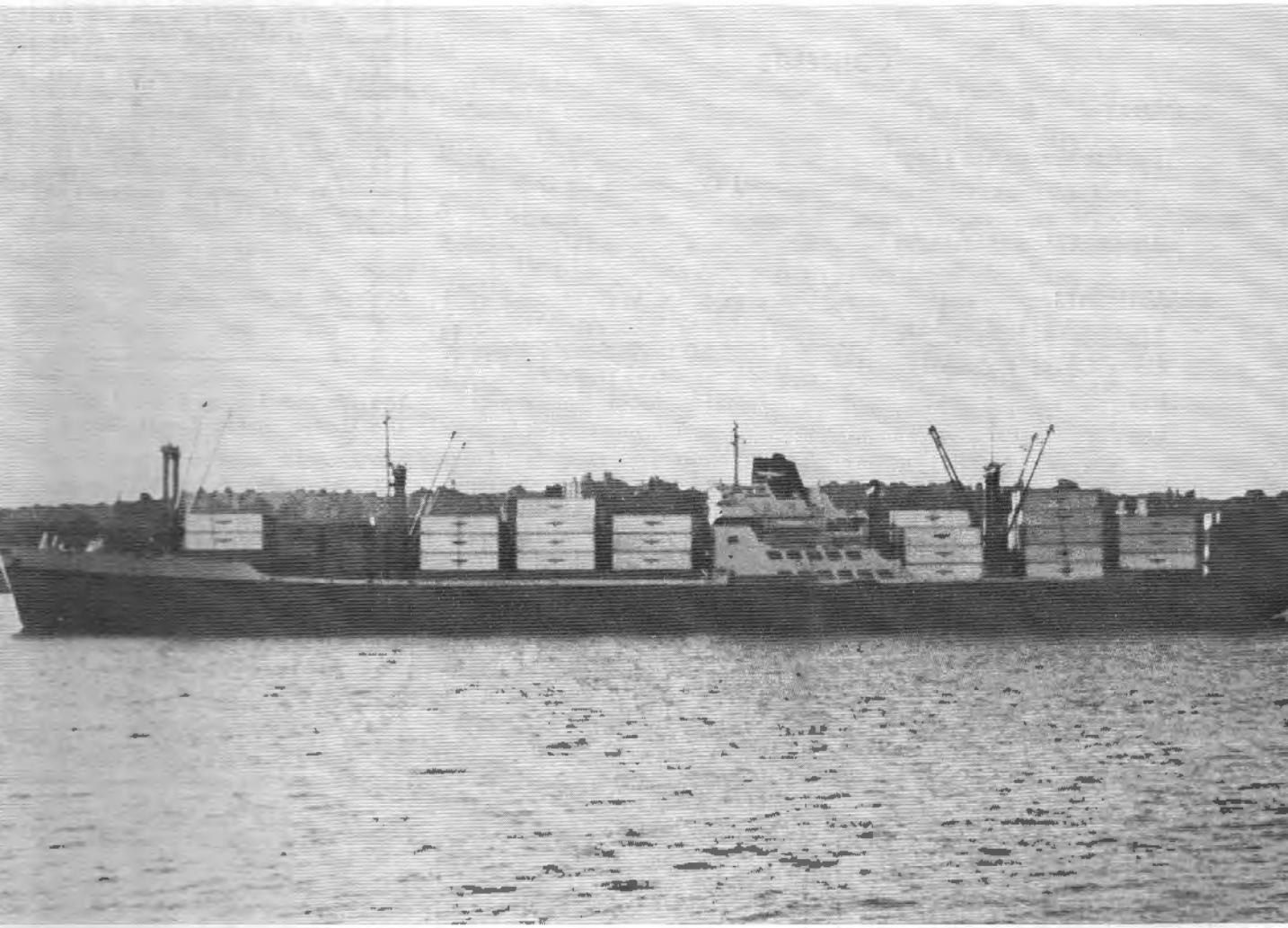
PROCEEDINGS
OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION — UNITED STATES COAST GUARD

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Tragedy on the *Steele*

Container Safety

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FRONT COVER

Container ships are changing the look of maritime traffic. For details on the implementation of the International Convention on Containers, turn to page 6.

BACK COVER

Christened in September, 1974, the M/V *Emily Gladders* is now in service for the G. W. Gladders Towing Company. Photo courtesy St. Louis Ship, a Division of Pott Industries, Inc.

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PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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Lieutenant (jg) G. D. Szczurek, Editor

Benzene Vapors Kill Three

Aniline, dichloromethane, phenol, xylene, and *benzene* may sound to most people like the dry stuff of chemistry textbooks, but to the men involved in the bulk commercial transport of these chemicals they are synonyms for *danger*. These and other hazardous materials are being carried in increasing quantities on inland, coastal, and international waters.

When the dangers of these cargoes are adequately recognized, their potential for disaster can he minimized by the establishment of safe operating practices. When the hazards of certain chemical cargoes are not understood by vessel personnel, the conditions may be set for a casualty of the type that claimed three lives aboard the SS *William T. Steele* in November 1972.

The *Steele*, a T–2 type tankship built in 1944 and jumboized in 1959, was engaged in the coastwise petroleum and chemical trade, normally loading petroleum products in Gulf ports for delivery to the East Coast. In the months prior to the casualty the 12,000 ton vessel had been returning to the Gulf via Puerto Rico to load xylene and benzene for delivery to Louisiana and Texas ports. Tank washing and gas freeing while underway was the common practice as a result of the frequent cargo changes.

On 17 November 1972 the *Steele* arrived at a petroleum terminal in Las Mareas, Puerto Rico. There she would load a cargo of benzene before making the passage to Guayanilla to load an additional cargo of xylene. At 1805 the terminal notified the *Steele* that the loading of 42,619 barrels of benzene had been completed. Though the delivery plans had called for loading of the benzene in tanks number 5 center, 6 across, 7 center and 8 center, when soundings were taken it was discovered that number 9 center tank, which was to have been reserved for xylene, had been mistakenly filled with benzene. A Weco/Hamer blind inadvertently left open allowed nearly 8,000 barrels of benzene into the wrong tank.

At 1850 transfer of cargo from number 9 center tank to the forward tanks commenced, and at 2034 the vessel left the dock for Guayanilla. The passage between Las Marcas and Guayanilla was made at reduced speed to allow sufficient time for the completion of cargo transfer and tank cleaning. Arrival at the refining company at Guayanilla was logged at 0254, 18 November.

After determining that the tank to receive the xylene was gas freed, the Chief Mate directed the Pumpman to insert a blank in the 12-inch cargo line to positively isolate that tank from the benzene tanks. The flange connection the Pumpman was instructed to blank contained twelve nuts and bolts of stainless steel to facilitate insertion of a blank.

At approximately 0445 the Pumpman entered the tank through the access trunk located on the starboard side of the tank. Coppus steam driven blowers installed in all but one of the four tank cleaning openings provided ventilation for the tank. It took the Pumpman approximately a half hour to remove the seven top bolts and slack off the five bottom bolts. The Second Mate entered the tank at this time to assist him.

A small amount of benzene had begun to leak from the flange as the bolts were loosened. While the Second Mate held a light, the Pumpman opened the flange by driving in tapered steel wedges. Benzene immediately began flowing from the widened opening at a rate of about 12 quarts per minute. Though the Pumpman's attempt to insert the blank was partially successful, the intense fumes forced both men to leave while the benzene was still flowing freely. As the liquid splashed onto the bottom of the tank, the drag of the vessel carried it aft in the tank where, unknown to the two men who escaped, the Chief Mate was working. The time was approximately 0600.

Shortly after the Pumpman and Second Mate climbed out of the tank, the Boatswain arrived to inquire about the Chief Mate. After it was established that the two men did not know of the Chief Mate's presence in the tank, the trio peered into the space to locate him. The men could see the Chief Mate sitting on the bottom of the tank with his back against the after bulkhead. He was in spasms and apparently unconscious.

While the Second Mate rushed to summon the Master from his quarters, the Pumpman and Boatswain ran to get the emergency fresh air breathing apparatus from the after house. When all three men returned to the opening, the Second Mate and

Pumpman entered the tank. Neither man wore the breathing apparatus, which was being removed from its stowage box by the Boatswain. The Pumpman remained in the tank about five minutes before being driven out by the vapors. The Second Mate was unable to revive the Chief Mate, but refused to leave the tank without him. As soon as the Pumpman returned topside, the Boatswain, without the breathing apparatus, entered the tank to assist the Second Mate. He was unable to persuade the Second Mate to leave the tank, however, and retreated topside before he too fell victim to the vapors. A second attempt at persuasion by the Boatswain failed, and he was nearly overcome before returning to the deck.

When the Boatswain climbed out of the tank the second time he was met by the Master and two Able Seamen rigging the fresh air breathing apparatus. The Master told the Boatswain to reenter the tank with the breathing gear, but he was unable to do so because of physical exhaustion and dizziness caused by the fumes.

The Master then put on the fresh air breathing apparatus, rigged a safety line, and entered the tank, only to return before he climbed halfway down to clarify emergency signals on the safety line. While the Boatswain observed through the tank cleaning opening, the Master reentered the tank and proceeded along the cargo pipeline.

When he reached the Second Mate he removed his breathing apparatus and tried to hand it to the man. As the Second Mate reached for it, both men tumbled from the pipeline to the bottom of the ship about five feet below. The Master remained motionless at the bottom of the tank, but the Second Mate attempted to climb back on the pipe. He succumbed after two unsuccessful attempts.

The Boatswain then went to call the Third Mate from his quarters. They returned to find that the vessel's second fresh air breathing apparatus had been brought to the scene. A broken hose at the "Y" connection rendered it useless, however, and the Third Mate went to the SS *Gulf Tiger,* moored to an adjacent pier, to borrow a functioning unit. While he was gone an Ordinary Seaman, wearing a Scott air pack obtained from the dock house, entered the tank. He opened a small oxygen cylinder and placed it near the Master. At this time the alarm bell on his pack sounded and he left the tank.

At about 0730 the Third Mate entered the tank with a borrowed apparatus to find the Master, Chief Mate, and Second Mate lying at the bottom of the tank in several inches of benzene. He detected no signs of life.

While he attempted to attach a line to the Second Mate, he began to notice the effect of the benzene fumes and returned to the deck.

An emergency crew from the refinery entered the tank at about 0820, but the rescue attempt was unsuccessful because of the limited supply in their Scott air packs and the high concentration of benzene vapor in the tank. At 1210 a three man U.S. Air Force rescue team arrived via U.S. Coast Guard helicopter from Ramey Air Force Base. Within an hour the team had removed the Second Mate's body, but further rescue attempts were halted due to lack of oxygen. At 1700 the Coast Guard Captain of the Port ordered a halt to further rescue attempts until the tank was gas free.

The next day the First Assistant Engineer, wearing a borrowed sandblaster's hood supplied by ship's service compressed air, entered the tank

THE SMELL OF DANGER

Benzene, also known as benzol, is a colorless liquid used as an agent in chemical processes, as a solvent, and as a motor fuel additive. Benzene vapors, characterized by a faint sweetish odor, are nearly three times heavier than air. They are both explosive and poisonous.

Though benzene is an extremely hazardous substance, its warning properties are poor. Unlike the odors of chlorine or ammonia vapors, the mere smell of benzene is not likely to prevent or reduce a person's exposure to it. In fact, the sweet odor and narcotic effect of benzene vapors often make a victim reluctant to leave an area of hazardous vapor concentration. In cases of acute benzene poisoning, the victim may be physically and mentally incapable of removing himself from conditions that are certain to take his life.

Added to the narcotic effect of benzene vapors is the danger that a person may be subjected to hazardous levels of vapor concentration without being aware of it. Vapor concentrations that cannot be detected by smell can be high enough to create serious, long term health problems in those persons subjected to the vapors over an extended period of time. Simply put, the lack of benzene odor does not necessarily mean that a hazardous level of vapor concentration does not exist.

Though benzene poisoning occurs most commonly through inhalation of the vapor, benzene absorbed through the skin can also contribute to the poisoning. Symptoms of acute poisoning are confusion, dizziness, cramps, pressure over the forehead, and excitement. After these initial stages, the victim quickly lapses into stupefication and unconsciousness.

Prolonged exposure to concentrations of benzene vapors below the detectable level can also be exceedingly hazardous. This chronic poisoning is marked by fatigue, headache, dizziness, nausea, loss of weight, and weakness.

If you discover someone who has inhaled benzene vapors, remove the victim to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, administer artificial respiration. In cases of skin or eye contact, flush the affected area with fresh water for 15 minutes. Seek medical attention.

Though benzene and other cargoes routinely carried in tank vessels of various sizes should be considered extremely dangerous, there is a form of preventative medicine which does minimize the risks to the personnel involved. Large and frequent doses of *knowledge* taken in ships drills and training sessions can be an effective form of health insurance. Know what your ship is carrying, learn how it can affect you, and follow safe operating practices. An ounce of prevention could mean more than a pound of cure—it could mean your life.

to secure the leaking flange. He was forced to return topside after 12 minutes as the concentrated benzene fumes penetrated his clothing and burned his skin. Though he had managed to partially free the jammed blank, a pencil sized stream of benzene was still flowing from the flange.

After making adjustments in his clothing that allowed the compressed air to blow freely under his coveralls, the First Assistant Engineer reentered the tank. This time he successfully closed the leaking flange and returned topside. The tank was then fresh water washed, cleaned, and gas freed. At the conclusion of the daylong operation the bodies of the Chief Mate and Master were removed.

With the benefit of 20-20 hindsight, a number of operating practices aboard the *Steele* can be isolated as contributing to the tragedy. One of the most significant factors noted by the Marine Board of Investigation was the disregard shown by the officers and crew for the dangers of the benzene cargo their vessel was carrying. During the Board's investigation, for example, the Pumpmau testified that he was not even sure of the nature of the cargo and had no awareness of its toxic effects. The fact that the crewmembers routinely exposed themselves to contact with benzene liquid and vapors as they blanked cargo lines is a further indication of the low regard they had for the dangers of such activities.

The Board found that this lack of appreciation for the hazards of benzene stemmed from the fact that the tankship owners had no formal program to indoctrinate crewmembers in tank cleaning, safety practices, and emergency procedures other than the required boat drill. A high personnel turnover rate aboard the vessel also reduced the crew's collective familiarity with the vessel and cargo characteristics. New crewmembers were not instructed regarding the hazards of benzene, the use of the combostible gas indicator, the shipboard piping arrangement, or safety precautions for entering cargo tanks.

The events surrounding the casualty reflected this lack of basic safety awareness and training. Before the Chief Mate instructed the Pumpman to enter the tank, he determined that it was "safe" by testing the atmosphere with a combustible gas indicator. Although this instrument is suitable for determining whether or not a tank has an explosive concentration of gases, it cannot measure with reliability the safety of a tank with regard to toxicity.

The second breakdown in safe operating procedures noted hy the Board occurred when the Chief Mate neglected to inform the other two men that he would be working in the same cargo tank. This error was compounded when no topside watch was posted at the tank dome while the men were in the tank. Finally, the lack of any established procedures to be taken in the event of an emergency led to the disorganized rescue attempt which claimed the lives of the Master and the Second Mate.

As a result of the operating deficiencies evidenced aboard *Steele,* the Coast Guard Marine Board of Investigation convened to determine the cause of the casualty recommended that meaningful safety meetings and drills be frequently and regularly held on board tank vessels. The purpose of the drills would be to instruct all crew members concerning the on board and proposed cargo hazards together with the use and limitations of all safety equipment carried. The Board also recommended that a suitable instrument be carried by all vessels to determine the possible toxicity of confined spaces.

It was also recommended that suitable protective clothing and eye protection be worn by all personnel working with substances that are dangerous upon contact. The Marine Board also recommended that all cargo piping he arranged so that routine valving and segregation can be accomplished from outside the cargo tanks.

The Commandant of the Coast Guard concurred with the recommendation that meaningful safety meetings and drills be held on board tank vessels. The Coast Guard will continue to encourage and assist the maritime industry in this important area and will enforce regulations requiring drills to insure optimum performance standards.

Recommendations on the atmosphere testing instrument and the wearing of suitable clothing were also concurred with and will be reflected in proposed amendments to the Tank Vessel Regulations. The recommendation regarding the arrangement of cargo piping is under consideration.

The National Transportation Safety Board determined that the probable cause of the death of the Chief Mate was respiratory failure due to the prolonged inhalation of a highly concentrated mixture of benzene vapor and air within the tank in which he was working, and that the death of two other senior ship's officers resulted from the same cause while they were attempting to rescue the Chief Mate.

Contributing factors noted by the NTSB were: (1) their lack of knowledge regarding safety precautions for working in tank spaces where the possibility of benzene spillage existed; (2) the failure to provide the supervision necessary for coordinating work within the tank; (3) the lack of proper personnel training and drills in the use of equipment for rescuing personnel incapacitated in a tank; (4) the lack of adequate emergency equipment to facilitate rescue of incapacitated personnel from tank spaces; and (5) the inadequate maintenance and inspection of emergency equipment to assure its availability.

The National Transportation Safety Board's Action on the casualty concluded with a reiteration of a 1972 recommendation that the Coast Guard revise the regulations concerning the qualifications of tankermen and licensed officers who handle extremely hazardous materials to

(Continued on page 7.)

The Implementation of the International Convention For Safe Containers

By M. H. Allen, Cargo and Hazardous Materials Division, Office of Merchant Marine Safety, U.S. Coast Guard Headquarters. Mr. Allen's views do not necessarily reflect Coast Guard policy.

There is no doubt about it, the world's commerce has moved into the container age and for the better too. Many benefits accrue from the use of multimodal cargo containers for the world's commerce. The cargo is better protected, handling of cargo is reduced, there is less pilferage and, undoubtedly there are fewer accidents per ton of cargo.

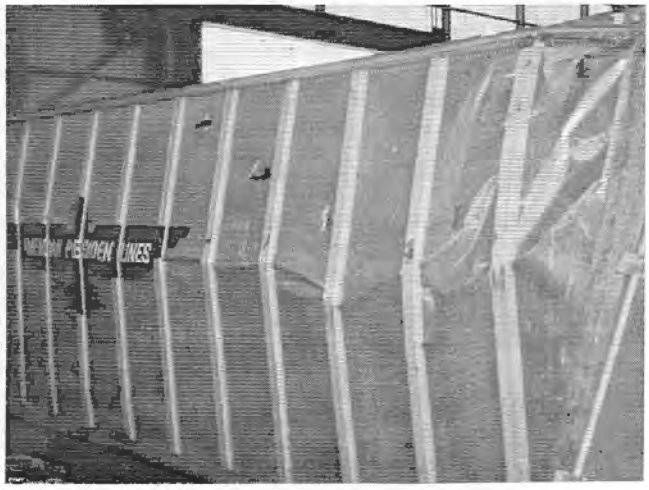
The cargo container is a reusable shipping crate. It is designed to be strong enough to carry its specified internal load and to resist external loads that will be applied to it in normal operation. For example, it might be placed at the bottom of a stack with several loaded containers on top of it. It might be lashed on the deck of a ship. Or it may be subjected to the accelerations and decelerations of railroad and highway operations.

It is interesting to note that the multimodal cargo container is subjected to these loads throughout its lifetime, and it must be as strong on its last trip as it was on its first trip.

By the middle sixties, many people began to be concerned about the strength of containers and their ability to operate safely. Some countries were considering the promulgation of regulations to insure that containers coming into their transportation systems would be safe. Since such unilaterally imposed regulations would surely be restrictive of trade, a movement to reach an international consensus resulted in a conference at Geneva in November and December, 1972. There the International Convention for Safe Containers (CSC) was written and offered to member nations for ratification.

President Nixon forwarded the CSC to the Senate for advice and consent on 14 November 1973. A draft of a proposed bill to implement the Convention was forwarded by the Secretary of Transportation to the Office of Management and Budget in April 1974 and is now being reviewed by the Executive Department prior to submission to Congress. Anticipating ratification of the Convention and passage of the implementing bill, the Coast Guard is now drafting operational regulations so that the rule-making procedure may start as soon as the Congressional actions are completed. The convention itself will enter into force one year after the tenth nation has ratified it. There will be a five-year grace period for the examination and approval of all existing containers and the Convention will be fully operational six years after ratification by the tenth nation.

In a containerized cargo transportation system, the structural strength of the container is a very significant factor in the overall safety of the system. For instance, structural failure in the framework of a con-



The blessings of containerized cargo are mixed, as the photographs above show. While the containers may be stacked on deck for fast and efficient transfer, they are subject to unique stresses. These stresses sometimes result in damaged containers, as shown in the photograph at right.

tainer in a stack will inevitably result in collapse of that stack with possible injury to anyone who happens to be in the vicinity. Thus, there is a logical basis for an international agreement which sets mandatory standards of strength for containers used in international trade. The CSC specifies the structural requirements that containers used in international trade must meet to assure that they are safe. It provides for the periodic reexamination of each container and requires that the owner of each container accept responsibility for maintaining it in a safe condition. ("Owner" is defined as one who exercises the owner's responsibility for the container even though he may in fact be a lessee or bailee or be acting under some other contractual relationship with the true owner).

The Convention applies to multimodal cargo containers used in international trade. A container is an article of transport equipment:

(a) of a permanent character and accordingly strong enough to be suitable for repeated use;

(b) specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading;

(c) designed to be secured and/or readily handled, having corner fittings for these purposes;

(d) of a size such that the area enclosed by the four outer bottom corners is either:

(i) at least 14 sq.m. (150 sq. ft.) or

(ii) at least 7 sq.m. (75 sq. ft.) if it is fitted with top corner fittings.

The term "container" includes neither vehicles nor packaging; however, containers when carried on chassis are included.

Every new container will be proven, either by physically testing a prototype of a design series or by an individual test, and a Safety Approval Plate will be affixed. Existing containers will be approved and have the Safety Approval Plates installed when the owner presents evidence showing that the container has been operating safely in maritime or inland transport for at least two years; or that the container is one of a design type for which a prototype has been tested and found to be approvable, or that the container was constructed to standards that, in the opinion of the approval authority, are equivalent to the standards set forth in the Convention. At the present time there are estimated to be about 400,000 "existing" American owned containers, with the number continuing to grow.

Under the provisions of the CSC, each container will be examined within five years of the date of manufacture, and reexamined every two years thereafter, to insure that it continues to be structurally safe.

Each American owner will be required to file a copy of his maintenance and reexamination program with the Coast Guard. The Coast Guard will review these programs and approve those that meet or exceed minimum criteria established in advance.

The administration of the CSC will be a pretty big job. When the number of American owned containers reaches 500,000, 35,000 to 40,000 units will be reaching the end of their useful life each year. Thus, at any given time, about 7 or 8% of the container population will he approaching the end of service; the same number or more will be coming off of the production line, and about 30% of the total number will be due for examination or reexamination.

The necessary work will be accomplished at reasonable cost by delegating to qualified private organizations the authority to witness tests and approve new containers while a small organization in Coast Guard Headquarters will complete the remainder of the administrative work.

Benzene Vapors

(Continued from page 3.)

require special qualifications and endorsements for these specific materials. In addition, the NTSB recommended that the Coast Guard:

1. Review and revise its requirements regarding the responsibility of owners/masters to indoctrinate crews in the safe use of emergency equipment on tank vessels.
2. Review and revise requirements for emergency equipment to assure that such equipment is adequate for all emergency situations which might reasonably be expected to occur within cargo tanks, and require a scheduled check procedure to insure that emergency equipment is maintained in working order.
3. Establish equipment functional or location requirements which assure that piping system components on tank vessels cannot cause cargo to spill when men enter cargo tanks, regardless of the operation to be performed.
4. Establish detailed inspection procedures and provide proper training to its marine inspectors to assure the reliability of the required emergency equipment.
5. Require that a written cargo-loading plan be made and posted each time cargo is to be transferred aboard chemical tankers, and further, that a check procedure be developed to assure the desired gating is achieved.
6. Seek authority to establish guidelines that will, except in emergencies, prevent excessively prolonged duty periods which result in fatigue and deteriorated duty performance.
7. Require that all operators nf chemical tank vessels be required to maintain updated operating manuals aboard each ship showing the proper operation of the piping system for anticipated transfer operations.

ANNUAL STATISTICS OF CASUALTIES

Annually the U.S. Coast Guard presents a statistical summary of commercial vessel casualties that were investigated by Coast Guard marine inspectors during the previous fiscal year. The public, industry and the Coast Guard have utilized the findings of these investigations to establish standards and determine the need for legislation to improve the protection of safety of life and property at sea.

The master of a vessel is required by law to report a marine casualty as soon as possible after its occurrence to the Officer-in-Charge, Marine Inspection, U.S. Coast Guard. Casualties involving commercial vessels are required to be reported to the Coast Guard whenever the casualty results in any of the following:

(a) Actual physical damage to property in excess of $1,500.

(b) Material damage affecting the seaworthiness or efficiency of a vessel.

(c) Stranding or grounding. (With or without damage).

(d) Loss of life.

(e) Injury causing any persons to remain incapacitated for a period in excess of 72 hours; except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.

Every event involving a vessel or her personnel which meets *any* of the conditions of a reportable casualty is of great concern to the Coast Guard. A number of reportable casualties are not investigated by the Coast Guard each year simply because they are not reported. Thus it is of primary importance that the masters of all vessels ensure that all casualties are reported and investigated. Through the cooperation of the masters, owners, and agents of commercial vessels many of the unreported casualties can be investigated.

The statistical summary represents casualties to commercial vessels which meet the above criteria. It is important to note that the summary represents casualties reported to Coast Guard Headquarters in fiscal year 1974, which ended June 30, 1974.

This statistical tabulation is intended to summarize the casualty experience for the entire commercial fleet. Because this summary is so all-encompassing, the use of the statistics may lead to erroneous conclusions unless the limitations of the data are well understood. The below listed office will gladly assist in quantifying those limitations for each specific need. Comments and recommendations for changes or improvements to these data are solicited. Remarks should be addressed to Commandant(G–MIS), U.S. Coast Guard, Washington, D.C. 20590.

STATISTICAL SUMMARY OF CASUALTIES TO COMMERCIAL VESSELS[1]

1 July 1973 to 30 June 1974

Fiscal year 1974

	Nature of casualty																
	Collisions; crossing, meeting and overtaking	Collisions, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—Cargo	Explosion and/or fires—Vessel's fuel	Explosion and/or fire—Boilers, pressure vessel	Explosion and/or fire—Structure, equipment, all others	Grounding with damage	Grounding without damage	Foundderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—Structure and equipment	Material failure—Machinery and engineering equipment	Casualty not otherwise classified	Totals
Number of casualties	217	229	19	478	270	13	54	7	109	393	404	241	86	11	309	447	101	3388
Number of vessels involved	653	676	44	935	400	14	56	7	121	580	525	306	105	11	341	479	160	5413
Number of inspected vessels involved	185	170	16	319	168	5	7	3	26	185	190	40	74	10	139	199	27	1763
Number of uninspected vessels involved	468	506	28	616	232	9	49	4	95	395	335	266	31	1	202	280	133	3650
PRIMARY CAUSE																		
Personnel fault:																		
Pilots—State	5	18	-----	15	2	-----	-----	-----	-----	5	22	-----	-----	-----	-----	2	-----	69
Pilots—Federal	1	5	1	12	1	-----	-----	-----	-----	5	14	-----	-----	-----	-----	-----	-----	39
Licensed officer—Documented seaman	112	76	14	245	60	2	1	-----	1	123	92	26	3	1	7	2	8	773
Unlicensed—Undocumented persons	98	52	5	48	30	1	1	-----	5	111	62	28	1	1	2	3	43	491
All others	18	15	2	28	3	2	4	2	7	13	27	12	1	3	10	1	10	158

STATISTICAL SUMMARY OF CASUALTIES TO COMMERCIAL VESSELS [1]—Continued

1 July 1973 to 30 June 1974

Fiscal year 1974

	Nature of casualty																	
	Collisions; crossing, meeting and overtaking	Collisions, while anchored, docking or unlocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—Cargo	Explosion and/or fires—Vessel's fuel	Explosion and/or fire—Boilers, pressure vessel	Explosion and/or fire—Structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—Structure and equipment	Material failure—Machinery and engineering equipment	Casualty not otherwise classified	Totals
PRIMARY CAUSE																		
Error in judgement-calculated risk	2			1														3
Restricted manuevering room																		
Storms—Adverse weather	4	5	3	36	36				2	40	34	37	78	3	9		5	292
Unusual currents	1	7	1	21	2					2	10				1			45
Sheer, suction, bank cushion	14	3		2						5	4						1	29
Depth of water less than expected	2		1	1	4					37	82	1						128
Failure of equipment	6	25		21	9	1	27	5	36	31	21	27	2	3	123	429	8	774
Unseaworthy—Lack of maintenance				1						2		19			8			30
Floating Debris—Submerged object				5	106					9	1	23			9		3	156
Inadequate tug assistance	1	1		10	1					1	3	4				1		22
Fault on part of other vessel or person	386	436	17	442	133	1	2		12	185	138	70	15		136	34	11	2018
Unknown—Insufficient information	8	33		47	13	7	21		58	11	15	59	5		36	7	71	386
TYPE OF VESSEL																		
Inspected vessels:																		
Passenger and ferry—large	2	1	1	5	2				2	4	7				3	2		29
Passenger and ferry—small	12	10	3	1	18				9	15	7	14	1		15	50	4	159
Freight	11	25	5	87	61	1		2	7	24	52	5	42	10	62	80	8	488
Cargo barge	15	23	1	16	16	1				20	19	4	6		4	2	1	128
Tankships	7	15	2	28	13	1		1	3	17	50	1	13		30	28	2	210
Tank barge	120	88	4	145	49	2	5		3	88	39	12	7		7	12	9	590
Public	1			4	1						2				4	3	1	16
Miscellaneous	17	8		33	8		2		2	17	14	4	6		14	16	2	143
Uninspected vessels:																		
Fishing	71	55	3	15	48	2	26	2	32	123	87	89	10		92	175	52	882
Tugs	236	161	11	356	123		13		23	166	105	91	12		48	39	11	1395
Foreign	32	61	5	28	14	5	3	1	4	27	84	3	1		3	13	4	288
Cargo	78	147	4	193	31		1		5	55	36	43	5	1	45	11	66	717
Miscellaneous	51	82	5	24	16	2	6	1	31	24	21	40	3		14	42	6	368
GROSS TONNAGE																		
300 tons or less	346	291	17	361	196	3	41	4	84	322	235	242	31		186	320	79	2764
Over 300 to 1000 tons	132	165	4	276	89	1	7		16	105	38	44	5		44	21	60	987
Over 1000 to 10,000 tons	142	130	17	208	78	6	5	1	12	106	102	14	25	1	44	50	10	951
Over 10,000 tons	33	84	6	90	57	4	3	2	9	47	150	6	44	10	67	88	11	711
LENGTH																		
Less than 100 feet	303	255	12	283	159	2	34	3	72	279	197	211	22		166	305	67	2364
100 to less than 300 feet	289	290	18	486	142	2	18	1	32	222	133	84	23		81	46	76	1943
300 to less than 500 feet	26	39	6	40	24	4			3	25	36	4	11	2	11	22	5	258
500 feet and over	35	92	8	126	75	6	4	3	14	54	165	7	49	9	83	106	12	848
AGE																		
Less than 10 years	354	319	11	392	150	4	23		40	206	188	85	49	6	105	197	81	2210
10 to less than 20 years	130	160	16	216	92	4	12	1	24	137	135	66	20	2	83	80	31	1209
20 to less than 30 years	88	85	8	149	77	5	7	2	26	106	100	63	19	1	73	83	23	915
30 years and over	81	112	9	178	81	1	14	4	31	131	102	92	17	2	80	119	25	1079
LOCATION OF CASUALTY																		
Inland—Atlantic	24	30	3	72	51	2	8	4	28	99	134	41	4	2	41	46	14	603
Inland—Gulf	82	52	6	108	59	3	9		17	82	110	33	6	1	48	37	6	659
Inland—Pacific	16	27	2	31	46	4	18	1	14	66	34	35	6	2	53	104	17	476
Ocean—Atlantic	2		2	3	5		2		9	15	10	16	32	2	19	36	15	168
Ocean—Gulf	10	12		3	13	1	3		7	5	3	20	3		17	28	11	136
Ocean—Pacific	15	3	2	5	21		7	1	10	33	7	37	27	2	52	135	14	371
Great Lakes	6	12	3	71	27		1	1	1	22	25	9			20	28	6	232
Western Rivers	55	80	1	168	39	2	5		19	63	69	47			36	21	17	622
Ocean—Other	1			3		1	1		1	2	1	1			7	5		23
Foreign Waters	6	13		14	9				3	6	11	2	8	2	16	7	1	98
TIME OF DAY																		
Daylight	112	121	12	251	158	10	32	6	55	162	227	140	45	5	215	331	638	1945
Nighttime	96	90	6	206	95	2	15	1	45	199	142	89	35	6	84	95	31	1237
Twilight	9	18	1	21	17	1	7		9	32	35	12	6		10	21	7	206
ESTIMATED LOSSES (×1000)																		
Vessel	9484	5615	2871	4578	5607	3337	4345	174	8380	17987	15	20133	2744	1	9410	5369	1040	101090
Cargo	114	195	8	1581	251	26	18		1554	742	33	2914	3374	139	612	174	552	12287
Property	6457	9227	231	13536	880		34		377	706	17	5995	256	153	337	409	2657	41272

STATISTICAL SUMMARY OF CASUALTIES TO COMMERCIAL VESSELS [1]—Continued

1 July 1973 to 30 June 1974 Fiscal year 1974	Nature of casualty																		
	Collisions; crossing, meeting and overtaking	Collisions, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—Cargo	Explosion and/or fires—Vessel's fuel	Explosion and/or fire—Boilers, pressure vessel	Explosion and/or fire—Structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—Structure and equipment	Material failure—Machinery and engineering equipment	Casualty not otherwise classified	Totals
VESSELS TOTALLY LOST																		
Inspected	3	1	1	2	1	------	4	------	5	9	------	14	4	------	5	4	1	54
Uninspected	8	9	1	5	21	------	17	------	33	49	1	91	4	------	43	12	4	298

[1] Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF DEATHS/INJURIES DUE TO A VESSEL CASUALTY [1]

1 July 1973 to 30 June 1974 Fiscal year 1974	Nature of Casualty																	
	Collision; crossing meeting and overtaking	Collision, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—Cargo	Explosion and/or fires—Vessel's fuel	Explosion and/or fire—Boilers, pressure vessel	Explosion and/or fire—Structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—Structure and equipment	Material failure—Machinery and engineering equipment	Casualty not otherwise classified	Totals
Number of casualties	11	11	2	5	5	2	10	3	11	8	4	51	------	------	15	2	4	144
Number of inspected vessels involved	2	2	1	2	0	1	2	0	4	1	1	2	------	------	8	------	------	28
Number of uninspected vessels involved	9	9	1	4	5	1	8	3	7	7	3	49	------	------	7	2	5	120
Number of persons deceased/injured	6/36	20/7	/1	4/4	4/	4/2	6/14	3/1	10/9	6/7	2/1	112/5	------	------	10/12	1/4	11/1	199/104
PRIMARY CAUSE																		
Personnel Fault:																		
Pilots—State	------	------	------	------	------	------	------	------	------	------	1	------	------	------	------	------	------	1
Pilots—Federal	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Licensed Officer—Documented Seamen	3	1	1	3	------	------	------	------	------	1	1	6	------	------	------	------	------	16
Unlicensed—Undocumented Persons	2	2	1	------	2	------	1	------	------	3	1	5	------	------	------	------	1	18
All Others	2	------	------	------	------	------	2	1	2	------	------	1	------	------	------	------	1	9
Error in judgement-calculated risk	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	1
Restricted maneuvering room	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Storms—Adverse weather	------	------	------	1	1	------	------	------	------	2	------	16	------	------	1	------	1	22
Unusual currents	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Sheer, suction, bank cushion	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Depth of water less than expected	------	------	------	------	------	------	------	------	------	------	------	1	------	------	------	------	------	1
Failure of equipment	------	1	------	------	------	------	3	2	4	------	------	2	------	------	7	2	------	21
Unseaworthy—Lack of maintenance	------	------	------	------	------	------	------	------	2	------	------	8	------	------	------	------	------	10
Floating Debris—Submerged object	------	------	------	------	1	------	------	------	------	------	------	1	------	------	------	------	------	2
Inadequate tug assistance	------	------	------	------	------	------	------	------	------	------	------	------	------	------	1	------	------	1
Fault on part of other vessel or person	3	6	------	1	------	------	------	------	------	1	------	2	------	------	5	------	------	18
Unknown—Insufficient information	------	1	------	------	1	2	4	------	3	1	1	9	------	------	1	------	1	24
TYPE OF VESSEL INVOLVED																		
Inspected vessels:																		
Passenger and ferry—large	1/26	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	1/26
Passenger and ferry—small	/4	------	/1	------	------	------	------	------	/1	------	------	1/	------	------	------	------	------	1/6
Freight	/2	3/1	------	/1	------	------	------	------	------	------	------	7/	------	------	6/3	/2	------	16/9
Cargo barge	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Tankships	------	------	------	------	------	3/2	------	------	------	------	------	------	------	------	------	/1	------	3/3
Tank barges	------	------	------	------	------	1/	------	------	1/1	------	------	------	------	------	------	------	------	2/1
Public	1/	------	------	------	1/	------	------	------	------	------	------	------	------	------	/1	------	------	2/1
Miscellaneous	2/	3/1	------	------	------	------	1/1	------	2/1	1/2	------	18/	------	------	------	1/	3/	31/5
Uninspected vessels:																		
Fishing	2/1	/5	------	/1	------	------	1/6	/1	1/2	2/3	1/	58/1	------	------	1/6	------	8/1	74/27
Tugs	/2	1/	------	4/2	1/	------	4/3	------	/1	1/	1/1	11/4	------	------	1/1	/1	------	24/15
Foreign	/1	13/	------	------	2/	------	/4	------	------	------	------	------	------	------	2/1	------	------	17/6
Miscellaneous	------	------	------	------	------	------	------	3/	6/3	2/2	------	17/	------	------	------	------	------	28/5

STATISTICAL SUMMARY OF DEATHS/INJURIE DUES TO A VESSEL CASUALTY[1]—Con.

July 1973 to 30 June 1974
Fiscal year 1974

PARTICULARS OF PERSON DECEASED/ INJURED	Nature of Casualty: Collision; crossing meeting and overtaking	Collision, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—Cargo	Explosion, and/or fires—Vessel's fuel	Explosion and/or fire—Boilers, pressure vessel	Explosion and/or fire—Structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—Structure and equipment	Material failure—Machinery and engineering equipment	Casualty not otherwise classified	Totals
Papers of deceased/injured:																		
Licensed by Coast Guard	1/2	2/1	/1	/1	.....	1/	2/1	.....	3/1	.....	.....	6/	.....	.....	.....	.....	.....	15/7
Documented by Coast Guard	1/4	1/	.....	1/	.....	3/2	2/2	.....	.....	.....	.....	2/1	.....	.....	1/7	/1	.....	11/17
No license or document	4/30	2/6	.....	3/3	4/	.....	2/10	3/1	6/8	6/7	2/1	92/4	.....	.....	8/3	1/3	11/1	144/77
Other—Unknown—Foreign	.....	15/	.....	.....	.....	.....	/1	.....	1/	.....	.....	12/	.....	.....	1/2	.....	.....	29/3
Status or capacity on vessel:																		
Passenger	6/36	.....	.....	.....	2/	.....	.....	.....	/1	1/3	.....	43/	.....	.....	.....	.....	2/1	54/41
Longshoreman—Harbor worker	.....	10/7	.....	/1	2/	.....	.....	.....	/3	.....	.....	3/	.....	.....	7/1	1/	.....	23/15
Crewmember	.....	.....	/1	4/	.....	4/2	6/14	3/1	/3	3/3	1/1	52/5	.....	.....	3/10	/2	7/	83/42
Other	.....	10/	.....	.....	.....	.....	.....	.....	10/2	2/1	1/	14/	.....	.....	/1	/2	2/	39/6
Activity engaged in:																		
Off duty	/2	13/1	.....	.....	.....	.....	.....	.....	.....	.....	.....	3/3	.....	.....	/1	.....	.....	16/7
Deck department duties	3/4	4/3	/1	3/4	2/	.....	5/7	1/1	4/1	3/	/1	52/2	.....	.....	3/8	/1	.....	80/33
Engine department duties	.....	1/1	.....	.....	.....	3/2	1/7	2/	/2	1/	.....	4/	.....	.....	.....	/1	.....	12/13
Stewards department duties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1/	.....	.....	.....	.....	.....	1/
Handling cargo	.....	1/	.....	.....	.....	1/	.....	.....	.....	.....	.....	.....	.....	.....	7/1	1/	.....	10/1
Fishing	1/1	.....	.....	.....	.....	.....	.....	.....	.....	/1	2/	10/	.....	.....	.....	.....	4/1	17/3
Drills	.....	/1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	/1
Passenger	2/29	/1	.....	.....	2/	.....	.....	.....	/1	2/3	.....	26/	.....	.....	.....	/2	.....	32/36
Other and unknown	.....	1/	.....	1/	.....	.....	.....	.....	6/5	/3	.....	16/	.....	.....	/2	.....	7/	31/10
Location of vessel:																		
At dock/anchor	3/28	2/	.....	1/2	1/	.....	.....	.....	.....	2/	.....	4/	.....	.....	1/	/1	.....	14/31
Underway	3/8	18/7	/1	3/2	3/	4/2	6/14	3/1	10/9	4/7	2/1	108/5	.....	.....	9/12	1/3	11/1	185/73
Unknown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
PART OF BODY INVOLVED																		
Head and upper limbs	/4	.....	.....	/1	.....	.....	1/3	.....	/2	/3	.....	1/	.....	.....	1/3	.....	4/	7/16
Back and lower limbs	/8	.....	.....	/1	.....	.....	/1	.....	.....	.....	.....	.....	.....	.....	/3	/2	.....	/15
Chest	/1	.....	.....	/1	.....	.....	/1	.....	.....	.....	.....	.....	.....	.....	6/	.....	.....	6/3
Extremities	/23	16/	/1	/1	.....	4/2	/7	2/	2/5	/4	2/1	1/1	.....	.....	/3	1/2	/1	28/51
Illness	.....	.....	.....	.....	.....	.....	.....	.....	/1	.....	.....	1/	.....	.....	.....	.....	.....	1/1
Drowning	4/	3/	.....	2/	4/	.....	3/	1/	6/	6/	.....	85/	.....	.....	1/	.....	7/	122/
Unspecified and miscellaneous	2/	1/7	.....	2/	.....	.....	2/2	/1	2/1	.....	.....	24/4	.....	.....	2/3	.....	.....	35/18

Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF DEATHS ON BOARD COMMERCIAL VESSELS[1]

(Not Involving a Vessel Casualty)

1 July 1973 to 30 June 1974
Fiscal year 1974

CAUSE OF DEATH	Nature of death: Natural cause	Homicide	Suicide	Disappearance	Slips and falls—Ladders	Slips and falls—Gangways	Slips and falls—On deck	Slips and Falls—Other	Falls from vessel—Into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains, or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Alterations and misconduct	Unknown or insufficient information	Total
9 Intoxication	2	.....	.....	1	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	
108 Physical deficiency or handicap	105	.....	.....	1	2	.....	2	3	70	2	1	.....	1	.....	.....	.....	1	3	.....	.....	.....	.....	3	
88 Unsafe movement or posture	.....	.....	6	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	
11 Psychological immaturity, insanity	1	.....	.....	.....	.....	.....	.....	1	7	1	2	14	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	
27 Unsafe practice	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
2 Violation of law or regulation	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

STATISTICAL SUMMARY OF DEATHS ON BOARD COMMERCIAL VESSELS [1]—Continued

(Not Involving a Vessel Casualty)

1 July 1973 to 30 June 1974
Fiscal year 1974

	Nature of death																						
	Natural cause	Homicide	Suicide	Disappearance	Slips and falls—Ladders	Slips and falls—Gangways	Slips and falls—On deck	Slips and Falls—Other	Falls from vessel—Into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains, or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Altercations and misconduct	Unknown or Insufficient information
CAUSE OF DEATH																							
23 Human errors	---	---	---	3	2	---	---	2	9	---	1	---	---	---	---	---	2	2	---	---	1	1	---
2 Decks—slippery or cluttered	---	---	---	---	---	---	1	---	3	---	2	---	---	---	---	---	---	---	---	---	---	---	---
6 Weather conditions	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Poor maintenance or housekeeping	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Inadequate lighting	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Inadequate rails or guards	---	---	---	---	---	---	---	---	1	---	10	---	---	---	2	1	1	---	---	---	---	---	---
15 Failure of equipment	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1 Inadequate supervision	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Inadequate life preservers	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Inadequate tools or equipment	---	---	---	1	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---
2 Inadequate protective equipment	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
2 Improper use of tools or equipment	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Miscellaneous causes	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TYPES OF VESSELS INVOLVED																							
Inspected vessels:																							
26 Passenger and ferry—large	14	---	1	1	---	---	---	---	8	---	1	---	---	---	---	---	---	---	---	---	---	1	---
1 Passenger and ferry—small	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
75 Freight ships and barges	38	---	2	---	1	---	3	4	14	---	4	1	---	---	---	---	---	2	---	---	1	1	4
35 Tankships and barges	22	---	1	1	2	---	---	---	7	---	---	1	---	---	---	---	---	---	---	---	---	---	1
Public	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21 Miscellaneous	4	---	---	1	1	---	---	---	7	1	---	2	---	---	2	1	1	1	---	---	---	---	---
Uninspected vessels:																							
41 Fishing	11	2	---	2	1	---	---	---	18	---	1	2	---	---	---	---	3	1	---	---	---	---	---
45 Tugs	11	---	---	4	---	---	---	2	22	---	5	---	---	---	---	---	---	1	---	---	---	---	---
1 Foreign	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
51 Miscellaneous	8	---	2	---	---	---	---	1	20	2	6	8	1	---	---	---	1	1	---	---	1	---	---
TIME OF DAY																							
178 Daytime	76	---	3	4	5	---	---	7	48	1	7	12	1	---	2	1	3	5	---	---	2	---	1
97 Nighttime	22	2	3	5	---	---	3	---	46	2	8	1	---	---	---	---	2	---	---	---	---	---	3
21 Twilight	10	---	---	---	---	---	---	---	4	---	2	1	---	---	---	---	---	1	---	---	---	2	1
PARTICULARS OF DECEASED																							
Papers of deceased:																							
48 Licensed by Coast Guard	29	---	2	---	1	---	---	---	9	---	4	1	---	---	---	---	---	1	---	---	1	---	---
113 Documented by Coast Guard	46	1	3	1	3	---	2	3	34	2	7	3	---	---	---	---	1	2	---	---	---	2	3
134 No license or document	32	1	1	8	1	---	1	4	55	1	6	10	1	---	2	1	4	3	---	---	1	---	2
1 Other—Unknown—Foreign	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Status or capacity on vessel:																							
1 Passenger	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
126 Longshoreman—Harbor worker	30	---	1	8	1	---	1	4	50	1	6	10	1	---	2	1	4	3	---	---	1	---	2
109 Crewmember	77	2	5	1	4	---	2	3	48	2	11	4	---	---	---	---	1	3	---	---	1	2	3
Other	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Activity engaged in:																							
2 Off duty	---	---	1	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
116 Deck department duties	46	2	3	---	3	---	1	3	38	2	8	3	---	---	---	---	1	1	---	---	1	1	3
34 Engine department duties	23	---	1	---	1	---	1	---	4	---	2	---	---	---	---	---	---	2	---	---	---	---	---
15 Stewards department duties	7	---	---	1	---	---	---	---	5	---	1	---	---	---	---	---	---	---	---	---	---	1	---
Handling cargo	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1 Fishing	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1 Drills	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
126 Passenger	31	---	1	7	1	---	1	4	50	1	6	10	1	---	2	1	4	3	---	---	1	---	2
1 Other and unknown	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---
Location of vessel:																							
112 At deck/anchor	34	---	3	6	3	---	3	5	32	1	7	11	---	---	---	1	---	2	---	---	1	---	3
184 Underway	74	2	3	3	2	---	---	2	66	2	10	3	1	---	2	---	5	4	---	---	1	2	2
Unknown	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PART OF BODY INVOLVED																							
21 Head	---	---	1	---	---	---	2	2	2	3	5	---	1	---	---	---	2	2	---	---	1	---	---
4 Back	---	---	1	---	---	1	---	1	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---
7 Chest	---	---	---	---	---	---	---	---	---	---	2	---	---	---	1	---	---	2	---	---	---	2	---
6 Extremities	---	---	---	---	---	---	---	1	1	---	3	---	---	---	---	---	---	---	---	---	---	1	---
101 Illness	99	---	---	---	---	---	---	---	1	---	1	---	---	---	---	---	---	---	---	---	---	---	---
103 Drowning	1	---	3	8	2	---	---	---	87	---	1	---	---	---	---	---	1	---	---	---	---	---	---
54 Unspecified and miscellaneous	8	---	3	1	2	---	1	3	7	---	4	14	---	---	1	1	2	2	---	---	---	---	5

[1] Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF PERSONNEL INJURIES ON BOARD ALL COMMERCIAL VESSELS [1]

(Not Involving a Vessel Casualty)

July 1973 to 30 June 1974

Fiscal year 1974

Totals		Nature of Injury: Slips and falls—Ladders	Slips and falls—Gangways	Slips and falls—On deck	Slips and falls—Other	Falls from vessel—into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Abrasions and miscon-duct	Unknown or insufficient information
	CAUSE OF INJURY																			
35	Intoxication	5	----	3	8	----	----	4	----	1	----	1	----	----	----	----	----	3	7	3
67	Physical deficiency or handicap	6	1	6	15	----	----	----	----	----	1	1	----	----	----	----	25	----	1	11
49	Unsafe movement or posture	3	----	3	6	17	1	----	----	1	----	----	----	2	2	----	14	----	----	----
24	Psychological-immaturity, insanity	----	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	1	19	2
26	Unsafe practice	3	1	1	1	2	2	2	1	----	----	1	1	1	2	----	8	----	----	----
6	Violation of law or regulation	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	4	1
707	Human errors	107	17	70	139	1	17	113	1	20	----	35	6	45	72	----	19	28	13	4
68	Decks—Slippery or cluttered	6	----	46	11	1	----	1	----	----	----	----	----	1	2	----	----	----	----	----
68	Weather conditions	7	----	7	25	----	----	9	----	3	----	1	----	5	9	1	----	1	----	----
9	Poor maintenance or housekeeping	1	----	----	3	----	----	----	----	----	----	3	----	----	----	----	----	2	----	----
4	Inadequate lighting	2	----	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----
7	Inadequate rails or guards	----	----	1	1	----	1	1	----	----	----	----	----	----	1	1	----	1	----	----
106	Failure of equipment	3	1	3	11	----	----	60	1	1	----	18	----	4	3	----	1	----	----	----
31	Inadequate supervision	2	----	1	4	----	----	13	1	1	----	----	----	8	----	----	1	----	----	----
	Inadequate life preservers	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
19	Inadequate tools or equipment	2	----	----	1	----	----	7	----	----	----	1	1	3	1	----	1	2	----	----
18	Inadequate protective equipment	----	----	----	1	----	----	2	1	----	----	8	----	----	2	----	----	3	----	1
21	Improper use of tools or equipment	3	----	1	1	----	----	8	----	----	----	----	----	1	2	----	----	4	----	----
	Miscellaneous causes	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	TYPES OF VESSELS INVOLVED																			
	Inspected Vessels:																			
59	Passenger and Ferry—large	6	1	7	20	1	----	8	1	----	----	1	----	2	4	----	4	2	----	1
2	Passenger and Ferry—small	----	----	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
825	Freight ships and barges	107	17	97	148	3	13	138	4	20	1	48	8	34	61	2	41	35	34	14
185	Tankships and barges	22	2	24	31	2	6	28	----	6	----	16	----	5	8	----	19	4	9	3
5	Public	----	----	----	1	----	----	1	----	----	----	----	----	2	----	----	1	----	----	----
57	Miscellaneous	4	----	5	9	1	1	14	----	----	----	2	----	5	12	1	1	2	----	----
	Uninspected Vessels:																			
38	Fishing	1	----	2	4	6	----	4	----	----	----	1	----	14	4	----	----	1	----	1
67	Tugs	6	----	5	12	4	1	20	----	1	----	1	----	6	5	----	2	1	----	3
	Foreign	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
28	Miscellaneous	4	----	1	2	5	----	8	----	----	----	----	----	3	2	----	1	----	1	1
	TIME OF DAY																			
846	Daytime	94	8	90	147	12	14	171	4	20	----	41	6	50	63	2	55	30	25	14
341	Nighttime	51	10	49	61	8	5	41	1	6	1	13	2	19	28	1	11	11	16	7
78	Twilight	5	2	3	20	2	2	9	----	1	----	15	----	2	5	----	3	4	3	2
	PARTICULARS OF PERSON INJURED																			
	Papers of person injured:																			
219	Licensed by Coast Guard	28	1	17	35	2	10	36	2	6	----	23	2	9	14	1	12	5	3	4
911	Documented by Coast Guard	113	18	112	159	11	9	168	2	21	1	41	5	39	67	----	55	36	40	14
144	No license or document	9	1	13	34	9	2	17	1	----	----	5	1	23	15	2	2	4	1	5
	Other—Unknown—Foreign	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	Status or Capacity on Vessel:																			
2	Passenger	----	----	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
123	Longshoreman—Harbor worker	5	1	11	32	9	2	15	1	----	----	5	1	17	12	2	2	3	1	4
1139	Crewmember	145	19	130	195	13	19	206	4	27	1	64	7	53	84	1	67	42	43	19
1	Other	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----
	Activity engaged in:																			
2	Off duty	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----
611	Deck department duties	67	11	73	110	10	10	129	1	14	----	19	4	43	30	----	37	15	22	7
262	Engine department duties	59	6	27	53	2	9	65	3	11	1	38	3	8	31	1	20	11	8	6
162	Stewards department duties	19	2	29	32	1	----	12	----	2	----	7	----	2	12	----	10	16	13	5
	Handling cargo	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
3	Fishing	----	----	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	1
	Drills	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
124	Passenger	5	1	13	31	9	2	15	1	----	----	5	1	17	12	2	2	3	1	4
1	Other and unknown	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----
	Location of vessel:																			
453	At deck/anchor	54	15	54	79	8	11	87	1	9	1	22	7	26	34	----	24	17	25	9
782	Underway	96	5	88	149	14	10	134	4	18	----	47	1	45	62	3	45	28	19	14
	Unknown	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

STATISTICAL SUMMARY OF PERSONNEL INJURIES ON BOARD ALL COMMERCIAL VESSELS [1]—Continued

(Not Involving a Vessel Casualty)

1 July 1973 to 30 June 1974

Fiscal year 1974

	Part of body injured:	Nature of Injury																	
		Slips and falls—Ladders	Slips and falls—Gangways	Slips and falls—On deck	Slips and falls—Other	Falls from vessel—into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Altercations and misconduct	Unknown or insufficient information
31	Eye	2	----	3	3	----	----	9	2	----	----	2	----	----	1	----	----	----	8	1
79	Head	15	1	6	11	----	1	30	----	3	----	----	----	----	2	----	----	1	8	1
159	Back	27	1	25	41	----	5	10	----	1	----	1	----	2	1	1	41	----	1	2
37	Neck and shoulder	4	1	5	7	----	1	11	----	----	----	----	----	1	----	----	3	----	3	1
20	Chest	3	----	3	7	----	----	1	2	----	----	3	----	----	----	----	----	----	----	1
66	Abdomen and hip	8	----	12	21	----	----	5	----	1	1	----	1	----	----	----	10	1	3	3
805	Extremities	87	15	85	131	1	14	150	----	21	----	52	6	66	90	2	15	43	18	9
68	Unspecified miscellaneous	4	2	3	7	21	----	5	1	1	----	11	1	2	2	----	----	----	3	5

[1] Statistics concerning recreation and pleasure boating accidents are published in CG-357.

maritime sidelights

DEATH AT THE DINNER TABLE

Surprising as it sounds, one of the leading causes of accidental death in the nation each year is regarded by most people as a minor nuisance. Food which "goes down the wrong pipe," causing the embarrassed victim to choke and hack at the dinner table, claims an estimated 4,000 lives every year as the victims, unable to expell the food cutting off their air supply, die of asphyxiation before helpless and horrified dining companions.

Everyone, especially those in the food handling rates, should be aware of a recently publicized technique to prevent these accidental deaths by choking. The Heimlich Maneuver, developed by Dr. Henry Heimlich of the Cincinnati Jewish Hospital, has already been credited with saving the lives of several victims of these so-called "cafe coronaries."

In one case, an 18-month-old infant was choking to death on a piece of hard candy. The father immediately grabbed the child by the legs with his left hand, and let him fall forward. As the child was falling forward, the father caught him just under the diaphragm with his right hand. The pressure created by the motion propelled the candy from the infant's throat and started him breathing again.

In a second case a woman eating dinner at a downtown restaurant began choking on a piece of steak. When she collapsed an alert gentleman at an adjoining table applied a similar technique. The obstructing piece of steak was soon expelled and the woman started breathing.

To use the Heimlich Maneuver in emergency situations, stand behind the victim and put both arms around him just above the belt line. Allow the victim's head, arms, and upper torso to hang forward.

Then grasp your wrist with your left hand and rapidly and firmly press it into the victim's abdomen. This will force the diaphragm upward, compress the lungs, and expell the obstructing material.

Knowledge of the Heimlich Maneuver is a valuable addition to anyone's repertoire of first-aid skills. For mess cooks and stewards, awareness of this technique is essential. Discuss and practice the maneuver at your ship's next training session.

CFR INFORMATION

Coast Guard regulations pertaining to merchant shipping are found

in Titles 33, 46, and 49 of the Code of Federal Regulations. Title 33, Chapter I, contains Coast Guard regulations concerning navigation and navigable waters. Regulations promulgated by the Corps of Engineers and the Saint Lawrence Seaway Development Corporation are found in Chapters II and IV of Title 33.

Title 46 includes the technical rules on the licensing of personnel and requirements for the construction and equipping of vessels.

Title 49 contains regulations promulgated by the Coast Guard regarding the certification of cargo containers for transport under customs seal. Also of interest to the marine industry in Title 49 are regulations promulgated by the Hazardous Materials Regulation Board (HMRB). Future plans include the consolidation of Coast Guard regulations on hazardous materials with those of the HMRB in Title 49, Part 176. A Notice of Proposed Rulemaking outlining such a plan appeared in the Federal Register on January 24, 1974. The proposed Part 176 would also include adoption of the Intergovernmental Maritime Consultative Organization Dangerous Goods Code.

In the past the Coast Guard has reprinted various segments of Federal regulations plus supplementary explanatory material and indices for distribution as Coast Guard numbered publications. These publications have been used by Coast Guard field personnel and furnished to the public on request at no charge.

Soaring printing costs have forced a reevaluation of this system of disseminating safety information, however, and the use of the Code of Federal Regulations, supplemented by changes published in the Federal Register for current regulations, is being encouraged.

Several steps have been taken to improve the usefulness and availability of the CFR volumes. The regulations formerly in Subchapters K and L of Title 46 were recodified into Subchapter A in September 1974. Title 46 will be published in nine volumes instead of five. These changes will appear in the new CFR edition of 1 October 1974, which will be available in January. While every effort is being made by the Government Printing Office to maintain sufficient stocks of the CFR, it is advisable for the public to order needed volumes early.

Volumes of the Code of Federal Regulations may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Orders should include the part number desired and they must be prepaid. Prices for Title 46, CFR, revised as of October 1, 1974 and available in January, 1975 are as follows:

Volume	*Parts*	*Subchapter*	*Price*
I	1–29	ABC	$2.05
II	30–40	D	2.05
III	41–69	EFG	3.85
IV	70–89	H	2.05
V	90–109	I	1.90
VI	110–139	J	1.90
VII	140–149	MN	(*)
VIII	150–165	OPQ	(*)
IX	166–199	RTU	2.55

***Prices for these volumes were not available at press time. This information will be carried in a future issue of the *Proceedings*.**

A LESSON IN SURVIVAL

On October 30, 1973, a party of three people decided to enjoy a sunny day in the Caribbean swimming fishing, and island hopping in a rubber motorized raft. The two men and one woman had planned their pleasure junket around a 40-minute trip from Nevis Island, Lesser Antilles, to nearby St. Kitts Island, where they planned to dine before returning the next day.

On the gray rubber raft, which was powered by a 33-horsepower outboard motor, were two diving masks, oars, and a seat cushion. They carried no lifesaving equipment or signaling devices.

The hop to St. Kitts Island was accomplished without incident, but on the return trip the next day the engine sputtered and died about 3 miles from Nevis Island. Attempts to row the craft ashore were foiled by the strong current. It was then decided to spend the night at anchor off the island.

To make rowing easier the next morning, the engine was dumped over the side. Unsuccessful attempts to free the anchor from the bottom resulted in the line being cut. The two men then decided to swim to shore, leaving the woman with the raft. That was the last time she was to see her two companions.

Alone in the drifting raft on the third day after she left St. Kitts, the woman twice sighted a Coast Guard helicopter. When a Navy aircraft passed by her the next day, she attempted signaling by using the glass of the diving mask as a reflector. She also turned a seat cushion over to expose its bright orange side and waved repeatedly with an oar, to which she had fastened a red plastic bag. But her efforts were fruitless.

Though the woman was disappointed daily by these near misses at her rescue (one helicopter passed so close she could see the pilot), these sightings of aircraft and passing ships bouyed her confidence. During her 8 days at sea, her only food or water were the 5 or 6 ounces of rainwater she collected in a diving mask one stormy night.

On the morning of November 6, the woman decided that the lack of

color contrast between her clothes and the gray surface of the raft diminished her visibility, thereby reducing her chances of rescue. The solution to the problem, she reasoned, was to doff her blue swimsuit. She was immediately sighted and retrieved by a Coast Guard helicopter on its first leg of that day's search.

The plucky and resourceful woman was saved, but the men she last saw swimming for Nevis Island remained unlocated and an active search was eventually suspended pending further developments.

NEW UNIFORM NUMBERING SYSTEM ADOPTED FOR U.S. DOMESTIC NAUTICAL CHARTS

The National Oceanic and Atmospheric Administration has adopted a new uniform U.S. nautical chart numbering system which will involve the renumbering of the more than 1000 charts published by NOAA's National Ocean Survey (NOS).

The new system is based on the region/subregion concept established by the Defense Mapping Agency Hydrographic Center and is designed to provide standard identification for charts produced by the United States, including those prepared by the Navy for deep ocean and foreign areas. The National Ocean Survey charts cover all domestic waters and a limited number of inland waters, including the Great Lakes.

The Commerce Department agency will assign new numbers to all of its charts as they are reissued. Old chart numbers will also be carried for several years to enable mariners to become familiar with the new system. All existing prefixes and suffixes, such as "SC" for small craft chart, will be dropped.

Under the new system, most NOS charts will have five-digit numbers. The first digit refers to the region of the world, the second to a subregion, and the final three denote the specific chart area. All charts with five-digit numbers have a scale of 1:2,000,000 or larger.

Region 1, for example, includes waters in and around the United States and Canada, comprising the North Atlantic, Arctic, Bering Sea, and North Pacific (including Alaska and Hawaii), and the Gulf of Mexico. This region is divided into 9 subregions, of which subregion 1 consists of the U.S. Gulf of Mexico and East Coast from the Mexican border to Cape Hatteras, N.C.

Thus, old Chart 141–SC, Miami to Marathon, Fla., is now numbered 11451—Region 1, Suhregion 1, and the new three-digit number. Chart 848, Miami to Elliott Key, Fla., a chart closely related to 141–SC, becomes chart 11465. Miami's harbor chart, 547, becomes 11468. All the numbers are closely related. It is thus possible to identify roughly, from the chart numbers, the coastal area covered by the chart.

It is also possible to identify the scale of the chart from the chart numbers. Five digit numbers, for example, mean charts with a scale larger than 1:2,000,000.

Charts with one-digit numbers will include chart-related publications. NOS issues only one document in this category, Chart No. 1 (actually a booklet), "Nautical Chart Symbols and Abbreviations," which retains its present number under the new system.

Charts with two and three digits are based on an ocean-numbering system in which the nine ocean basins of the world are numbers 1 through 9. Charts with two or three digit numbers have scales smaller than 1:2,000,000. (The larger the scale *number*, the fewer the nautical details on the chart. Thus, a chart with a scale of 1:5,000,000 has fewer details than a chart with a scale of 1:2,000,000).

There is also a category that will cover special purpose charts and maps issued by NOS that are not intended to be used for actual navigation. The numbers on these charts will not be affected by the new numbering system.

Examples of these are mineral lease maps in the Gulf of Mexico—1115A, 1116A; 1117A; Nautical Training Charts—116–SC Tr, 1210 Tr; Isomagnetic charts — 3077; 3077h; 3077i; Geophysical maps—1308N–19; 1005N–23.

Revised nautical chart catalogs are being prepared which will show the correlation between the new chart numbers and geographic locations. They can be obtained without charge from the National Ocean Survey, Distribution Division (C44), Riverdale, Md. 20840. A complete cross-reference list of nautical charts with both old and new chart numbers also appeared in Notice to Mariners No. 19 for May 11, 1974.

The new system is expected to aid in selecting, filing, obtaining and identifying NOS charts, as well as the Navy charts issued by the Hydrographic Center of the Defense Mapping Agency. It will also eliminate the previous costly and time-consuming requirement of publishing dual numbers for one chart in the Notice to Mariners.

For those whose charting requirements center around chart portfolios, the new system will eventually, after the transitional period, eliminate dual numbering and with it much of the confusion associated with chart identification. The chart numbers will now correlate directly with their respective portfolio numbers and will be in numerical sequence within the portfolios.

For the merchant mariner and others with no formal requirement for charts "in portfolio," other benefits should become apparent. For example, the system provides for the consecutive numbering of charts by areas and scale. This will facilitate requisitioning the proper charts when supplying a new ship or planning a new voyage.

Many numbers have been left unused so that future charts may be placed in their proper geographic sequence.

COAST GUARD RULEMAKING

(Status as of 1 December 1974)

	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	X			
ANCHORAGE REGULATIONS							
San Juan Harbor, P.R. (CGFR 72-12)	2-1-72		3-4-72	X			
Juan DeFuca, Wash. (CGD 72-233)	12-5-72		1-9-73	X			
Puget Sound Area, WA (CGD 73-180)	8-24-73		9-28-73	X			
Indian River, Sebastian, FL (CGD 74-104)	7-2-74		8-5-74	X			
BRIDGE REGULATIONS							
Sacramento R. et. al., CA (CGD 73-142)	5-24-74		7-2-74	X			
Cheesequake Ck., NJ (CGD 73-162)	8-10-73		9-11-73	X			
AIWW, Mile 342, Lauderdale By The Sea, FL (CGD 74-180)	8-7-74		9-6-74	X			
Little Manatee R., FL (CGD 74-41)	2-21-74		3-19-74			11-5-74	12-5-74
New River Sound and Stranahan River, FL (CGD 74-115)	4-22-74		5-20-74			10-9-74	11-12-74
Stony Ck., MD (CGD 73-242)	10-12-73		11-20-73	X			
Lake Worth A.I.W.W., FL (CGD 74-117)	5-2-74		6-25-74	X		10-9-74	11-12-74
San Joaquin River, Georgiana Slough, Sacramento River, CA (CGD 73-172)	5-24-74		7-2-74	X			
AIWW, Hillsboro Inlet, FL (CGD 74-22)	1-25-74		3-1-74	X			
Chuckatuck Ck., Va. (CGD 74-71)	3-29-74		4-30-74			11-27-74	12-31-74
Chesapeake & Del. Canal, Del. (CGD 74-72)	3-29-74		4-30-74	X			
New River, FL (CGD 74-114)	4-22-74		5-20-74	X			
Manatee River, FL (CGD 74-101)	4-22-74		5-20-74	X			
Chicago River, IL (CGD 74-137)	6-3-74		7-16-74	X			
Columbia and Snake Rivers, WA (CGD 74-223)	9-20-74		10-22-74	X			
Bayou Little (Petit), Caillou, LA (CGD 74-215)	9-19-74		10-22-74	X			
Vermilion River, LA (CGD 74-214)	9-19-74		10-22-74	X			
Bayou Dularge, LA (CGD 74-234)	10-9-74		11-12-74	X			
Franklin Canal, LA (CGD 74-235)	10-9-74		11-12-74	X			
AIWW, Hallandale, FL (CGD 74-257)	11-5-74		12 -5-74	X			
HAZARDOUS MATERIALS							
Dichlorobutene, Corrected, F.R. 9-20-72, Hazardous Cargoes (CGD 72-162PH)	8-30-72	10-24-72	10-31-72			11-15-74	2-13-75
Miscellaneous Dangerous Cargoes (CGD 72-182)	11-11-72	12-12-72	12-29-72	X			
Dangerous Cargo Regulations, miscellaneous (CGD 73-249)	1-16-74		3-4-74	X			
Notice of arrival of laden vessels (CGD 73-253)	6-25-74		8-8-74	X			
Sodium sulfide solution and sulfur dioxide (CGD 73-275)	7-16-74 Corrected 9-5-74		12-5-74	X			
Vinyl chloride (CGD 74-167)	7-23-74	8-15-74	9-6-74	X			
Vinyl chloride, supplementary notice (CGD 74-200)	9-19-74		11-4-74	X			

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Marine Sanitation Devices (CGD 73–83)	3–1–74	5–1–74	5–14–74	X			
Boundary Lines of Inland Waters (CGD 73–241)	4–8–74 corrected 5–8–74		5–26–74	X			
Pipelines, lights to be displayed (CGD 73–216)	9–19–74 Corrected 10–18–74	10–21–74	11–4–74	X			
Control of vessel operations (CGD 73–202)	3–1–74 Supp. Notice 10–24–74		4–19–74				
		12–5–74	12–13–74				
MERCHANT MARINE SAFETY (GENERAL)							
Oceanographic vessels, fire main systems (CGFR 72–20)	2–4–72		3–19–72	X			
Ship's Maneuvering Characteristics Data (CGD 72–134PH)	8–22–72 Supp. Notice 7–20–73	9–28–72	10–13–72				
			8–31–73	X			
Emergency Position Indicating Radio Beacons (CGD 73–24)	3–5–73	4–18–73	4–30–73			3–18–74	3–1–75
Radar observer licensing (CGD 73–238)	10–12–73		11–30–73			9–26–74	11–25–74
Tank vessel electrical installation (CGD 74–118)	8–26–74		10–10–74	X			
Unmanned Platforms (CGD 73–177)	1–8–74 Corrected 1–29–74		2–25–74	X			
Releases, Lifesaving Equipment, Hydraulic and Manual (CGD 73–153)	1–8–74		2–25–74	X			
Bulk Dangerous Cargoes, Inspection of Barges (CGD 73–271)	3–11–74	4–15–74	4–30–74	X			
First Aid Certificates (CGD 73–272)	4–2–74		6–15–74	X			
CO_2 Fixed Fire Extinguishing Systems (CGD 74–100)	5–8–74		6–24–74	X			
Carriage of Solid Hazardous Materials in Bulk (CGD 74–13)	5–15–74	7–16–74	8–31–74	X			
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	X			
Welding and brazing; adoption of ASME Code (CGD 74–102)	9–26–74 Corrected 11–1–74		11–11–74	X			
Load line regulations, rail height adjustment (CGD 74–164)	10–4–74		11–15–74	X			
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	X			

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.[1] 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.
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.
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). F.R. 5–15–74, 5–24–74, 8–15–74, 9–5–74, 9–9–74.
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, 10–4–74.
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.
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 (10–1–71). F.R. 1–13–72, 3–2–73.
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.
329	Fire Fighting Manual for Tank Vessels (1–1–74).
439	Bridge-to-Bridge Radiotelephone Communications (12–1–72).

CHANGES PUBLISHED DURING NOVEMBER 1974

The following have been modified by Federal Registers:

CG–115, Federal Register of November 14, 1974.

CG–169, 172, & 184, Federal Register of November 27, 1974.

[1] Due to the paper shortage, certain publications may be temporarily out of stock. Titles 33 and 46, Code of Federal Regulations may be consulted for rules and regulations.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