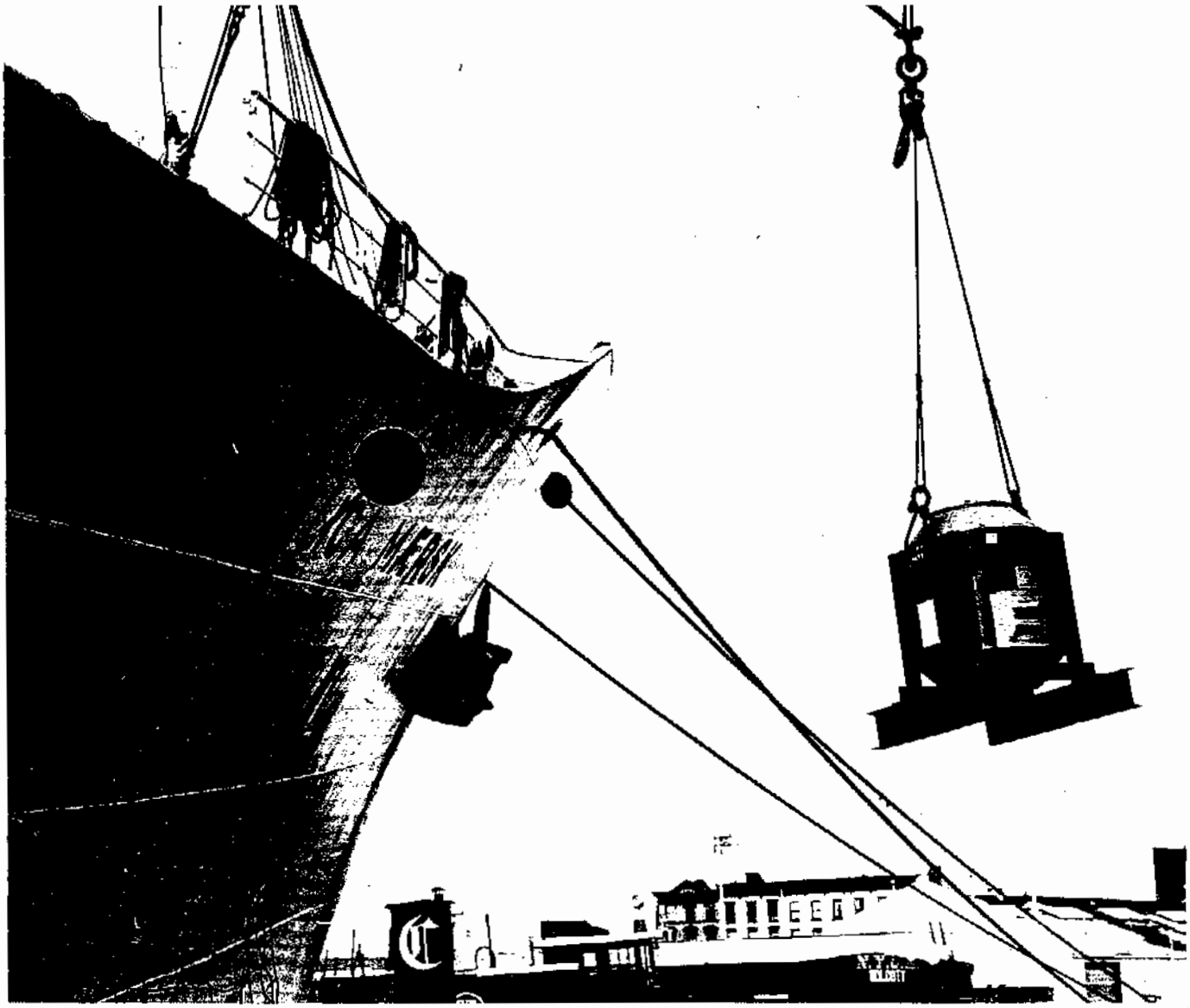
Proceedings

of the Marine Safety Council



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In most cases, hazardous cargo is easily identified, and its handling is carefully regulated. However, even some edible chemicals may be dangerous in transport. Beginning on page 215, Ron Bohn discusses how "The Misleading Factors" can lull shippers into a false sense of security about their cargoes. Official photo, U.S. Coast Guard.

THE MISLEADING FACTORS

by Ron Bohn

Upon reading the following questions and statements, some of you may recognize one or two that you have used in "defense" of a commodity that was challenged by your ocean carrier:

- "We've never had any problems with the previous shipments of it."
- "The other lines never questioned it, so how can it be hazardous?"
- "What's hazardous about it? You could wash your hands in the stuff." (Another version of that being, "This is sold in supermarkets and drug stores. How can it be hazardous?")
- "It's not regulated by DOT, and that's all I have to worry about. That 'IMCO business' is your problem!"
- "But it's not listed in the Hazardous Materials Table. How can it be regulated?"
- "But the drums have no labels. That means it's not hazardous, doesn't it?"

Such questions and statements (typical samples of the type I have encountered at Hapag-Lloyd's Hazardous Materials Office in New York during frequent phone discussions with shippers and freight forwarders) are rather interesting indications of how people have been misled or lulled into a false sense of security regarding their regulated commodities.

Behind those questions and comments are criteria that should not be used in judging the regulatory status of your commodity or in determining the hazard classification for transportation purposes. They are misleading factors.

1. Hunches, assumptions, and guesses. The fact that sodium nitrite is a common ingredient in prepared meats, for example, may lead to the "natural" assumption that it is nonhazardous. It is, however, a chemical that both DOT and IMO classify as an Oxidizer (IMO Class 5.1), which is the same class for some swimming pool chemicals. Ingredients of hair bleaches, cosmetics, and household products can also qualify as regulated commodities, particularly when shipped in industrial sizes and concentrations. Even some food flavorings and preservatives and medical and dental products are eligible for classification as hazardous materials/dangerous goods. The fact that the commodity is used in edible products or in products that are used in contact with the skin or hair is no assurance that it is "safe" for transportation purposes.

In the August 29, 1983, New York Times, on page B7, there appeared an article headed "Truck Driver Charged in Crash That Killed Four." It reads, in part, that a Tennessee truck driver "illegally hauling the chemical Sodium Nitrite" was charged with "homicide by vehicle" in a crash that killed four people, injured ten others, "and turned the Pennsylvania Turnpike into an inferno . . ."

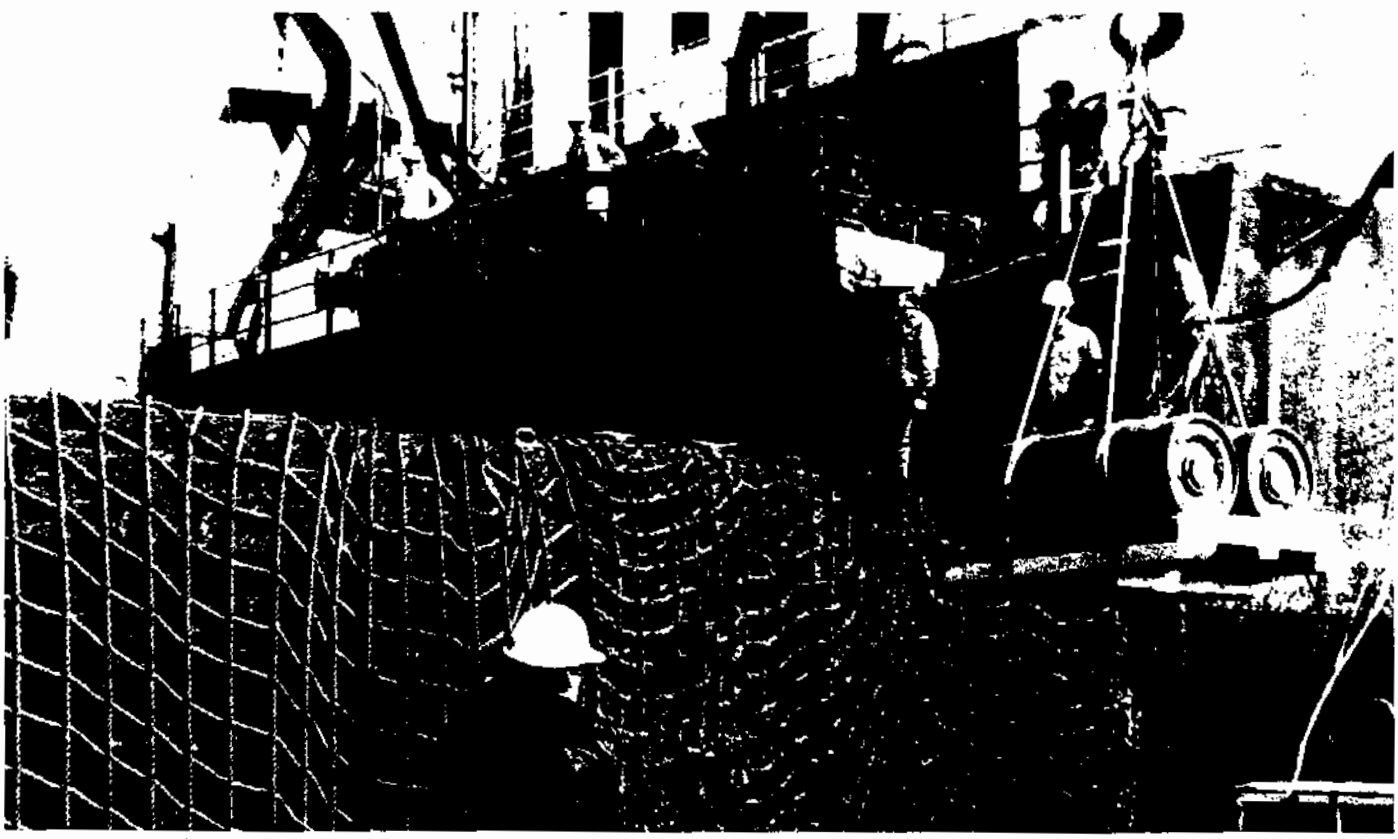
2. Favorably "interpreting" the description to justify a convenient, desirable status of the commodity. Example: the use of "safety" in the name does not assure you that it is an unregulated item. Note "safety" matches, squibs, and cartridges—which are all DOT- and IMO-regulated. Watch out also for the potentially misleading shipping names like nonspillable electric storage batteries, nonflammable compressed gases, nonpyroforic substances, or nonexplosive materials. The "non" prefix can, and often does, indicate a specific type of a normally regulated commodity . . . not the unregulated version of it. "Tear Gas Grenades, nonexplosive," and "Aluminum Powder, Uncoated, nonpyroforic" are examples of such regulated commodities.

Similarly, the use of the terms "stabilized" or "inhibited" in the proper shipping name is sometimes required to show that the regulated chemical concerned is in the safe, acceptable form for transportation. It should not be assumed to mean that the chemical is unregulated because it is in the stabilized or inhibited condition.

3. Consumer protection warnings and/or classifications are not necessarily indicative of transportation hazard classification. Warnings on the top of electric storage batteries, for example, refer to potential hazards associated with the battery when it is in use by the consumer. The classification for transportation purposes, however, is neither "explosive" nor "poison" (terms embossed on the battery) but DOT Corrosive Material and IMO Class 8/Corrosive. (If shipped without the acid electrolyte, the battery would be unregulated, but the acid would be regulated.)

4. Absence of the diamond-shaped hazard-class package label does not assure nonregulated contents. Note that the labeling waiver provided for by the DOT "limited quantity" exceptions and the ORMs (Otherwise Regulated Materials) are two common examples of that situation. All IMO Class 9 (Miscellaneous Dangerous Substances) are "no label required," but they are certainly declarable commodities. Small Arms Ammunition is classed by DOT as a Class C explosive and by IMO as Class 1.4S, but neither DOT regulations nor the International Maritime Dangerous Goods (IMDG) Code call for that commodity to be labeled. There are also substances that qualify as IMO Class 6.1 Poisons (liquid or solid) of the low-toxicity group III that have to be labeled/placarded "Harmful--Stow Away From Foodstuffs," but they would not be classified as poison by DOT and thus would not require package labeling or freight container placarding while being shipped within the United States. (All of which should prove how very misleading it is to refer to regulated and nonregulated cargoes as "labeled" and "unlabeled.")

5. All hazardous materials/dangerous goods are not listed in the 49 CFR Hazardous Materials Tables or the IMDG Code General Index. The fact that the shipping description or tariff description does not appear in the 172.101 or the 172.102 Hazardous Materials Tables or in the IMDG Code is not an indication that the commodity is unregulated. It is impossible to list all the materials, chemicals, and articles that qualify for regulation as packaged hazardous materials/dangerous goods. The "N.O.S." (i.e., not otherwise specified) shipping descriptions pick up those commodities not entered by name. As you look over the roughly 1,400 entries in the tables, you'll probably find at least one to fit the item you are involved with. There are very few "gaps."



Hazards associated with other types of cargo may not be as obvious as the are with explosives. (Official photo, U.S. Coast Guard.)

6. Presumed acceptability because commodity not previously challenged or questioned by carrier. It is unwise to assume that the commodity in question "must be all right" because you have never been asked anything about it. Be grateful if your carrier knows what to ask or double check in the course of verifying your cargo. (In some instances the pier receiving clerk may be the one a shipper or forwarder deals with because of the line's contract with the terminal operator.) If you can justify the hazard class declared or the nonregulated status claimed for the commodity, then your ability to do so reinforces your credibility. If you believe that you are correct and that the challenge is unjustified, then I suggest you ask the party challenging your cargo on what 49 CFR or IMDG Code reference they base their challenge. (But when they throw it at you, you had better have the current 49 CFR and IMDG Code to check the reference cited!)

7. Incorrect belief that U.S. exporters need to comply only with our DOT regulations. Cargoes going to "IMO countries" (i.e., maritime countries that have adopted the International Maritime Dangerous Goods Code into their national laws/regulations) must be offered in compliance with the IMDG Code, although DOT's exemptions and its Competent Authority Certificates are normally accepted for non-IMDG-Code packaging. Watch out for DOT's Combustible liquids (which can qualify as IMO Class 3.3 inflammable liquids) as well as poisons and corrosives. The latter have broader criteria applicable in the IMDG Code than by the 49 CFR class definitions.

So where do you find the real criteria, definitions, and descriptions of the hazard classes concerned? First: 49 CFR, Parts 100 - 199, two volumes. The cover date on the currently effective edition says "Revised as of October 1, 1983." Cover color is a rust and off-white. (The color changes every year.) The full title is "Title 49, Code of Federal Regulations." Note section 171.8 titled "Definitions and Abbreviations," which also provides further cross references applicable to the term or class you are looking up. Looking up "Poison B," for example, refers the reader to section 173.343, where specific toxicity criteria are given. (Note also section 173.2 if the commodity has more than one type of hazard associated with it.)

DOT also offers a convenient four-page flyer entitled "Hazardous Materials Definitions" that is available free upon request. Call (202) 426-3201 for it or write to Information Services Division (DMT 11), Materials Transportation Bureau, RSPA, Department of Transportation, Washington, DC 20590. While you're at it, ask them for the free packet of literature, but make sure you study that "Definitions" flyer!

Second, the IMDG Code is a source of criteria information. The Code doesn't provide actual definitions, but it does describe the properties and characteristics of the respective hazard classes in front of each class section of the five-volume set. In the poison class (6.1 liquids and solids), the class preface includes the toxicity criteria in two tables on pages 6003 and 6003-1.

For those readers who already have the IMDG Code, please note that you should have amendments through number 20-82 already inserted.

To the best of my knowledge, 49 CFR and the IMDG Code and its amendments are available from the following:

- Labelmaster (Chicago), toll-free tel.: 1-800-621-5808
- N.Y. Nautical Instrument and Service Co. (New York City), tel.: (212) 962-4522
- Southwest Instrument Co. (San Pedro, California), tel.: (213) 519-7800
- Unz & Co. (Jersey City, New Jersey), toll-free tel.: 1-800-631-3098

Reminder in connection with hazard classes: The National Committee on International Trade Documentation's 1984 edition of its booklet on documentation of U.S. export shipments by water has a helpful updated DOT and IMO class-comparison chart in its centerfold. The booklet is only $2.50 plus 60¢ postage/handling. It may be ordered from the NCITD at 350 Broadway, Suite 1200, New York, New York 10013. *

(Reprinted from Brandon's Shipper & Forwarder, September 26, 1983, with references updated where appropriate; c 1983 International Thomson Transportation Information Services, Inc.)

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Ship and Equipment Design

How well are mariners' requirements taken into account when ships are designed and fitted out? On the premise that feedback from professionals could forestall future problems, a London-based organization solicited the views of its seafaring members.

Part II

Arrival in Port

Compiled by E. J. Riley from responses to the Nautical Institute questionnaire

In our last issue, we began a 10-part series on problems related to ship and equipment design. This series is based on responses to a questionnaire issued by London's Nautical Institute. The results of the Institute's survey were abstracted and published in Seaways—The Journal of the Nautical Institute. Although some of the items discussed are covered by regulation for U.S. ships, many are not. Readers are encouraged to write in about other problems they have experienced or to suggest alternative remedies to those recommended by the Institute.

Part II of this series discusses some of the problems respondents experienced when arriving in port.

1. Access to ship

Problem: Respondents expressed considerable difficulties in this area. For example, rigging accommodation ladders and gangways is labor-intensive, particularly with reduced crews. High dock walls cause particular positioning problems. Frequently, the length of the ladder/gangway is too short with regard to the vessel's state and rise and fall on the berth; at times, the gangway/ladder is known to be completely vertical. Inadequate step/tread facilities and protruding fenders fixed on quayside make access to and from the gangway/ladder dangerous. The wheels on the bottom platform of the accommodation ladder frequently foul shore-side crane/rail tracks on rough ground and other fixtures, and in addition frequently cause the outboard end of the gangway/ladder to be dangerously close to the jetty edge. Dangerous situations have arisen because the controls for lowering/hoisting accommodation ladders have been sited where vision is poor. Occasionally, the controls are located on another deck. Accommodation ladder/gangway equipment, particularly stanchions, is heavy to manhandle.

Remedy: Gangway and accommodation ladders should be designed to be rigged and positioned by a small number of crew. This is particularly necessary with today's reduced manning. The ladder/gangway's length should be suitable for all states of the ship and the rise and fall on the berth with adequate tread/step provided. It may be necessary for the accommodation ladder to be sited one deck lower. The accommodation ladder should be designed in two sections, each with an individual motor, thereby allowing good access in all conditions of the ship. Rigging the ladder/gangway should be a two-person operation, and the stanchions should be easy to handle and rig. Adjusting for rise and fall/change of draught should be a one-person operation—perhaps the night watchman. Accommodation ladders should be designed to be self-launching, operated by good electric hoist motors with controls sited at the top platform, allowing a good view of the entire ladder at all times. Larger wheels/rollers are required to prevent the outboard end of the ladder fouling inshore equipment and railways, with a rotatable platform at the inboard end of ladder and adequate gateway facilities on both sides of the ship. A stanchion fitted to the outboard corner on the bottom platform of the accommodation ladder would greatly assist when boarding in an estuary.

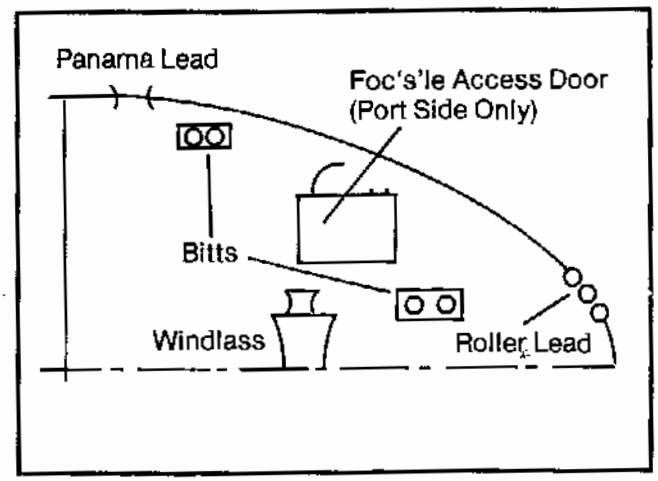
2. Anchoring equipment

Problem: There is frequently a lack of facilities for securing anchors at sea and relieving the strain on the windlass brake when the ship is riding to an anchor, as well as a lack of fixed anchor-washing facilities.

Remedy: The design of equipment ought to include facilities for mooring to buoys and deep-sea towing; for example, by providing

- The means for hanging-off the anchors outside the hawse pipes and for breaking the cable on deck.
- The means for hanging-off the anchors in the hawse pipe and for breaking and securing the cable on deck.
- A mooring pipe in the bulwarks in line with the cable-lifter and/or the bow stopper.

The anchor should stow as near as possible flush to the shell. A cable meter designed for more effective counting of shackles should be fitted, because with reduced crews and faster turnaround, shackles go unpainted.



Lack of facilities and awkward siting of foc's'cle access door.

3. Bunkering

Problem: Fuel tanks tend to overflow when control and monitoring systems are not adequate. Poor communication between engine room control and bunker station adds to the risks of spillage/overflow.

Remedy: One suggestion was that all fuel tanks be designed to overflow into an overflow tank, with reliable tank sounding and monitoring systems. Good communication is essential between the engine room control and the bunkering station.

4. Chain lockers

Problem: Some chain lockers still require personnel in attendance to stow anchor cable.

Remedy: Chain lockers should be of sufficient depth for reliable self-stowing; they should not need to be attended inside the locker.

5. Mooring

Problem: Siting of mooring equipment—bitts, winches, fairleads—bears little regard to mooring operations. The mooring area is usually too cramped. Our questionnaire responses told of bitts being too close to fairleads, making it impossible to use stoppers satisfactorily. On certain self-tensioning winches, the brake handle is too close to the reel and warping barrel for safety. With two drum ends on a single shaft, a line on one drum usually surges while the other line is hauled in. Where a riding turn occurs on some capstans, the capstan cannot turn in the opposite direction to free the line, resulting in a cut line. Some ships have no leads suitable for

mooring other than the Panama leads provided. These are unsuitable, particularly for synthetic mooring lines when ships surge due to swell. Alternate leads should be provided. Multi-angle rollers are impossible to strip down as bulwarks butt around them. It is impossible to grease cog wheel of windlass without working anchors. Various rope store accesses are sited without regard to general mooring operations and frequently cause lead problems. Backspring wires are prone to chaffing along the ship's side. Handling the wires is heavy and greasy; gloves are required for protection, yet they can be dangerous during mooring operations. The talk-back communication system is usually sited in a dangerous position in the mooring area, frequently in line with any ropes/wires that might part. Transom sterns provide additional concern when berthing: the OOD has to watch the stern carefully as the vessel goes alongside, thereby taking his attention away from the mooring operation. The sharp angle on transom quarters frequently cuts the tug line. Rat guard design is inefficient.

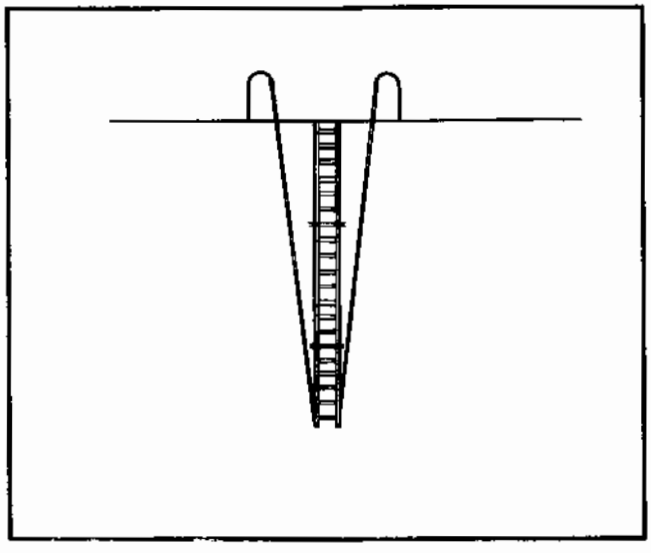
Remedy: More convenient and adequate layout of mooring facilities is generally needed. Rope stores should be conveniently sited with access clear of main mooring area. There should be greater use of self-tensioning winches, particularly with reduced manning. Ropes and wires should be designed for stowing on reels to allow for remote control of winches from a suitable position, thereby requiring one person to handle the wires with another person operating the controls in a safe, but central, position. The transom boundary angle should be radiused. All equipment must be designed for ease of maintenance and of adequate strength. Mooring bitts should be of the same strength throughout the vessel.

Two davits, each with a single whip, to aid with rigging pilot ladder.

6. Pilot facilities

Problem: With larger ships and smaller crews, pilot ladders are frequently heavy and cumbersome to rig. The inboard end becomes a dangerous conglomeration of ropes and unused length of ladder. Often there is no door in the bulwarks or railings, which results in heavy manhandling of ladders and platform. The length of climb to board a ship and again to get to the bridge frequently results in an exhausted pilot. "Rotterdam Gangway"—i.e., accommodation ladder and pilot ladder—is hazardous in rigging while underway. Pilot hoists require improvement; some authorities refuse to use them. Boarding areas are frequently in unsuitable places. There is a lack of fixed overside lights. Doorways in bulwarks are frequently not wide enough for the spreaders of a ladder. The pilot boarding area is still situated in the way of discharges on some vessels.

Remedy: Handling of ladders should be improved with the use of rigging aids. Embarkation to ship should be via a gateway in the bulwarks/railings, inward-opening with adequate hand-holds. A small portable grating with legs should be provided to cover the conglomeration of equipment at the top end of the ladder. Hoists should have an independent power supply. The height the pilot has to climb to embark should be considered with the additional climb to the bridge. (One questionnaire respondent suggested that some method of winching a pilot aboard, akin to a helicopter operation, should be investigated.) There should be adequate and efficient fixed lighting for the entire length of the climb. The pilot boarding area must be clear of the bunkering station and of any discharge.



7. Tugs

Problem: On certain vessels, insufficient securing arrangements are available and are frequently in unsuitable locations.

Remedy: Adequate facilities for securing tugs should be designed along the entire length of a vessel, with particular reference to shoulder, waist, and quarter. The number and distance between lead and bitts will vary with the size and type of the vessel. Careful thought needs to be given to the varying techniques adopted by different ports.

8. Waste disposal

Problem: Inadequate stowage is provided for waste while in port, and there are inadequate facilities for waste disposal.

Remedy: Waste disposal units should be installed in the galley. Also, a large disposal/refuse tank should be built into the stern. It should have an outside door and flushing system for use at sea. Rubbish chutes should be designed for all vessels, and these chutes should be equipped with storage containers that are easy to put ashore. *

WHEN GOING ALOFT...

Safety must be the number one consideration for men working aloft. Whether engaged in maintenance or preservation of the vessel from a stage or bosun's chair, the following rules of safety apply:

- Check the stage or bosun's chair for cracks, splinters, or other defects that could cause problems while aloft.
- Examine the condition of all gantlines, slings, and other lines. Discard any lines that show signs of excessive wear, burns, or other deterioration.
- If practical, use a properly tied-off safety belt for added protection.
- Carry needed tools and materials aloft in a canvas bag fitted with shoulder straps that allow hands to remain free.
- Establish a clear set of signals with workers on deck for any hoisting, lowering, or positioning.
- Only permit those workers aloft who are experienced in the proper securing of hitches and other safety considerations of the job at hand.
- Never go aloft when weather and sea conditions make the operation hazardous.
- When finished, stow all gear in dry, well-ventilated lockers to prevent deterioration.

The points enumerated here are contained in a Safety and Health Information Sheet issued by the National Safety Council, Marine Section. While the information is believed to represent the best current opinion on the subject, readers should not assume that the sheet covers all acceptable safety measures or that other or additional measures would not be required under particular or exceptional conditions or circumstances.

GO SAFELY!

STATISTICS OF CASUALTIES
Calendar Year 1981

In 1981, the U.S. Coast Guard implemented interactive data entry procedures for the purpose of updating the Commercial Vessel Casualty and Personnel Injury and Death files. Some of the file specifications and data fields have also been changed.

The 1981 Casualty Statistics were prepared with the purpose of preserving continuity of data with previous years (1963-1980); however, the two data sets are not completely equivalent for two reasons: the 1981 statistics were prepared for calendar year 1981, and some of the aggregate accident types shown on the tables are not identical. Prior to 1981, the Coast Guard accumulated casualty statistics by fiscal year. Consequently, casualties which occurred after the end of fiscal year 1980 (30 September 1980) and before 1 January 1981 are not published in these statistical results. Those persons interested in these 3 months of data should obtain a copy of the complete data file from the U.S. Coast Guard (see last paragraph for address). The differences between the two sets of statistics should be kept in mind when making comparisons with previous years.

The attached statistics are a summary of the commercial vessel casualties that were investigated by Coast Guard marine investigators during calendar year 1981. The public, industry and the Coast Guard have used the findings of the 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, at the Marine Inspection Office or Marine Safety Office. The following summary represents casualties for which reports were received at Coast Guard Headquarters during calendar year 1981. These casualties, involving commercial vessels, were required to be reported to the Coast Guard whenever the casualty resulted in any of the following:

- an accidental grounding or an intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

- loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, sub-systems, or control systems do not perform the specified or required function;

- an occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure of or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

- loss of life;

- injury causing a person to remain incapacitated for a period in excess of 72 hours; or

- an occurrence not meeting any of the above criteria but resulting in damage to property in excess of $25,000. Damage includes the cost of restoring the property to the service condition which existed prior to the casualty, but must exclude the cost of salvage, gas freeing, and drydocking. It also does not include such items as demurrage.

Every event involving a vessel or its 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 simply because they are not reported. Thus, it is of the utmost importance that the masters of all vessels ensure that all casualties are reported and investigated. With the cooperation of the masters, owners, and agents of commercial vessels, many of the unreported casualties can be investigated.

This statistical tabulation is intended to summarize the casualty experience for the entire commercial fleet. Because the summary is so all-encompassing, use of the statistics may lead to erroneous conclusions if the limitations of the data are not well understood. The Information and Analysis Staff of the Office of Merchant Marine Safety will gladly assist in quantifying those limitations for each specific need.

Comments and recommendations for changes or improvements in the statistics should be addressed to Commandant (G-MA/16), U.S. Coast Guard, 2100 2nd Street SW, Washington, DC 20593.

*

STATISTICAL SUMMARY OF ACCIDENTS AND INVOLVEMENTS TO COMMERCIAL VESSELS FOR CALENDAR YEAR 1981	COLL: MOVING OBJECT	COLL: FLOATING OBJECT	COLL: FIXED OBJECT	COLL: UNKNOWN	EXP &/O FIRE: CARGO	EXP &/O FIRE: FUEL	EXP &/O FIRE: PRESSURE VES EQUIPMENT	EXP &/O FIRE: STRUCTURE; MACHINERY	EXP &/O FIRE: UNKNOWN	GROUNDING: ACCIDENTAL	GROUNDING: INTENTIONAL	FOUNDERING, CAPSIZING:	WEATHER DAMAGE	MATERIAL FAILURE: STRUCTURE AND EQUIPMENT	MATERIAL FAILURE: MACHINERY AND EQUIPMENT	MATERIAL FAILURE: NOT OTHERWISE CLASSIFIED	MISCELLANEOUS	TOTAL
NUMBER OF ACCIDENTS	191	126	441	75	8	6	2	171	12	1243	7	357	83	498	564	45	29	3,858
NUMBER OF VESSELS INVOLVED	414	151	751	122	10	6	2	173	12	2021	20	401	88	518	601	47	91	5,428
NUMBER OF INSPECTED VESSELS INVOLVED	105	43	211	31	4	0	2	26	3	490	4	21	22	119	179	18	12	1290
NUMBER OF UNINSPECTED VESSELS INVOLVED	309	108	540	91	6	6	0	147	9	1531	16	380	66	399	422	29	79	4,138
PRIMARY CAUSE OF ACCIDENT																		
PERSONNEL FAULT	167	50	367	49	6	2	1	79	7	902	4	150	19	115	93	20	13	2,038
VESSEL RELATED	10	4	38	9	2	2	1	70	2	55	0	28	31	284	412	18	7	1,073
ENVIRONMENT RELATED	6	67	25	12	0	0	0	0	0	255	2	51	26	50	14	3	6	517
MANAGEMENT FAULT	0	1	0	0	0	0	0	2	0	6	0	1	0	1	4	0	1	16
OTHER	8	4	11	5	0	2	0	20	3	25	1	27	7	48	41	4	2	214
TYPE OF VESSEL																		
INSPECTED VESSELS:	18	9	33	5	0	0	0	12	2	44	0	20	10	37	52	2	2	246
Passenger	44	17	68	13	2	0	1	11	3	140	0	5	10	45	69	10	0	438
Freight	23	10	32	7	0	1	1	6	1	61	2	0	5	31	64	6	0	250
Tankship	67	19	144	17	4	0	0	3	0	354	0	2	4	15	21	2	7	629
Tank Barge	0	0	12	1	0	0	0	1	0	2	0	0	1	3	3	2	0	25
MODU	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4
Fixed Facility	0	0	8	2	0	0	0	7	1	27	0	1	2	8	10	0	0	89
Other and Unclassified	10	2																
UNINSPECTED VESSELS:	44	25	29	23	2	4	0	95	3	196	1	219	39	294	276	15	2	1,267
Fishing	109	50	228	27	1	1	0	28	0	555	4	65	12	50	72	6	7	1,215
Tug/Towing	85	18	219	20	0	0	0	6	2	635	13	70	4	27	29	1	69	1,198
Freight Barge	14	1	5	7	1	0	0	4	0	7	0	8	1	8	5	2	4	67
Other																		
GROSS TONNAGE (tons)																		
300 OR LESS	177	79	306	69	3	5	0	143	6	731	7	357	66	396	386	23	40	2,794
OVER 300 TO 1000	94	33	214	16	4	0	0	5	1	735	10	37	2	28	54	3	42	1,278
OVER 1000 TO 10,000	93	18	160	21	2	0	0	14	1	406	3	6	6	37	54	9	9	839
OVER 10,000	50	21	71	16	1	1	2	11	4	149	0	1	14	57	107	12	0	517

STATISTICAL SUMMARY OF ACCIDENTS AND INVOLVEMENTS TO COMMERICAL VESSELS FOR CALENDAR YEAR 1981 (CONTINUED)	COLL: MOVING OBJECT	COLL: FLOATING OBJECT	COLL: FIXED OBJECT	COLL: UNKNOWN	EXP a/o FIRE: CARGO	EXP a/o FIRE: FUEL	EXP a/o FIRE: PRESSURE VES; EQUIPMENT	EXP a/o FIRE; STRUCTURE; MACHINE	EXP a/o FIRE: UNKNOWN	GROUNDING: ACCIDENTAL	GROUNDING: INTENTIONAL	FOUNDERING, CAPSIZING:	WEATHER DAMAGE:	MATERIAL FAILURE: STRUCTURE AND EQUIPMENT	MATERIAL FAILURE: MACHINERY AND EQUIPMENT	MATERIAL FAILURE: NOT OTHERWISE CLASSIFIED	MISCELLANEOUS	TOTAL
LENGTH (ft)																		
LESS THAN 100	138	62	211	60	3	4	0	129	4	535	6	321	58	372	325	18	9	2,255
100 TO LESS THAN 300	197	65	423	43	5	1	0	28	3	1271	13	78	13	68	139	15	82	2,444
300 TO LESS THAN 500	28	5	42	3	1	0	0	2	0	58	1	1	3	18	24	1	0	187
500 AND OVER	51	19	75	16	1	1	2	14	5	157	0	1	14	60	113	13	0	542
AGE (years)																		
Less Than 10	195	55	354	58	9	1	2	66	5	973	11	119	38	180	238	17	50	2,371
10 TO LESS THAN 20	133	40	176	26	0	3	0	41	3	1271	5	86	16	129	132	20	10	1374
20 TO LESS THAN 30	39	25	93	12	1	1	0	24	2	215	1	70	13	57	80	5	9	647
30 AND OVER	47	31	128	26	0	1	0	42	2	279	3	126	21	125	151	5	22	1036
LOCATION OF ACCIDENT																		
INLAND-ATLANTIC	5	2	5	0	0	0	0	8	1	67	0	28	7	27	59	0	0	209
INLAND-GULF	2	4	9	2	0	0	0	3	0	44	0	6	2	7	5	1	2	87
INLAND-PACIFIC	6	4	8	7	0	1	0	11	1	40	1	30	13	23	33	2	0	180
OCEAN-ATLANTIC	11	12	5	5	3	1	0	24	1	19	0	43	17	122	114	5	2	384
OCEAN-GULF	12	6	39	7	0	0	0	18	1	16	0	40	8	16	26	8	1	198
OCEAN-PACIFIC	10	2	3	6	0	0	0	10	0	19	0	47	8	104	83	7	2	301
GREAT LAKES	1	1	6	0	0	0	0	2	1	5	0	1	0	5	9	1	0	32
WESTERN RIVERS	142	93	362	47	5	4	1	94	7	1032	6	156	28	193	231	20	22	2,443
OCEAN-OTHER	0	0	0	0	0	0	1	1	0	0	0	3	0	0	3	0	0	8
FOREIGN WATERS	2	2	4	1	0	0	0	0	0	1	0	0	0	1	1	1	0	13
TIME OF DAY																		
DAYLIGHT	86	70	208	39	3	4	1	98	10	568	6	175	40	344	362	27	11	2,052
NIGHTTIME	98	48	199	33	4	1	1	59	2	572	0	131	34	111	163	15	15	1,486
TWILIGHT	7	6	31	1	1	1	0	14	0	97	0	33	2	23	21	3	0	240
UNKNOWN	0	2	3	2	0	0	0	0	0	6	1	18	7	20	18	0	3	80
ESTIMATED LOSSES ($000)																		
VESSEL	27028	4289	19431	4938	366	81	1025	35573	20703	46,079	49	44417	3258	9433	7626	20695	2674	247,765
CARGO	2117	42	2296	33	330	0	0	285	1	3921	0	2232	1633	413	463	12	653	14,447
OTHER	10294	902	30124	335	0	0	0	86	1	17785	0	990	56	135	1008	27	2049	63,792
VESSELS TOTALLY LOST																		
INSPECTED	3	0	1	0	0	0	0	1	0	3	0	6	0	1	0	1	0	16
UNINSPECTED	22	9	3	8	3	3	0	64	1	32	0	172	3	21	16	4	16	377

STATISTICAL SUMMARY OF DEATHS/INJURIES DUE TO A VESSEL INVOLVEMENT CALENDAR YEAR 1981	COLL: MOVING OBJECT	COLL: FLOATING OBJECT	COLL: FIXED OBJECT	COLL: UNKNOWN	EXP &/o FIRE: CARGO	EXP &/o FIRE: FUEL	EXP &/o FIRE: PRESSURE VES EQUIPMENT	EXP &/o FIRE: STRUCTURE; MACHINERY	EXP &/o FIRE: UNKNOWN	GROUNDING: ACCIDENTAL	GROUNDING: INTENTIONAL	FOUNDERING, CAPSIZING:	WEATHER DAMAGE	MATERIAL FAILURE: STRUCTURE AND EQUIPMENT	MATERIAL FAILURE: MACHINERY AND EQUIPMENT	MATERIAL FAILURE: NOT OTHERWISE CLASSIFIED	MISCELLANEOUS	TOTAL
ACCIDENTS WITH DTH/INJ	6	0	6	3	2	1	0	10	5	5	0	29	6	4	5	4	0	86
INSPECTED VESSELS	3	0	4	0	1	1	0	5	2	0	0	2	2	0	1	4	0	25
UNINSPECTED VESSELS	3	0	2	3	1	0	0	5	3	5	0	27	4	4	4	0	0	61
PERSONS DEAD/INJURED	14/56	0	0/23	5/8	0/7	0/2	0	4/9	6/5	3/6	0	46/9	11/8	3/3	4/3	3/6	0	99/145
PRIMARY CAUSE																		
PERSONNEL FAULT	6	0	5	3	1	1	0	7	3	3	0	13	1	1	1	4	0	49
VESSEL RELATED	0	0	1	0	1	0	0	3	1	0	0	8	0	2	3	0	0	19
ENVIRONMENT RELATED	0	0	0	0	0	0	0	0	0	2	0	3	4	1	0	0	0	10
MANAGEMENT FAULT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	1	0	0	5	1	0	1	0	0	8
TYPE OF VESSEL																		
INSPECTED VESSELS:																		
Passenger	0/51	0	0/18	0	0	0	0	0	1/0	1/3	0	3/0	0/2	0	0	0	0	5/74
Freight	0/1	0	0	1/2	0	0	0	0/1	0	0	0	0	0	0	0/2	1/2	0	2/8
Tankship	0/1	0	0	0	0	0/2	0	0/2	0	0	0	0	0	0	0	0	0	0/5
Tank Barge	0	0	0	0	0/6	0	0	0	0	0	0	0	0	0	0	0	0	0/6
MODU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixed Facility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0/4	0	0/4
Other and Unclassified	2/0	0	0	0	0	0	0	1/0	0	0	0	1/0	0	0	0	0	0	4/0
UNINSPECTED VESSELS:																		
Fishing	4/0	0	0	0/1	0	0	0	2/1	0/3	2/2	0	31/3	10/5	3/3	4/1	0	0	56/19
Tug/Towing	2/2	0	0/4	0/2	0/1	0	0	0/1	0	0	0	9/5	0	0	0	0	0	11/15
Freight Barge	0	0	0/1	0/2	0	0	0	0/4	4/0	0/1	0	0/1	1/0	0	0	2/0	0	7/9
Other	6/1	0	0	4/1	0	0	0	1/0	1/2	0	0	2/0	0/1	0	0	0	0	14/5

STATISTICAL SUMMARY OF DEATHS/INJURIES DUE TO A VESSEL INVOLVEMENT CALENDAR YEAR 1981 (CONTINUED)	COLL: HOVING OBJECT	COLL: FLOATING OBJECT	COLL: FIXED OBJECT	COLL: UNKNOWN	EXP a/o FIRE: CARGO	EXP a/o FIRE: FUEL	EXP a/o FIRE: PRESSURE VES EQUIPMENT	EXP a/o FIRE: STRUCTURE: MACHINERY	EXP a/o FIRE: UNKNOWN	GROUNDING: ACCIDENTAL	GROUNDING: INTENTIONAL	FOUNDERING, CAPSIZING:	WEATHER DAMAGE	MATERIAL FAILURE: STRUCTURE AND EQUIPMENT	MATERIAL FAILURE: MACHINERY AND EQUIPMENT	MATERIAL FAILURE: NOT OTHERWISE CLASSIFIED	MISCELLANEOUS	TOTAL
PARTICULARS OF PERSON DEAD/INJURED																		
STATUS OR CAPACITY ON VESSEL:																		
Passenger	3/48		0/18	4/0						1/3		4/0						12/69
Longshoreman-Harbor Worker										0/1								1/2
Crewmember	5/3		0/1	1/7				4/1	1/1			29/8	11/4	3/1	4/2	2/4		63/34
Other	6/5		0/4	0/1	0/7	0/2		0/8	4/3	2/2		13/1	0/4	0/2	0/1	1/2		23/40
ACTIVITY ENGAGED IN:									1/1									1/1
Off Duty												1/0	0/1					
Deck Duty	3/2			0/5				0/1	3/3			7/6	1/1	0/1	1/0	0/4		15/23
Engine Duty	0/1							0/1				0/1			0/2			0/5
Steward Duty																		0/1
Handling Cargo																		
Fishing												7/0			1/0			8/0
Drilling																2/0		2/0
Passenger	1/0			4/0						1/3		4/0						10/21
Other	10/53		0/18	1/3	0/7	0/2		4/7	3/2	2/3		27/2	10/6	3/2	2/1	1/2		63/94
LOCATION:																		
Inland Atlantic	2/48			2/2				0/2	0/2	0/1		8/1	1/0	0/1				13/57
Inland Gulf	2/2		0/2	1/2				2/0	4/0	1/3		6/1				2/0		18/10
Inland Pacific								1/0	1/2			4/0	10/4		2/2			18/8
Ocean Atlantic	1/0		0/15									3/2		3/0				7/17
Ocean Gulf			0/2					0/1	1/1			0/3			1/0	0/4		2/11
Ocean Pacific	5/0											9/0			1/1			15/1
Great Lakes																		
Western Rivers	4/5		0/4	2/4				1/6		2/2		16/2	0/4	0/2		1/2		26/31
Foreign Waters	0/1																	0/1
PART OF BODY INVOLVED:																		
Head, Neck, Shoulder	0/3		0/4							1/1			0/1					1/9
Back	0/4		0/7							0/1								0/12
Chest			0/3															0/3
Extremities	0/6		0/3	0/1				0/1				0/3	0/1	0/1		0/2		0/18
Abdomen, Groin, Hip	0/1									0/1		0/1						0/3
Other	14/42		0/6	5/7	0/7	0/2		4/8	6/5	2/3		46/5	11/6	3/2	4/3	3/4		98/100

STATISTICAL SUMMARY OF DEATHS ON BOARD COMMERCIAL VESSELS NOT INVOLVING A VESSEL ACCIDENT-CALENDAR 1981	NATURAL CAUSE	HOMICIDE	SUICIDE	DISAPPEARANCE	SLIPS	FALLS	STRUCK-MOVING, FIXED OBJECT	EXPOSURE, ASPHYXIATION	HANDLING CARGO LINES	OPERATE MACHINERY	BURNS	SCALDS	PINCHED/CRUSHED	GALLEY ACCIDENT	ALTERCATION	HYPOTHERMIA, DIVING	OTHER	TOTAL
NUMBER OF DEATHS	11	0	1	5	3	58	15	10	4	1	1	0	5	0	0	13	3	130
INSPECTED VESSELS INVOLVED	7	0	0	2	1	13	5	2	2	1	0	0	1	0	0	6	3	43
UNINSPECTED VESSELS INVOLVED	4	0	1	3	2	45	10	8	2	0	1	0	4	0	0	7	0	87
CAUSE OF DEATH																		
INTOXICATION, NARCOTICS					1	3		2									1	7
PHYSICAL DEFICIENCY, HANDICAP	2				1	3		1								1		8
UNSAFE MOVEMENT OR POSTURE						8	1						4			2		15
PSYCHOLOGICAL-IMMATURITY/INSANE			1					3										4
UNSAFE PRACTICE						4										1		5
CARELESSNESS						7	2	2	2				1				2	16
DECK					1	3												4
WEATHER CONDITIONS																		
IMPROPER LIGHTING										1								3
INADEQUATE RAILS/GUARDS						1	1											15
FAILURE-MATERIAL/EQUIPMENT						5	6		1		1					3		2
IMPROPER TRAINING/SUPERVISION							1											
INADEQUATE LIFE PRESERVERS																		1
IMPROPER TOOLS/EQUIPMENT						1												
INADEQUATE PROTECTIVE EQUIPMENT																		50
IMPROPER USE-TOOLS/EQUIPMENT						23	4	2	1							6		
INSUFFICIENT VENTILATION																		
OTHER	9			5														
TYPE OF VESSELS INVOLVED																		
INSPECTED VESSELS:																		23
PASSENGER	2			1	1	8		3	1							6	1	26
Freight	5			1	2	10	5	2	1							1		9
Tankship	1		1			4	1			1								1
Tank Barge																		9
MODU						3	2	1	1				1			2		2
Fixed Facility						1					1							8
Other	1					4										3		
UNINSPECTED VESSELS:																		21
Fishing				3		8	2	3	1				1			3		20
Tug/Tow	2					13	2	1					2					10
Freight Barge						6	3						1					
Foreign						1												1
Other																		

STATISTICAL SUMMARY OF DEATHS ON BOARD COMMERCIAL VESSELS NOT INVOLVING A VESSEL ACCIDENT-CALENDAR 1981 (CONTINUED)	NATURAL CAUSE	HOMICIDE	SUICIDE	DISAPPEARANCE	SLIPS	FALLS	STRUCK-MOVING, FIXED OBJECT	EXPOSURE, ASPHYXIATION	HANDLING CARGO LINES	OPERATE MACHINERY	BURNS	SCALDS	PINCHED/CRUSHED	GALLEY ACCIDENT	ALTERCATION	HYPOTHERMIA, DIVING	OTHER	TOTAL
PARTICULARS OF PERSON DECEASED																		
STATUS OR CAPACITY ON VESSEL:																		
Passenger	2			1	1	4		4									1	13
Longshoreman						4	1		1				1			1		8
Crewmember	8			3	2	44	14	5	3	1	1		2			6	2	91
Other	1		1	1		6		1					2			6		18
ACTIVITY ENGAGED IN:																		
Off Duty	2		1		1	4	1	2										11
Deck Department Duty	6			1		18	8	1	1				2					37
Engine Department Duty					1	1												2
Steward Department Duty						1												1
Handling Cargo						2	2		1	1								6
Fishing						4	1	1	1				1			1		9
Drills							2											2
Passenger	2			1	1	4		3									1	12
Other	1			3		24	1	3	1		1		2			12	2	50
LOCATION:																		
Inland-Atlantic	2				1	8	2		2							3		18
Inland-Gulf	5					21	5	2					2					35
Inland-Pacific					1	11		3					1			3	1	20
Ocean-Atlantic				2	1	1							1			1	2	8
Ocean-Gulf	1			1		8	5		2							2		19
Ocean-Pacific	1		1	2		1					1					4		10
Great Lakes	1																	1
Western Rivers	1					8	3	5		1			1					19
PART OF BODY INVOLVED:																		
Head, Neck, Shoulder					2	5	8		1								1	17
Back									1									1
Chest							1											1
Extremities					1				1									2
Abdomen, Groin, Hip																		
Other	11		1	5		53	6	10	1	1	1		5			13	2	109

STATISTICAL SUMMARY OF INJURIES ON BOARD COMMERCIAL VESSELS NOT INVOLVING A VESSEL ACCIDENT-CALENDAR 1981	NATURAL CAUSE	HOMICIDE	SUICIDE	DISAPPEARANCE	SLIPS	FALLS	STRUCK-MOVING, FIXED OBJECT	EXPOSURE, ASPHYXIATION	HANDLING CARGO LINES	OPERATE MACHINERY	BURNS	SCALDS	PINCHED/CRUSHED	GALLEY ACCIDENT	ALTERCATION	HYPOTHERMIA, DIVING	OTHER	TOTAL
NUMBER OF INJURIES	1				265	154	247	2	65	10	28	21	138	5	25	5	222	1,188
INSPECTED VESSELS	1				202	95	144	1	36	6	15	20	78	2	20	5	139	764
UNINSPECTED VESSELS	0				63	59	103	1	29	4	13	1	60	3	5	0	83	424
CAUSE OF INJURY																		
INTOXICATION, NARCOTICS					4	1			1				1		2	1		10
PHYSICAL DEFICIENCY, HANDICAP					9	5									1		22	37
UNSAFE MOVEMENT OR POSTURE					47	23	36		9	2	1	1	23				75	217
PSYCHOLOGICAL-IMMATURITY/INSANITY															14			14
UNSAFE PRACTICE					18	24	43	1	12	3	3	4	18			1	26	153
CARELESSNESS	1				131	69	111		32	5	16	10	91	5		1	76	548
DECK-CLUTTERED/SLIPPERY					38		1		1								1	41
WEATHER CONDITIONS					6	6	10		1				1				5	29
IMPROPER LIGHTING																		
INADEQUATE-RAILS/GUARDS					2	4	1					1	1				3	12
FAILURE: MATERIAL/EQUIPMENT					1	18	24	1	5		5	3	1				2	60
IMPROPER: TRAINING/SUPERVISION							3		1		1	1						6
INADEQUATE LIFE PRESERVERS																		
IMPROPER TOOLS/EQUIPMENT					1		1						1					3
INADEQUATE PROTECTIVE EQUIPMENT					1		4				1	1					4	11
INADEQUATE USE: TOOLS/EQUIPMENT							8				1							9
INSUFFICENT VENTILATION																		
OTHER					7	4	5		3				1		8	2	8	38
TYPE OF VESSELS INVOLVED																		
INSPECTED VESSELS:																		
Passenger					12	9	8		3			1	8		1	3	10	55
Freight	1				103	44	66		18	2	9	9	31	3	14		64	364
Tankship					44	18	27	1	9	1	1	6	13		2		24	146
Tank Barge					2		8		1		1	3	1		2		4	22
MODU					18	16	14		1	1	1	1	18				25	95
Fixed Facility					24	17	38		2	2	5		20	1			42	151
Other					8	1	6		1		1		7		1		10	35
UNINSPECTED VESSELS:																		
Fishing					10		32	1	16	1		1	25	1	1		14	102
Tug/Towing					11	22	9		5	1	5		4		1		6	64
Freight Barge					33	26	39		9	2	5		11		3	2	21	151
Foreign																		
Other						1											2	3

STATISTICAL SUMMARY OF INJURIES ON BOARD COMMERCIAL VESSELS NOT INVOLVING A VESSEL ACCIDENT-CALENDAR 1981 (CONTINUED)	NATURAL CAUSE	HOMICIDE	SUICIDE	DISAPPEARANCE	SLIPS	FALLS	STRUCK-MOVING, FIXED OBJECT	EXPOSURE, ASPHYXIATION	HANDLING CARGO LINES	OPERATE MACHINERY	BURNS	SCALDS	PINCHED/CRUSHED	GALLEY ACCIDENT	ALTERCATION	HYPOTHERMIA, DIVING	OTHER	TOTAL
PARTICULARS OF PERSON INJURED																		
STATUS OR CAPACITY ON VESSEL:																		
Passenger					1	5	3		1		2		2			1	6	20
Longshoreman					5	4	2						1					13
Crewmember					246	131	236	2	63	10	22	19	126	5	23	2	199	1,084
Other	1				13	14	6		1		4	2	9		2	2	17	71
ACTIVITY ENGAGED IN:																		
Off Duty	1				37	12	9				1		2		16		8	86
Deck Department Duty					81	51	86		47	4	3	3	40		2		70	387
Engine Department Duty					42	25	38	1		5	13	14	22		3		37	200
Steward Department Duty					23	4	14				3	2	3	4	1		17	71
Handling Cargo					4	6	10		1				3				3	27
Fishing					5	3	20		11				21				7	67
Drills					12	10	23		3	1	2		29				26	106
Passenger					3	3	2						1			1	4	14
Other					58	40	45	1	3		6	2	17	1	3	4	50	230
LOCATION:																		
Inland-Atlantic					19	11	8		5		1	2	7	2	6		9	70
Inland-Gulf					18	14	10	1	9		5	1	8		1		14	81
Inland-Pacific					15	14	26	1	4	2	1	1	14				10	88
Ocean-Atlantic					41	23	50		9		2	5	30		4	1	26	191
Ocean-Gulf					49	38	73		11	4	6	7	40	1	1	4	74	308
Ocean-Pacific					38	16	28		3		2	3	11	1	5		23	130
Great Lakes					6	1	1			1		1	1				1	12
Western Rivers	1				77	37	51		24	3	11	1	27	1	8		63	304
Foreign Waters					2												2	4
PART OF BODY INVOLVED																		
HEAD, NECK, SHOULDER					19	12	54		5		4	1	2		7	1	25	130
BACK					45	15	8		5		1				1		72	147
CHEST					12	6	1										2	21
EXTREMITIES	1				106	43	130		48	8	11	4	127	4	3		80	565
ABDOMEN, GROIN, HIP					13	4	9					1			1		22	50
OTHER					70	74	45	2	7	2	12	15	9	1	13	4	21	275

Keynotes

Final Rules

CGD 79-032	Pilot Boarding Equipment	(June 21)
CGD 84-037	Boston/Providence Marine Inspection Zone and COTP Zone Boundary Realignments	(June 28)
CGD 84-050	OMB Control Numbers	(June 28)
CGD 83-067c	Repromulgation of Interim Shipboard Fumigation Regulations	(July 23)
CGD 78-035	Waste Reception Facilities	(July 23)
CGD 80-064	Thermal Fluid Heaters, Required Tests and Inspections	(Aug 13)
CGD 11-84-01	Establishment of Safety Zones Around Structures and Artificial Islands on the Outer Continental Shelf (OCS) and the Navigable Waters of the U. S.	(Aug 20)
CGD 83-028	Inland Navigation Rules; Implementing Rules	(Aug 27)
CGD 84-065	Ship Structure Committee, Meeting	(Aug 27)
CGD 84-065	Ship Structure Committee; Meeting	(Aug 27)
CGD 84-064	References to the Department of Health, Education and Welfare	(Aug 28)
CGD 84-066	Ship Structure Committee; Charter Renewal	(Aug 30)

N.P.R.M.'s

CGD 82-105	Documentation of Vessels	(July 16)
CGD 83-066	Documentation of Vessels	(July 19)
CGD 84-034	Light List Printing Cycle	(Aug 13)

S.N.P.R.M.'s

CGD 81-058	Boundary Lines	(Aug 13)
CGD 84-062	Chemical Transportation Advisory Committee, Reestablishment	(Aug 13)
CGD 84-063	Lower Mississippi River Waterway Safety Advisory Committee	(Aug 23)

S.A.N.P.R.M.

CGD 80-136	Maneuvering Performance Standards for U. S. Flag Vessels	(July 17)

Notices

CGD 84-045	Lower Mississippi River Waterway Safety Advisory Committee; Meeting	(June 21)
CGD 84-046	Lower Mississippi River Waterway Safety Advisory Committee, River Navigation Subcommittee; Meeting	(June 21)
CGD 84-047	Lower Mississippi River Waterway Safety Advisory Committee, Auxiliary Waterways Subcommittee; Meeting	(June 21)
CGD 84-048	Houston/Galveston Navigation Safety Advisory Committee, Meeting	(June 21)
CGD 78-035	Waste Reception Facilities, notice of public hearing	(July 24)
CGD 84-051	Lifesaving Equipment, notice of public meetings	(July 30)
CGD 84-061	Measurement of Vessels in Accordance with the Rules of the International Convention on Tonnage Measurement of Ships, 1969	(Aug 6)
CGD 84-059	Rules of the Road Advisory Council, Meeting	(Aug 6)

Request for Applications

CGD 84-053	National Boating Safety Advisory Council	(July 12)

Request for Comments

CGD 84-040	Vessel Bridge-to-Bridge Radiotelephone Communications on the Great Lakes	(July 6)
CGD 84-049	International Regulations for Preventing Collisions at Sea, 1972, Vertical Sector Requirements for Lights on Unmanned Barges	(July 6)

Approval Notice

CGD 84-054	Equipment, Construction, and Materials	(July 30)

Questions concerning regulatory dockets or comments on the items described below should be directed to the Marine Safety Council at the following address:

Commandant (G-CMC)
U.S. Coast Guard
Washington, DC 20593
Tel.: (202) 426-1477

Safety Zones Establishment (CGD 11-84-01)

The Coast Guard is establishing four 500 meter safety zones around fixed structures on the Outer Continental Shelf (OCS) of Southern California and establishing regulations for navigating within such safety zones. These zones are needed to provide for the safety of life and property and resolve conflicts between oil and gas activities and vessel navigation.

Implementing Rules (CGD 83-028)

This regulation specifies certain waters upon which rules 9(a)(ii), 15(b), and 25(i) of the Inland Navigation Rules Act of 1980 apply. In early 1985, the Western Rivers, as defined by Inland Rule 3, will be connected to the Tennessee-Tombigbee Waterway and several other rivers. This regulation will enhance navigation safety by extending the Western Rivers provisions of the Inland Rules to the connecting waters.

Boundary Lines CGD 81-058)

This proposal would make substantial changes to the earlier proposed rules of 7 June 1982 and 15 September 1983 on boundary lines. This will also allow for further comment prior to publication of a final rule. The Boundary Lines proposal revised the Seagoing Barge Act to define a seagoing barge as one that proceeds outside the a defined boundary line designated by the Secretary of Transportation.

Pilot Boarding Equipment (CGD 79-032)

The Coast Guard is revising its installation, equipment, and operating standards for embarking and disembarking pilots on vessels underway or at anchor. The regulations apply to all U. S. vessels and certain foreign vessels that board pilots when calling at U. S. ports. The purpose of these regulations is to minimize the potential for hazardous situations when boarding pilots.

Equipment, Construction, and Materials (CGD 84-054)

This notice contains a listing of Coast Guard approvals issued between 1 May 1983 and 31 January 1984. These approvals are for safety equipment and materials required by regulation to be used on certain merchant vessels and recreational boats, and also in Outer Continental Shelf activities.

Documentation of Vessels (CGD 82-105)

This Notice of Proposed Rulemaking (NPRM) is based on comments received in response to the November 12, 1982 Advance Notice of Proposed Rulemaking on vessel documentation. The proposal specifies when the controlling interest in a partnership is owned by citizens of the United States for purposes of vessel documentation. It also provides a basis for determining who has "control" in a partnership seeking to document a vessel.

Actions of the Marine Safety Council

At the July meeting of the Council, the following items were approved:

CGD 84-044, Ships' Stores and Supplies

The purpose of this proposal is to update the Coast Guard's regulations concerning ships' stores. The ships' stores regulations have been virtually unchanged since 1941. Since then there have been numerous changes in law and regulation which should be addressed in the ships' stores regulations. For example, the Outer Continental Shelf Lands Act Amendments of 1978 extended the Coast Guard's authority in this area to facilities on the O.C.S. In addition, there has been some confusion resulting from the 1976 consolidation of all hazardous materials regulations in 49 CFR.

This project would make appropriate references to 49 CFR to clarify the relationship between the ships' stores regulations in 46 CFR and the hazardous materials regulations in 49 CFR. In addition, the proposal will extend the regulations to facilities on the O.C.S. and shift the responsibility for classifying new articles of ships' stores from the Coast Guard to the shipper. Publication of the NPRM is expected in October 1984.

CGD 84-052, Oil-Water Interface Detectors

The United States is signatory to the International Convention for the Prevention of Pollution from Ships of 1973 and the 1978 Protocol. This international agreement requires signatory member nations to approve oil-water interface detectors. This proposal implements that requirement to ensure that U.S.-approved detectors meet the internationally agreed-to specifications and existing U.S. safety regulations. Publication of an NPRM is expected in November 1984.

CGD 77-084, Licensing of Pilots, Manning of Vessels

This proposal would (1) increase the gross tonnage authorization of licensed officers to serve as pilot on self-propelled coastwise seagoing vessels from 1,000 gross tons to 1,600 gross tons, (2) authorize licensed individuals to serve as pilot of vessels subject to inspection, in excess of 1,600 gross tons, upon rivers, or lakes, bays and sounds other than the Great Lakes, (3) require first-class pilots to have experience on vessels of over 40,000 gross tons in order to be authorized to pilot vessels of 50,000 gross tons or over, (4) define "pilotage waters," and (5) require pilots on Great Lakes vessels.

This proposal has been classified as "significant," and expected publication of the NPRM is November 1984.

The Council approved the following items at the August and September meetings:

CGD 84-058, Great Lakes Load Lines, Dry Cargo River Barges

The Towing Safety Advisory Committee has recommended that the Coast Guard amend the load line regulations to allow owners of dry cargo river barges to self-certify that they meet the requirements for obtaining a load line certificate. The certificate, which is required under the Load Line Act of 1935, would allow river barges to operate on the Great Lakes. The proposal also will contain specific operating restrictions for these vessels. An NPRM is expected in November 1984.

CGD 84-067, Control of Pollution by Oil, and Hazardous Discharge Removal

This project will update the pollution regulations in three areas. The regulations were originally based in large part upon the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The plan has been revised in various ways, and this proposal will bring the regulations in line with those revisions.

The second area being revised is in reporting requirements. The Coast Guard reporting regulations are based upon the Federal Water Pollution Control Act (FWPCA). Since the FWPCA was published in 1976, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) which covers the same substances that the FWPCA covers. EPA, which has authority under CERCLA, has proposed its own reporting requirements which are different from the Coast Guard regulations. In order to avoid confusion, the Coast Guard is proposing to modify our reporting requirements to agree with EPA.

The third proposed change would concern which costs are eligible for reimbursement from the Pollution Fund. An NPRM is expected in December.

CGD 84-068, Personal Flotation Device Components, Specifications

This proposal will accept a variety of "non-standard" components which have been used on personal flotation devices (PFDs) for a number of years. These components have such a wide field service history that they can be safely classified as standard components. The proposal will also establish quality control levels and/or independent laboratory oversight. An NPRM is scheduled for July 1985.

CGD 84-069, Lifesaving Equipment - Implementation of the 1983 SOLAS Amendments

This proposal will incorporate provisions of the 1983 amendments of SOLAS to Coast Guard regulations. Among the proposed changes are emergency positions indicating radio beacons for lifeboats, sufficient float-free liferafts on cargo and tank vessels so that total liferaft capacity is 100% of the persons on board rather than the current 50%, and new specifications for certain visual distress signals. An advance notice of proposed rulemaking is expected in September 1984.

*

Chemical of the Month

by James Jones

PHENOL:

C_6H_5OH

Synonyms:	carbolic acid
Physical Properties	
boiling point:	181°C (358°F)
freezing point:	42°C (108°F)
vapor pressure at	
20°C (68°F):	.01 psia
46°C (115°F):	.1 psia
Threshold Limit Values (TLV)	
Time weighted average:	5 ppm; 19 mg/m^3
Short-term exposure limits:	10 ppm; 38 mg/m^3
Flammability Limits in Air	
lower flammability limit:	1.7% by vol.
upper flammability limit:	8.6% by vol.
Combustion Properties	
flash point (TOC):	85°C (185°F)
flash point (c.c.):	79°C (175°F)
autoignition temperature:	715°C (1319°F)
Densities	
liquid (water=1):	1.1
vapor (air=1):	3.2
Identifiers	
U.N. Number:	1671 2312 (molten) 2821 (solutions)
CHRIS Code:	PHN
Cargo Compatibility Group:	21 (Phenols, Cresols)

Phenol was first isolated from coal tar in 1834 and given the name carbolic acid. It is a white or clear, crystalline compound with a sweet, tarry odor; however, storage may cause phenol to acquire a pink, brown, or yellow color due to impurities or exposure to light.

Although there are many methods of producing phenol, more than 98% of the total phenol production in the United States is by the oxidation of cumene, a process which produces phenol and acetone. Commercial phenol is then characteristically purified to 99% or better.

Phenol is used in manufacturing many varied products. The single largest use is in producing phenol-formaldehyde resins from the condensation (removal of water molecules) of phenol with formaldehyde. These resins are used in making plywood, cars, appliances. Phenol is also used in manufacturing textiles, drugs, perfumes, and in processing petroleum leather, paper, soap, and dye.

Phenol, as a 1% to 5% aqueous solution, became popular for antiseptic surgery in the late nineteenth century. Cases of phenol poisoning among surgeons were fairly common during this time. Due to its corrosive properties, phenol causes local damage when it comes in contact with the body. It is also toxic when absorbed through the skin or when the vapors are inhaled. Lethal concentrations of phenol can be absorbed through an area as small as a hand or forearm.

Speed is essential when counteracting phenol poisoning. If phenol comes in contact with the eyes, severe damage and/or blindness can occur. Only warm water should be used to wash out the eyes. Other affected areas should be washed immediately with warm water or an ethyl alcohol solution (phenol has a greater solubility in ethyl alcohol). If phenol has been swallowed and the victim is conscious, induce vomiting as quickly as possible. In any case where phenol exposure is suspected, seek medical help as quickly as possible. Personnel who could be exposed to phenol should wear protective gear. Depending on the circumstances, this includes rubber gloves, safety goggles, rubber boots, full-face shields, and protective suits.

If a phenol spill occurs and the smell is noticeable, only properly protected personnel should remain in the area. Spilled phenol should be immediately flushed with large amounts of water until all odor has disappeared.

Phenol does not present an unusual fire hazard; however, it will burn and give off toxic vapors when ignited. Phenol will also produce flammable vapors at increased temperatures. When fighting a fire involving phenol, the best extinguishers would be alcohol foam, carbon dioxide, dry chemicals, or water spray. Firemen should be equipped with proper respiratory equipment if working in confined quarters. In a fire, exposed containers of phenol should be cooled with water to prevent rupture.

Phenol is shipped as a solid in tank trucks, tank ships, and tank cars. It is loaded as a liquid at temperatures between 45 degrees Celsius and 60 degrees Celsius, then allowed to solidify and is reheated for unloading.

Phenol is regulated by the U.S. Coast Guard as a Subchapter O cargo for shipment by tank barges and tank ships. The International Maritime Organization (IMO) regulates it as a Chapter 6 cargo (commodities to which the Chemical Code applies). It is assigned to Hazard Class 6.1, Poisons, and is found on page 6148.1 of the International Maritime Dangerous Goods (IMDG) Code.

The U.S. Department of Transportation considers phenol and its solutions as Poison B Hazard Class. Phenol is also regulated as a Category C pollutant by the U.S. Environmental Protection Agency and as a Category B pollutant by the IMO. *

James Jones was a third-class Cadet at the Coast Guard Academy when he wrote this article. It was written under the direction of instructor LCDR Thomas J. Haas for a class on hazardous materials transportation. Technical assistance was provided by personnel in the Cargo and Hazards Branch at Coast Guard Headquarters.

Nautical Queries

The following items are examples of questions included in the Third Mate through Master examinations and the Third Assistant Engineer through Chief Engineer examinations:

ENGINEER

1. Generally speaking, when using a twist drill to drill a metal, the harder the metal, the greater should be the drill's

A. diameter.
B. lip clearance.
C. point angle.
D. cutting speed.

REFERENCE: Feirer and Tatro, Machine Tool Metal Working.

2. What is the purpose of a "steam lane" in a modern condenser?

A. To reheat the condensate in the hot well.
B. To provide for relative expansion and contraction of the shell and tubes.
C. To concentrate air and noncondensible gases in the hot well.
D. To increase the condensate depression.

REFERENCE: Principles of Naval Engineering, NAVPERS 10788-B

3. To determine the state of charge of a nickel-cadmium battery, you should

A. check the electrolyte with a hydrometer.
B. use the constant specific gravity method.
C. use a nonbreakable mercury thermometer.
D. connect a voltmeter to the battery terminals.

REFERENCE: Hubert, Preventive Maintenance of Electrical Equipment.

4. Which of the following would be acceptable for a flame screen?

I. single 40 by 40 mesh, corrosion-resistant, wire screen.
II. Two 20 by 20 mesh, corrosion-resistant, wire screens one inch apart.

A. I only
B. II only
C. either I or II
D. neither I nor II

REFERENCE: 46 CFR 30.10-25

5. In starting a diesel engine, the main object is to attain compression temperature sufficient to

A. turn the flywheel.
B. reduce friction.
C. overcome inertia.
D. ignite the fuel.

REFERENCE: Maleev, Diesel Engine Operation and Maintenance.

DECK

1. Which statement is true concerning a passing agreement made by radiotelephone between vessels on inland waters?

A. Such an agreement is prohibited by the Rules.
B. A vessel which has made such an agreement must also sound whistle signals.
C. Whistle signals must still be exchanged when passing within one-half mile of each other.
D. If agreement is reached by radiotelephone, whistle signals are optional.

REFERENCE: COMDINST. M16672.2 - RULE 34(h)

2. In tidal waters, the period at high or low water, during which there is no change of level of the water, is known as the

A. range of the tide.
B. stand of the tide.
C. slack.
D. tidal datum.

REFERENCE: Bowditch, American Practical Navigator, Vol. I.

3. Regulations concerning the installation of inert gas systems do not apply to vessels designed to carry only

I. liquified gas cargo.
II. grade E cargo carried at a temperature lower than 5 degrees centigrade below its flash point.

A. I only
B. II only
C. both I and II
D. neither I nor II

REFERENCE: 46 CFR 32.53 (b)(1)(2)

4. Which statement(s) concerning the coriolis force on ocean currents is (are) correct?

I. The coriolis force is greater in lower latitudes.
II. The coriolis force is more effective in shallow water.

A. I only
B. II only
C. both I and II
D. neither I nor II

REFERENCE: Bowditch, American Practical Navigator, Vol. I.

5. The minimum concentration of a vapor in air which can form an explosive mixture is referred to as the

A. auto-ignition point.
B. flash point.
C. lower explosive limit (LEL).
D. threshold limit valve (TLV).

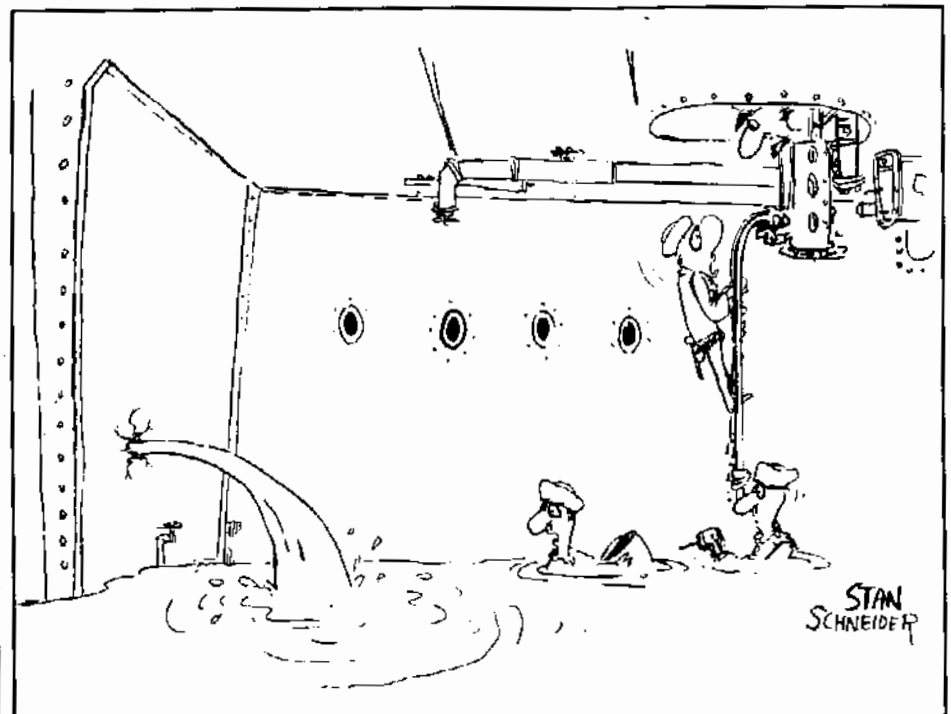
REFERENCE: MTAB Firefighting Manual

*

ANSWERS

ENGINEER
1.C;2.A;3.D;4.C;5.D
DECK
1.D;2.B;3.C;4.D;5.C

If you have any questions about "Nautical Queries," please contact Commanding Officer, U.S. Coast Guard Institute (mvp), P.O. Substation 18, Oklahoma City, OK 73169, tel.: (405) 686-4417.



"It looks bad! You better turn off the 'jacuzzi'!"

Update: Navigation and Vessel Inspection Circulars

Between January 1 and September 30, 1984, the Coast Guard published the following Navigation and Vessel Inspection Circulars:

NVIC No.	Name of NVIC	Price
1-84	Lack of Topstitching on Some Type I Personal Flotation Devices (PFDs)	$1.00
2-84	Amendments to the 1974 Safety of Life at Sea (SOLAS) Treaty	1.00
3-84	Acceptance of Stability Related Review Performed by the American Bureau of Shipping for New U.S. Flag Vessels	1.00
4-84	Equivalent Determination for Existing, Installed Oil-Water Separators Which Have Not Received U.S. Coast Guard Approval	1.00
5-84	Acceptance of Certificates of Admeasurement Issued by the American Bureau of Shipping (ABS)	1.00
6-84	Automated Main and Auxiliary Machinery; Supplemental Guidance on	1.00
7-84	Outer Continental Shelf (OCS) Citizenship Requirements; Exemptions from	1.00
8-84	Recommendations for the Submittal of Merchant Vessel Plans and Specifications	1.50

NVIC No. 0-84, an index of Navigation and Vessel Inspection Circulars in effect as of January 1, 1984, can be obtained free of charge by calling (202) 426-0173 or writing

Commandant (G-MP-2/1409)
U.S. Coast Guard
Washington, DC 20593
ATTN: NVICs

Requests for **back issues** of NVICs (1983 and earlier) should also be directed to that address. A check or money order payable in U.S. dollars to "Treasury of the United States" must be included with each request. Price information is included in NVIC No. 0-84.

NVICs published in 1984 must be purchased, singly or by subscription, from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. **Note to subscribers:** the annual subscription fee, payable in advance, is now $21.00 ($26.25 for foreign addresses). Checks or money orders should be made payable to "Superintendent of Documents, Government Printing Office." VISA or MasterCard holders may charge their orders.

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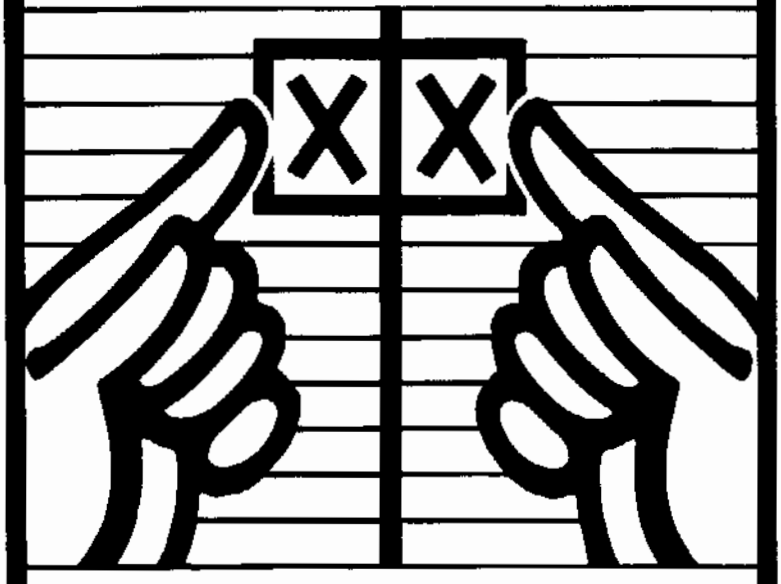

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