1-30-75
Boundary Lines of Inland Waters (CGD 73-241).....	4-8-74		5-26-74	×			
Corrected	5-8-74						

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
Pipelines, lights to be displayed (CGD 73-216).....	9-19-74 Corrected 10-18-74	10-21-74	11-4-74	×			
Control of vessel operations (CGD 73-202)	3-1-74 Supp. Notice 10-24-74		4-19-74				
Oil and hazardous substance liability (CGD 73-185)....	12-4-74	12-5-74	12-13-74	×		2-13-75	2-13-75
Mooring barges on the Mississippi (CGD 74-185).....	2-4-75	2-19-75 New Orleans	1-16-75 3-17-75				
MERCHANT MARINE SAFETY (GENERAL)							
Oceanographic vessels, fire main systems (CGFR 72-20)...	2-4-72		3-19-72	×			
Ship's Maneuvering Characteristics Data (CGD 72-134PH).....	8-22-72 Supp. Notice 7-20-73	9-28-72	10-13-72				
Emergency Position Indicating Radio Beacons (CGD 73-24).....	3-5-73	4-18-73	4-30-73			1-15-75	2-14-75
Tank vessel electrical installation (CGD 74-118).....	8-26-74		10-10-74	×		3-18-74	3-1-75
Unmanned Platforms (CGD 73-177).....	1-8-74 Corrected 1-29-74		2-25-74	×			
Releases, Lifesaving Equipment, Hydraulic and Manual (CGD 73-153).....	1-8-74		2-25-74			1-30-75	2-28-75
Bulk Dangerous Cargoes, Inspection of Barges (CGD 73-271).....	9-11-74	4-15-74	4-30-74	×			
First Aid Certificates (CGD 73-272).....	4-2-74		6-15-74	×			
CO ₂ Fixed Fire Extinguishing Systems (CGD 74-100)...	5-8-74		6-24-74			2-10-75	5-15-75
Carriage of Solid Hazardous Materials in Bulk (CGD 74-13).....	5-15-74	7-16-74	8-31-74	×			
Tank vessels in domestic trade (CGD 74-32).....	6-28-74 Corrected 7-23-74	7-23-74 Seattle 7-30-74 Wash. D.C.	8-19-74	×			
Welding and brazing; adoption of ASME Code (CGD 74-102).....	9-26-74 Corrected 11-1-74		11-11-74	×			
Load line regulations, rail height adjustment (CGD 74-164).....	10-4-74		11-15-74	×			
Construction and equipment of tank vessels (CGD 74-127).....	Adv. Notice 9-5-74						
Great Lakes pilotage (CGD 74-233).....	11-5-74	11-20-74	11-26-74	×			
Manning of nautical school ships (CGD 74-201).....	1-21-75		3-6-75				
Licensing and certificating; apprentice mate endorsement (CGD 74-226).....	1-23-75		3-9-75				

NOTE: This table which will be continued in future issues of the Proceedings is designed to provide the maritime public with better information on the status of changes to the Code of Federal Regulations made under authority granted the Coast Guard. Only those proposals which have appeared in the Federal Register as Notices of Proposed Rulemaking, and as rules will be recorded. Proposed changes which have not been placed formally before the public will not be included.

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 Saturday, Sunday, and 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 \$5.00 per month or \$45 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 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.

CG No.	TITLE OF PUBLICATION
101	Specimen Examinations for Merchant Marine Deck Officers (Chief Mate and Master) (1-1-74).
101-1	Specimen Examinations for Merchant Marine Deck Officers (2d and 3d Mate) (10-1-73).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (4-1-72). F.R. 7-21-72, 12-1-72, 11-14-74.
115	Marine Engineering Regulations (6-1-73). F.R. 6-29-73, 3-8-74, 5-30-74, 6-25-74, 8-26-74.
123	Rules and Regulations for Tank Vessels (1-1-73). F.R. 8-24-73, 10-3-73, 10-24-73, 2-28-74, 3-18-74, 5-30-74, 6-25-74, 1-15-75, 2-10-75.
129	Proceedings of the Marine Safety Council (Monthly).
169	Rules of the Road—International—Inland (8-1-72). F.R. 9-12-72, 3-29-74, 6-3-74, 11-27-74.
172	Rules of the Road—Great Lakes (7-1-72). F.R. 10-6-72, 11-4-72, 1-16-73, 1-29-73, 5-8-73, 3-29-74, 6-3-74, 11-27-74.
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 (3-1-73).
176	Load Line Regulations (2-1-71). F.R. 10-1-71, 5-10-73, 7-10-74.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
182-1	Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (10-1-73).
184	Rules of the Road—Western Rivers (8-1-72). F.R. 9-12-72, 5-8-73, 6-27-73, 6-28-73, 3-29-74, 6-3-74, 11-27-74.
190	Equipment List (8-1-72). F.R. 8-9-72, 8-11-72, 8-21-72, 9-14-72, 10-19-72, 11-8-72, 12-5-72, 1-15-73, 2-6-73, 2-26-73, 3-27-73, 4-3-73, 4-26-73, 6-1-73, 8-1-73, 10-5-73, 11-26-73, 1-17-74, 2-28-74, 3-25-74, 4-17-74, 7-2-74, 7-17-74, 9-5-74, 10-22-74, 11-27-74, 12-3-74, 12-30-74, 1-15-75, 1-21-75, 2-13-75, 2-10-75.
191	Rules and Regulations for Licensing and Certification of Merchant Marine Personnel (6-1-72). F.R. 12-21-72, 3-2-73, 3-5-73, 5-8-73, 5-11-73, 5-24-73, 8-24-73, 10-24-73, 5-22-74, 9-26-74.
*200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68, 4-30-70, 10-20-70, 7-18-72, 4-24-73, 11-26-73, 12-17-73, 9-17-74.
*227	Laws Governing Marine Inspection (3-1-65).
239	Security of Vessels and Waterfront Facilities (5-1-74). 5-15-74, 5-24-74, 8-15-74, 9-5-74, 9-9-74, 12-3-74, 1-6-75, 1-29-75.
*256	Rules and Regulations for Passenger Vessels (5-1-69). F.R. 10-29-69, 2-25-70, 4-30-70, 6-17-70, 10-31-70, 12-30-70, 3-9-72, 7-18-72, 10-4-72, 10-14-72, 12-21-72, 4-10-73, 8-1-73, 10-24-73, 12-5-73, 3-18-74, 5-30-74, 6-25-74, 9-20-74, 1-15-75, 2-10-75.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (4-1-73). F.R. 6-28-73, 6-29-73, 8-1-73, 10-24-73, 3-18-74, 5-30-74, 6-25-74, 1-15-75, 2-10-75.
*258	Rules and Regulations for Uninspected Vessels (5-1-70). F.R. 1-8-73, 3-28-73, 1-25-74, 3-7-74.
*259	Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72, 8-16-72, 8-24-73, 11-29-73.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69.
268	Rules and Regulations for Manning of Vessels (12-1-73).
293	Miscellaneous Electrical Equipment List (7-2-73).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7-1-72). F.R. 7-8-72.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9-1-73). F.R. 1-25-74, 3-18-74, 9-20-74, 2-10-75.
329	Fire Fighting Manual for Tank Vessels (1-1-74).
439	Bridge-to-Bridge Radiotelephone Communications (12-1-72).

CHANGES PUBLISHED DURING FEBRUARY 1975

The following have been modified by Federal Registers:

CG-190, Federal Registers of February 13 & 19, 1975.

CG-123, 256, 257, 323, Federal Register of February 10, 1975.

*Due to budget constraints or major revision projects, publications marked with an asterisk are out of print. Most of these pamphlets reprint portions of Titles 33 and 46, Code of Federal Regulations, which are available from the Superintendent of Documents. Consult your local Marine Inspection Office for information on availability and prices.

