

PROCEEDINGS

OF THE MARINE SAFETY COUNCIL



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*Cold Weather***CONTENTS****FEATURES**

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FRONT COVER

Spawned by the glacier at Cape York, Greenland (background), these icebergs are ready to drift south into heavily traveled shipping routes. For details on the International Ice Patrol's efforts to monitor these beautiful but deadly bergs, turn to page 39.

BACK COVER

The crew of this shrimp trawler abandoned her after she became unstable during an ice storm. They were never found. The ice encrusted trawler was photographed aground in Jute Bay near Kodiak, Alaska.

DIST. (SDL No. 100)
 A: abcde (2), fhklmntuv(1)
 B: n(40); c(6); e(5); f(4);
 ghj(3); r(2); klpq(1)
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PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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Lieutenant (jg) G. D. Szczurek, Editor

International Ice Patrol Service

In The

North Atlantic Ocean

The International Ice Patrol is now in the midst of its 63d iceberg season. During the last 3 years, a combined record number of 3,820 icebergs have drifted south of 48°N latitude into North Atlantic shipping routes. With 1972 the heaviest season on record (1,587 icebergs) and 1974 the second heaviest with 1,386 bergs, the 1973 total of 847 seems meager, but it is still well over three times the 1946-72 average of 259 icebergs.

Most Arctic icebergs originate from Greenland Glaciers, where as many as 10,000 calve each year. West Greenland icebergs originate primarily in Melville Bay, but there are also significant contributions from glaciers to the north and south of this remote location. These icebergs drift in a counter-clockwise rotation around Baffin Bay, where many gradually deteriorate due to summer melting and wave erosion. Some are frozen in the heavy winter ice along the coast of Baffin Island and are pushed southward with the sea ice in late winter along the coast of Labrador.

East Greenland icebergs come from the glaciers of Scoresby Sound and southward to just below the Arctic Circle. Some of these East Greenland icebergs drift southward to Cape Farewell (Kap Farvel) where those that survive join the West Greenland Current and begin a northward journey. They either cross Davis Strait intermingling with the southward moving West Greenland icebergs, or continue northward joining the iceberg pool in Baffin Bay. The general

iceberg drift pattern and dominant currents are shown in figure 1.

To help provide an estimate of the iceberg potential each year, northern surveys are conducted in January and February. The January pre-season surveys cover the Labrador



Figure 1. The Labrador Current can carry icebergs well south of the Grand Banks and into shipping routes.

coast, Davis Strait and Baffin Island north to Cape Christian. The iceberg count indicates the number of bergs with a potential to reach 48°N latitude under normal drift conditions in the spring and summer months.

February surveys include the northeast coast of Newfoundland, a second coverage of the Labrador coast, Baffin Island only as far north as Cape Dyer and across Davis Strait. By comparing the iceberg concentrations of both months together with meteorological conditions, a realistic potential for a light, moderate, or heavy season can usually be forecast.

In early spring icebergs and sea ice reach the northwest coast of Newfoundland. Here a number of environmental conditions affect these one, two, or three year old icebergs. These factors include air temperature, sea temperature, surface winds and the Labrador and North Atlantic Currents. Most environmental factors are interdependent upon each other. For instance, a predominant northwest wind bringing colder air temperatures into the area promotes the growth of sea ice, which retards wave erosion of icebergs. This increases the strength of the Labrador Current and lessens the influence of the North Atlantic Current. Under these conditions icebergs melt more slowly and are able to drift south of 48°N in greater numbers.

The International Ice Patrol patrols the southeastern, southern, and southwestern limits of the regions of icebergs in the vicinity of the Grand Banks of Newfoundland. Reports of ice in this area will be collected from passing ships and from flights by Ice Patrol aircraft. A computer containing data on surface winds and ocean currents in the vicinity of the reported bergs will automatically vector their predicted drift twice a day. The best estimate of berg positions is then broadcast to mariners at 0000 GMT and 1200 GMT each day in an Ice Patrol Bulletin. Details on the broadcasts of these bulletins are contained in Table 1.

All shipping is requested to assist in the operation of International Ice

Patrol by reporting all sighting of ice at once to COMINTICEPAT NEW YORK NY via the radio stations listed in the following section. When reporting ice please include the following information:

1. Position of ice.
2. Size of ice (for icebergs).
3. Concentration of ice (for sea ice, in eighths).
4. Thickness of ice (for sea ice, in feet).

Table 2 may be used to aid in reporting icebergs to the Ice Patrol.

In addition to ice reports, sea surface temperature and weather reports are of importance to the Ice Patrol in predicting the drift and deterioration of ice and in planning aerial patrols. Shipping is urged to make sea surface temperature and weather reports to the Ice Patrol every 6 hours when within latitudes 40° to 50° N. and longitudes 42° to 60° W. Ships with but one radio operator should prepare the reports every 6 hours as requested and hold them for transmission when the radio operator is on watch. When reporting, please include the following:

1. Ship position.
2. Course and speed.
3. Visibility.
4. Air and sea surface temperature.
5. Wind direction and speed.

It is not necessary to make the above report if the ship is making routine weather reports to METEO WASHINGTON.

Radio Stations

Ice sightings, weather, and sea surface temperature should be reported to COMINTICEPAT through Coast Guard Ocean Weather Station 4YH, Coast Guard Communications Stations, and, if unable to work U.S. Coast Guard Stations, Canadian Coastal Radio St. Johns/VON on the frequencies indicated in Table 3. Merchant ships calling to transmit Ice Patrol traffic are requested to use the regularly assigned international call sign of the station being called; however, Coast Guard stations will be alert to answer NIK or NIDK

calls if used. Calling and traffic passing should be as shown on Table 3.

Gulf of St. Lawrence Information

Ice information services for the Gulf of St. Lawrence, as well as the

approaches, from 58°00' W. to 66°-30' W. longitudes including the Strait of Belle Isle to west of Belle Isle itself, are provided by the Canadian Ministry of Transport dur-

TABLE 1
BROADCASTS OF THE ICE PATROL BULLETIN

RADIO STATION	TIME OF BROADCAST (GMT)	FREQUENCIES (kHz)
CW Broadcasts		
Coast Guard Communications Station	0018	5320, 8502.
Boston/NIK	1218	8502, 12750.
Coastal Radio St. Johns/VON	0000 and 1330	478.
Maritime Command Radio	0130 and 1330	438 (off second Thursday each month from 1200-1600 GMT), 4356.5, 6449.5, 8662, 12984, 17218.4 and 22587 (on request)
Mill Cove/CFH		88.0 (except 1400-2000 GMT on Tuesday when transmissions will be made on 134.9kHz.), 5870, 8090, 12135, 16180, 20225, 25590 (Note: 20225 and 25590 activated daily 1200-0000 GMT).
Naval Radio Norfolk/NAM	0430 and 1700	
Radiofacsimile Broadcasts		
Coast Guard Communications Station	1600	8502, 12750 (drum speed 120).
Boston/NIK	0320 and 1520	3357, 4957, 8080, 10865, 16410, 20015 (Limits of all known ice, sea ice and icebergs on sea-height chart).
Naval Radio Norfolk/NFAX		133.15, 4271, 9890, 13510, 17650, (drum speed 120). (primarily sea ice in Gulf of St. Lawrence and North. Limits of icebergs sometimes given).
CANMARCOM/CFH	0000 and 1200	4782, 9203, 14436, or 18261 (drum speed 120) (N. Atlantic Ice Obs.).
Radio Bracknell/GFE	1400	3695.8 (drum speed 120) (W. Atlantic Ice Chart).
Radio Quickborn/DGC	0905 (Repeated at 2145) (Weekdays only).	
Radio Quickborn/DGN	1905 (Repeated at 2145) (Weekdays only).	13627.1 (drum speed 120) (W. Atlantic Ice Chart).
Special Broadcasts		
Coastal Radio St. Johns/VON	As required when icebergs are sighted outside the limits of ice between regularly scheduled broadcasts.	Preceded by International Safety Signal (TTT) on 500 kHz.

ing the approximate period December to late June. Ships may obtain ice information by contacting Ice Operations Officer, Dartmouth, Nova Scotia via Sydney Marine Radio (VCO) or Halifax Marine Radio (VGS). De-

tails of the service are available from Ice Operations Office, Marine Services Information Center, Ministry of Transport, P.O. Box 1013, Dartmouth, Nova Scotia. Telephone 902-426-6030. Telex 019-22510.

Warnings

1. Shipping is reminded that in spite of the best efforts of the Ice Patrol to prevent such occurrences, icebergs have and will drift unnoticed into the usual shipping routes in the area of the Grand Banks. The positions of icebergs in the Ice Bulletin are updated for drift at 12 hour intervals. However, it is stressed that after about 5 days the positions estimated by drifting are very unreliable. Date of an iceberg sighting is indicated in the Ice Bulletin.

2. In general, only icebergs south of about 48° N. are included in the Ice Bulletin. In the event there are large numbers of icebergs south of 48° N., the Ice Bulletin will carry the positions of only those icebergs near the limits of ice and isolated icebergs or iceberg groups.

3. Carefully conducted tests by the Ice Patrol have proven that radar cannot provide positive assurance of iceberg detection. Since sea water is a better reflector of radar signals than ice, an iceberg or growler inside the area of sea return on the radar scope may not be detected. The average range of radar detection of a dangerous growler, if detected at all, is only 4 miles. While radar remains a valuable aid for ice detection, its use cannot replace the traditional caution exercised in the vicinity of the Grand Banks while transiting south of the estimated limits of all known ice.

Comments concerning operation of the Ice Patrol, particularly concerning the effectiveness of the times and frequencies of radio transmissions, are of much interest to the Ice Patrol and are earnestly solicited. Comments may be directed to Commander, International Ice Patrol, Building 110, Governors Island, New York, N.Y. 10004. Ships are also requested to mail facsimile charts received at sea to the same address. Please indicate the frequency used and date, time, and position when the facsimile broadcast was received on the chart.

TABLE 2
ICEBERG IDENTIFICATION

SIZE	HEIGHT		LENGTH	
	Feet	Meters	Feet	Meters
Growler	Less than 4	Less than 1	Less than 20	Less than 6
Small Iceberg	4-50	1-15	20-200	6-60
Medium Iceberg	51-150	16-46	201-400	61-122
Large Iceberg	151-250	46-76	401-700	123-213
Very Large Iceberg	More than 250	More than 76	More than 700	More than 213
Shape	Description			
Blocky	Steep sides with flat top. Very solid. Length-Height ratio less than 5-1. Eroded such that a Large U-shaped slot is formed with twin columns. Slot extends into or near waterline. Large round smooth top. Solid type iceberg. Large central spire(s) or pyramid(s) dominating shape. Blocky iceberg which has tilted to present a triangular shape from the side. Flat topped iceberg with length-height ratio greater than 5-1.			
Drydock				
Dome				
Pinnacled				
Tilted-Blocky				
Tabular				

TABLE 3
CALLING AND TRANSMISSION OF TRAFFIC

Purpose	Frequencies which should be used
Calling	500 kHz (If 500 kHz is being used for distress traffic then 512 kHz may be used as supplementary calling frequency). 2182 kHz (voice). Assigned HF (CW) calling frequencies.
Working Frequencies Station	
Ocean Weather Station 4YH (occupied August 1, through April 15, only).	466 kHz (CW), 2670 kHz (Voice).
Coast Guard Communications Station Boston/NMF.	472, 8728, 12934.5, 22487.5 kHz (CW).
Coast Guard Communications Station Portsmouth/NMN.	466, 8465, 12718.5, 17002.4 kHz (CW) 2670 kHz (Voice).
Canadian Coastal Station St. John's/VON.	478 kHz (CW).

HYPOTHERMIA: WHAT TO DO IN—AND OUT—OF THE WATER

It is hardly news to anyone that, in most parts of the world, finding yourself in the water in mid-winter without a vessel is a grim situation. But it may be surprising to the professional mariner and the weekend sailor alike that even waters of quite moderate temperatures can be a serious hazard.

Hypothermia, the subnormal temperature of the body, has been the subject of extensive research by three Canadians, Drs. J. S. Hayward, J. D. Eckerson, and M. L. Collis of the University of Victoria, British Columbia. This research has included over 300 immersions in the open sea around Victoria Island at various times of year, with water temperatures in the range of 40–65° F. The tests were designed to simulate accident situations, with subjects dressed only in light clothing such as might be worn by recreational boatmen.

The results of this research are of great interest to those involved in search and rescue operations, and should be of no less interest to the person who may someday be in need of rescue, since the study indicates that a person can lengthen or reduce his own survival time by his behavior in the water.

The first decision to be made by a person in the water is whether or not it is practical to swim to shore or other point of exit. The researchers found that the average person, even under the best conditions, and wearing a life preserver, cannot expect to swim more than a mile in water with a temperature of around 50°F. Once the possibility of swimming for shore has been eliminated, the survivor's remaining options depend upon whether or not he is wearing a life preserver. In 50-degree water, a per-

son wearing a life preserver and keeping still in a natural, relaxed position can expect to survive a little over 2½ hours. Without a life preserver, some degree of movement obviously is necessary to avoid drowning, and the resulting decrease in survival time is significant. The survival time for a person treading water under the same temperature conditions is a little under 2 hours—a reduction of about 25 percent. And “drownproofing”—floating face down and raising the head to take a breath only when necessary—reduces survival time to less than 1½ hours.

In order to find ways of increasing survival time, the Canadian researchers used infrared scanning to determine what areas of the body show the greatest heat loss. Those areas with the least insulation proved to be the lower neck, chest, sides, and groin. From this information a “heat escape lessening posture” (H.E.L.P.) was developed which can be used with a life preserver to protect these areas as much as possible. H.E.L.P. in cold water involves holding the upper arms firmly against the sides of the chest, keeping the thighs together and raising the knees to protect the groin area. Use of this posture, again at a water temperature of 50°, can result in a predicted survival time of about 3¾ hours, an increase of 50 percent over that of the passive position.

Hypothermia is a threat even where water temperatures are in the low 70's, as the research has shown that in water of approximately 73° or lower, the average human body loses heat faster than it can produce it. It is estimated that once the internal body temperature has fallen to approximately 86°F, the victim has only a 50 percent chance of survival even if

he is removed from the water immediately.

Several factors other than water temperature affect cooling rate and survival time. These include physical characteristics of the subject, use of a personal flotation device, protection afforded by clothing, and behavior in the water. Unfortunately, once a person is in the water he has no control over any of these factors other than his behavior. But that one factor can make a crucial difference. In the past, some who have studied the problem have recommended that survivors in cold water should swim or otherwise exercise in order to increase the body's heat production. It is now evident that while exercise does increase heat production, it increases heat loss even more, the overall effect being to shorten survival time.

The table opposite gives an indication of the predicted survival times of man at three water temperatures while adopting various behaviors with and without personal flotation devices.

In view of the critical nature of the time factor in search and rescue operations, particularly in cold weather, it is obvious that any measures which might increase survival time deserve careful consideration. The problem is in finding the proper balance between effectiveness and practicality. A wet-suit, for example, may provide excellent protection, but is not likely to be worn by anyone not actually *intending* to go into the water. It is hoped that further research will lead to the development of practical and effective clothing and equipment whose contributions will be lifesaving.

EMERGENCY TREATMENT

Even if a person is able to stay alive in frigid waters long enough to be

rescued, the danger of his succumbing to the effects of hypothermia once on board the rescue vessel is still very great. If not recognized and treated promptly, this condition of subnormal body temperature can rapidly turn a survivor into a fatality. In fact, general body hypothermia is the leading cause of death among survivors of shipwreck and other catastrophes at sea.

To understand the treatment of hypothermia, we must begin with the principle that any physical exertion by the victim serves to hasten the loss of precious body heat. In the same way that a person in the water reduces his chances for survival by undue effort, a victim struggling to aid his own rescue may drive his body temperature down below the danger level. Rescue attempts should therefore be made in a manner minimizing the amount of physical exertion by the survivor. This can most often be accomplished by sending someone suitably clothed to aid the victim in the rescue devices used.

A delay in treatment is an additional factor which may cost a person his life even after rescue. Too often this delay is due to a lack of understanding of the nature and seriousness of hypothermia. Body temperature is the best indication of hypothermia, but only rectal temperatures are of any value in determining if a victim warrants special or prolonged treatment. Most men will survive if their rectal temperature does not fall below 95°F; most are able to return to useful activity if it does not drop below 91.4°F. When the rectal temperature falls to 89.6°F or below, consciousness becomes clouded. At a temperature of 87.8°F there is only a 50 percent chance of survival; few survive if their rectal temperature falls below 80°F.

In addition to a low rectal temperature, a blood pressure reading of less than 100 mm Hg. Systolic is a good indication that the victim suffers from hypothermia.

Wet clothing should be removed. If the patient's body temperature is 95°F or above, no treatment is necessary other than providing dry clothing and removing the victim to a warm compartment. If this cannot be accomplished, the wet clothing should not be removed. Under these circumstances, wet clothing is better than nothing.

Warm the victim rapidly, but do not burn or overheat him. The most effective warming treatment is a bath with water temperatures over 100°F but not over 115°F. If a tub is not available, use an inflated life raft. If possible, the victim should be placed in the tub so that his limbs remain out of the water.

A shower with water at 115°F is the next most preferable method. The victim should be wrapped in towels or in a blanket. If a shower is unavailable, apply warmed blankets in a warm cabin with a heating pad or hot water bottle on the victim's chest. As a last resort, apply body warmth by direct contact with a member of the rescue team.

The victim's respiration should be observed closely. Remove any secretions. If a suction unit is available, a catheter suction of the trachea is advisable if breathing is impaired.

The victim should take nothing orally. Watch for vomiting and the possibility of aspiration (taking into the lungs) of vomitus. Alcohol is absolutely forbidden as a treatment for deep hypothermia. Treat the victim for shock.

When trained medical personnel are available and have the necessary supplies and equipment, the following additional treatment is recommended:

(1) *Administer intravenous fluids.*

a. Administer one liter of 5 percent Dextrose in Saline per hour until blood pressure reaches 100 mm Hg. Systolic if patient is producing urine. An indwelling bladder catheter is advised to monitor urine output.

b. Give one ampul (37.5 milleg.)

Behavior	Estimated survival time, in hours, when the water temperature is—		
	40°	50°	60°
No Floatation:			
Drownproofing.....	1.08	1.44	2.26
Treading water.....	1.46	1.96	3.07
Floatation:			
HELP (heat escape lessening posture).....	2.87	3.80	5.96
No HELP (passively floating).....	1.96	2.62	4.11

When neither a rectal thermometer nor blood pressure apparatus is available, the following outwardly visible symptoms will help identify the hypothermia victim:

PULSE—Pulsebeat is generally slow and often irregular.

LEVEL OF CONSCIOUSNESS—Individuals suffering from hypothermia will tend to lose consciousness. Their awareness becomes clouded as their body temperature approaches 90°F and they generally become unconscious at 86°F.

GENERAL—The hypothermia victim is pale in appearance, his pupils are constricted and react poorly to light, and his respiration is slow and labored. He will usually be shivering violently, with frequent muscular rigidity. He may appear to be intoxicated.

Emergency treatment should begin as soon as possible to stop the drop in body temperature. Evacuation to a medical facility should be accomplished after or during emergency treatment.

of Sodium Bicarbonate as soon as the I.V. is started. Inject directly into the vein via I.V. tubing.

(2) *Control shivering* which causes further dangerous heat loss. Morphine is usually available and effective. It must be used cautiously with a careful observation of the patient's pulse rate, blood pressure and respira-

tory rate to prevent a further depression of these vital functions. A dosage of $\frac{1}{4}$ grain of morphine sulphate given hypodermically every 1 to 2 hours may be necessary for several days in some cases.

(3) In addition to the usual treatment for shock, 100 mg of aqueous Hydrocortisone (if available) should

be administered intravenously, when the patient is unconscious.

(4) In order to prevent infection, once consciousness is regained and the patient stabilized, a broad spectrum antibiotic (such as tetracycline) should be administered. A dosage of 500 mgm by mouth every 6 hours is the minimum recommendation.

IT'S A CHILL WIND . . .

The wind chill index shows the "equivalent" air temperatures resulting from wind and actual temperature combinations and relates them to their chilling effect on exposed flesh.

To use the chart below, find the estimated or actual wind speed in the left hand column and the actual thermometer reading in the top row. The equivalent temperature is shown where these two intersect. This also gives the danger of frostbite to exposed flesh. For example, with a windspeed of 20 miles per hour and a temperature reading of 10°F the equivalent temperature is -25°F.

This would be in the area of danger of freezing exposed flesh.

This chart is of value in predicting frostbite only to exposed flesh. Any clothing or protective material which stops or reduces the wind will give a degree of protection to the covered area.

During winter weather, the following precautions should be taken:

1. Keep decks and passageways free of ice and snow.

2. Spread sand or salt at locations that become icy or where ice can form.

3. Wear shoes that are in good condition and boots with good tread.

4. When walking, take short steps (shuffle) and lean forward in a slight crouch. Keep your weight off your heels.

5. Be alert to the possibility of ice where you least expect it.

6. Hold onto railings and life lines when on deck.

7. Clean off bottom of shoes before entering the deckhouse.

8. Dress warmly. Wear a good pair of gloves and head protection.

9. Wear weatherproof outer clothing. Wet flesh freezes faster than dry flesh.

—*Courtesy, Lykes Lines Safety Bulletin*

WIND CHILL INDEX

Wind Speed m.p.h.	WHAT THE THERMOMETER READS (degrees F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	WHAT IT EQUALS IN ITS EFFECT ON EXPOSED FLESH											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-89
15	36	22	9	-5	-18	-36	-45	-58	-72	-89	-89	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-146
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Little danger if properly clothed					Danger of freezing exposed flesh				Great danger of freezing exposed flesh			

Nautical Queries

This month's "Nautical Queries" features questions selected from examinations presently in use for deck officers (2nd and 3rd Mate) and engineers (2nd and 3rd Assistant). Additional questions of the type presently being used will appear in future issues.

The answers and comments concerning applicant response to the questions are found on page 48.

1. The average length of a lunar day is
 - A. 23h 56m.
 - B. 24h 40m.
 - C. 24h 50m.
 - D. 25h 40m.
2. Which of the following determines the height of the vent header discharge above the deck on a tanker carrying grade A products?
 - A. Tank capacity
 - B. Tank depth
 - C. Vessel breadth
 - D. Vessel length
3. Your vessel is not under command due to engine breakdown and is now dead in the water on high seas. Which of the following signals should you sound in reduced visibility?
 - A. Two prolonged blasts of the whistle

- B. One short, one prolonged, and one short blast of the whistle
 - C. One prolonged and three short blasts of the whistle
 - D. One prolonged and two short blasts of the whistle
4. At 1850 zone time on August 30, 1971, your vessel has a DR of latitude $25^{\circ}56'$ north, longitude 67° and $14'$ west. An amplitude of the sun is observed at sunset. The bearing is 288° Per Standard Compass, and the center of the sun is on the visible horizon. The variation in the area is 10.5° west. What is the deviation of the standard compass?
 - A. 2.5 east
 - B. 2.9 east
 - C. 17.5 west
 - D. 17.9 west
 5. Which of the following would be used to call all stations in your vicinity by radiotelephone?
 - A. Calling all stations
 - B. Charlie Quebec
 - C. Alpha Alpha
 - D. Kilo
 1. Diesel engine exhaust gas temperatures can be used to determine individual cylinder
 - A. performance.
 - B. temperature.
 - C. fuel consumption.
 - D. scavenge effect.

2. Which of the following devices opens due to low voltage and closes when the voltage is restored to normal?
 - A. Low voltage protection
 - B. Non-renewable link fuse
 - C. Renewable link fuse
 - D. Low voltage release
3. A person making false entries in the Oil Record Book is subject to which penalty?
 - A. Monetary fine and imprisonment
 - B. Monetary fine and suspension or revocation of license
 - C. Imprisonment and suspension or revocation of license
 - D. Monetary fine, imprisonment and suspension or revocation of license
4. Heat blisters on boiler tubes can be caused by
 - A. waterside deposits.
 - B. flame impingement.
 - C. gas laning.
 - D. insufficient water circulation.
5. Secondary combustion in a boiler can result from
 - A. carrying excessive excess air.
 - B. failure of internal gas baffles.
 - C. a drop in feedwater temperature.
 - D. firing at an excessively high rate.

maritime sidelights

Listed below are descriptions of the eight Navigation and Vessel Inspection Circulars (NAVIC's) printed by the Coast Guard in 1974. If you want copies of any of these NAVIC's, or if you would like to be placed on a mailing list to receive future circulars, send your request to Commandant (G-M-3), U.S. Coast Guard, Washington, D.C. 20590.

1-74—Subject: Limited quantity exemption for dangerous cargo on board vessels (46 CFR 146).

Purpose: This circular provides guidance to the acceptable marking on the outside package for those quantities of hazardous materials which are exempted from specification packaging, marking

other than the name of contents, and labeling requirements.

2-74—Subject: Change in administration of ships' stores and supplies of a dangerous nature.

Purpose: This circular provides guidelines for the approval, use and administration of ships' stores and supplies of a dangerous nature as defined in title 46, part 147.

3-74—Subject: Implementation of the regulations concerning Licenses for Operation of Uninspected Towing Vessels (46 CFR, Subpart 10.16 and Section 157.10-83, 157.10-85, 157.30-45).

Purpose: This circular gives wide distribution

to the status of regulations in this matter and provides guidance for the implementation of the subject regulations. It also cancels NAVIC No 5-73 dated 24 May 1973.

4-74—Subject: Stability information required on inspected and uninspected United States vessels receiving a Load Line Certificate and foreign vessels receiving Form B Load Line Certificates.

Purpose: This circular establishes procedures between the Bureau of Shipping or other recognized classification society and the U.S. Coast Guard to insure that the stability information required by Load Line Regulations (46 CFR Subchapter E) is aboard all vessels receiving a Load Line Certificate.

5-74—Subject: Application to seagoing barges of proposed international tank arrangement and size limitations.

Purpose: This circular is issued to clarify the application to seagoing barges of proposed international design limitations for vessels intended to transport oil in bulk.

6-74—Subject: Elimination of unsafe conditions on board tank barges.

Purpose: The purpose of this circular is to alert operators of tank barges of the potential hazards that can develop through poor housekeeping practices and improper maintenance procedures and to direct the attention of Coast Guard Inspectors to conditions affecting safety that should be identified and corrected.

7-74—Subject: Acceptance of oil-water separators.

Purpose: The purpose of this circular is to advise vessel owners, operators, and Officers in Charge of Marine Inspection of the Commandant's policy concerning Title 33 CFR 155.400 regarding acceptance of oily water separators and exceptions permitted for vessels so equipped.

8-74—Subject: Guide to Compatibility of Chemicals.

Purpose: This circular publishes a "Guide to Compatibility of Chemicals," the latest information available to the Coast Guard on chemical compatibility.

Amendments to Regulations

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

[CGD 73-78]

MANEUVERING CHARACTERISTICS

Miscellaneous Amendments

These amendments require ocean and coastwise vessels of 1,600 gross tons or over to carry maneuvering information in their pilothouses. These requirements were proposed in the July 20, 1973 Federal Register (38 FR 19411).

Comments were received which suggested certain changes for the purpose of clarifying conditions specified in the information requirements. In response to these comments, the following changes have been made:

Calm weather has been defined as wind 10 knots or less with a calm sea.

Deep water has been defined as water depth twice the vessel's draft or greater.

The means of obtaining the information appearing on the preliminary fact sheet required prior to certification has been clarified. The information may be obtained by trial trip observations, model tests, analytical calculations, simulations, information established from another vessel of similar hull form, power, rudder and propeller, or any combination of the foregoing.

The accuracy requirement has been limited to what is attainable by ordinary shipboard equipment.

One commentator pointed out that full and half speeds were not fully defined by the proposed rule. Since these will be stated on the fact sheet in terms of RPM or control settings, further definition is not necessary.

Another commentator felt that the data was too extensive and refined and should be reduced to a single set of the most adverse conditions.

The intent of the regulations is to provide sufficient information for a conning officer, whether ship's personnel or a just boarded pilot, to use as guidelines for handling the vessel under varying conditions.

One comment was that highly specialized craft should be excluded from the rules or that there should be a specific provision for an exemption from the rules.

A section has been added which provides that specialized craft such as semisubmersible drilling units, hydrofoils, hovercraft and other vessels of unusual design will be dealt with individually.

In consideration of the foregoing, Chapter I of Title 46 of the Code

of Federal Regulations is hereby amended as follows:

PART 35—OPERATIONS

1. By adding a new section after § 35.20-35:

§ 35.20-40 Maneuvering Characteristics—T/OC.

For each ocean and coastwise tankship of 1,600 gross tons or over, the following apply:

(a) The following maneuvering information must be prominently displayed in the pilothouse on a fact sheet:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(b) The maneuvering information must be provided for the normal load and normal ballast condition for—

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Deep water conditions—water depth twice the vessel's draft or greater; and

(4) Clean hull.

(c) At the bottom of the fact sheet, the following statement must appear:

WARNING

The response of the (name of the vessel) may be different from those listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater;

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(d) The information on the fact sheet must be:

(1) Verified six months after the vessel is placed in service; or

(2) Modified six months after the vessel is placed into service and verified within three months thereafter.

(e) The information that appears on the fact sheet may be obtained from:

(1) Trial trip observations;

(2) Model tests;

(3) Analytical calculations;

(4) Simulations;

(5) Information established from another vessel of similar hull form, power, rudder and propeller; or

(6) Any combination of the above.

The accuracy of the information in the fact sheet required is that attainable by ordinary shipboard navigation equipment.

(f) The requirements for information for fact sheets for specialized craft such as semi-submersibles, hydrofoils, hovercraft and other vessels of unusual design will be specified on a case by case basis.

PART 78—OPERATIONS

PART 97—OPERATIONS

PART 196—OPERATIONS

2. By amending Parts 78, 97, and 196 by adding Subparts 78.21, 97.19, and 196.19, headed "Maneuvering Characteristics" and consisting of §§ 78.21-1, 97.19-1, and 196.19-1 respectively, that read similar to § 35.20-40, except the heading of each section would read "Data required", and the introductory text of

the sections and of paragraph (b) would read as follows:

For each ocean and coastwise vessel of 1,600 gross tons or over, the following apply:

* * * * *

(b) The maneuvering information must be provided in the normal load and normal light condition with normal trim for a particular condition of loading assuming the following—

* * * * *

(R.S. 4405, as amended, R.S. 4417a, as amended, R.S. 4462, as amended, sec. 6 (b) (1), 80 Stat. 937; U.S.C. 375, 391a, 416, 49 U.S.C. 1655 (b) (1); 49 CFR 1.46 (b) and (c) (4))

Effective date. These amendments become effective on February 14, 1975.

E. L. PERRY,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

(Federal Register of January 15, 1975.)

**TITLE 33—NAVIGATION
AND NAVIGABLE WATERS**

**Chapter I—Coast Guard,
Department of Transportation**

[CGD 73-191]

**PART 110—ANCHORAGE
REGULATIONS**

PART 127—SECURITY ZONES

Apra Harbor; Guam

The purpose of this amendment to the Coast Guard anchorage and security zone regulations is to disestablish Explosives Anchorages 702 and 703, establish a new explosives anchorage, and revise the rules for using the general anchorage in Apra Harbor. This amendment also disestablishes Security Zones C, D, E, and F and revises the rules for using Security Zone B in Apra Harbor.

The Commander, Fourteenth Coast Guard District has issued two Public Notices, No. 14-72-02 dated December 19, 1972 and No. 14-73-04, dated November 26, 1973, which

proposed these amendments. Only one comment was received as a result of the first Public Notice, and this comment, from the Harbor Master and Deputy Director of the Commercial Port of Guam was in complete support of the proposal. No comments were received as a result of the second Public Notice.

Explosives Anchorages 702 and 703 are disestablished because of their close proximity to the explosive transfer facility at Navy Wharf H. An Explosives Anchorage designated 701 is established within Naval Anchorage A. All vessels carrying more than 25 tons of high explosives are required to use this anchorage.

A special anchorage area is established in the northwest corner of Apra Outer Harbor, east of Cabras Island to promote safety for the fleet of the Marianas Yacht Club.

Security Zones C, D, E, and F are no longer needed by the U.S. Navy.

In order to promote the safe passage of all vessels, the exemption of public vessels from the regulations in § 128.1401(b)(1) and (3) is removed.

These amendments have local applicability and were the subject of a local notice to and the comment by the persons concerned or they relieve restrictions to operation of vessels or are minor clarifications. Therefore notice and public procedure on these amendments are unnecessary.

(The full text of the amendments to Parts 110 and 127 of Title 33 are found in the Federal Register of January 6, 1975.)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation

[CGD 73-253]

PART 124—CONTROL OVER MOVEMENT OF VESSELS

Explosives or Certain Specified Dangerous Cargoes

On page 22965 of the Federal Register of June 25, 1974, there was

published a notice of proposed regulatory development to amend § 124.14(b)(1). The change revises the list of dangerous cargoes involving particular hazards. These dangerous cargoes are considered to involve particular hazards when transported on vessels or handled on waterfront facilities in bulk quantities. Newly developed chemicals and increased knowledge of the characteristics of previously existing chemicals indicate a need for revising the present list of cargoes of particular hazard. Interested persons were given opportunity to submit comments, suggestions, or objections regarding the proposed regulations.

No written objections have been received and the proposed regulations are hereby adopted without change and are set forth below.

Effective date. This amendment is effective January 29, 1975.

O. W. SILER,
Admiral,

U.S. Coast Guard Commandant.

1. Section 124.14(b)(1) is amended to read as follows:

§ 124.14 Advance notice of arrival of vessel laden with explosives or certain specified dangerous cargoes.

* * * * *

(b)(1) A dangerous cargo considered to involve a particular hazard, when transported in bulk quantities on board vessels, or when handled in bulk quantities on waterfront facilities, is any commodity which by virtue of its properties would create an unusual hazard if released. The commodities subject to this section are:

Acetaldehyde.
Acetone Cyanohydrin
Acrolein
Acrylonitrile
Allyl chloride
Ammonia, anhydrous
Butadiene
Butane
Butene
Butylene Oxide
Carbon Disulfide
Chlorine
Chlorosulfonic Acid
Dimethylamine

Epichlorohydrin
Ethane
Ethylene
Ethylene Oxide
Ethylamine
Ethyl Ether
Hydrofluoric Acid, aqueous (70 percent)
Hydrogen Chloride, anhydrous
Hydrogen Fluoride, anhydrous
Methane
Methyl Acetylene, Propadiene Mixture, stabilized
Methyl Bromide
Methyl Chloride
Motor Fuel Antiknock Compounds containing Lead Alkyls
Oleum
Phosphorus, elemental
Propane
Propylene
Propylene Oxide
Sulfur Dioxide
Toluene Diisocyanate
Vinyl Chloride

* * * * *

(Federal Register of January 29, 1975.)

Nautical Answers

DECK QUESTIONS

1. C
2. C
3. D
4. B
5. B

Note a) As in the previous month the items selected were those that approximately 50% of the applicants answered incorrectly.
b) The answers to questions 2 and 5 could be found in the publications available during the exam.

ENGINEER QUESTIONS

1. A
2. D
3. D
4. A
5. D



COAST GUARD RULEMAKING

(Status as of 1 February 1975)

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1972 PUBLIC HEARING							
Tailshaft inspection and drawing (67-71, 4-71).....	3-1-72	3-27-72	4-3-72	×			
ANCHORAGE REGULATIONS							
Juan DeFuca, Wash. (CGD 72-233).....	12-5-72		1-9-73			12-3-74	1-1-75
Puget Sound Area, WA (CGD 73-180).....	8-24-73		9-28-73			12-3-74	1-1-75
Indian River, Sebastian, FL (CGD 74-104).....	7-2-74		8-5-74			1-15-75	2-17-75
Beverly and Salem Harbors, MA (CGD 74-189).....	12-18-74		1-20-75				
BRIDGE REGULATIONS							
Sacramento R: et al., CA (CGD 73-142).....	5-24-74		7-2-74	×			
Cheesapeake Ck., NJ (CGD 73-162).....	8-10-73		9-11-73	×			
AIWW, Mile 342, Lauderdale-by-the-Sea, FL (CGD 74-180).....	8-7-74		9-6-74	×			
Stony Ck., MD (CGD 73-242).....	10-12-73		11-20-73	×			
San Joaquin River, Georgiana Slough, Sacramento River, CA (CGD 73-172).....	5-24-74		7-2-74	×			
AIWW, Hillsboro Inlet, FL (CGD 74-22).....	1-25-74		3-1-74			1-29-75	3-3-75
Chesapeake & Del. Canal, Del. (CGD 74-72).....	3-29-74		4-30-74	×			
New River, FL (CGD 74-114).....	4-22-74		5-20-74	×			
Manatee River, FL (CGD 74-101).....	4-22-74		5-20-74	×			
Chicago River, IL (CGD 74-137).....	6-3-74		7-16-74	×			
Columbia and Snake Rivers, WA (CGD 74-223).....	9-20-74		10-22-74	×			
Bayou Little (Petit), Caillou, LA (CGD 74-215).....	9-19-74		10-22-74			1-21-75	2-21-75
Vermilion River, LA (CGD 74-214).....	9-19-74		10-22-74			12-3-74	1-1-75
Bayou Dularge, LA (CGD 74-234).....	10-9-74		11-12-74			1-29-75	2-28-75
Franklin Canal, LA (CGD 74-235).....	10-9-74		11-12-74	×			
AIWW, Hallandale, FL (CGD 74-257).....	11-5-74		12-5-74	×			
North Miami Beach, FL (CGD 75-013).....	1-21-75		2-21-75	×			
Coney Island Creek, NY (CGD 74-300).....	1-29-75		3-4-75				
Matanzas River, FL (CGD 75-024).....	1-29-75		3-4-75				
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	×			
Dangerous Cargo Regulations, miscellaneous (CGD 73-249).....	1-16-74		3-4-74	×			
Notice of arrival of laden vessels (CGD 73-253).....	6-25-74		8-8-74			1-29-75	1-29-75
Sodium sulfide solution and sulfur dioxide (CGD 73-275).....	7-16-74		12-5-74	×			
Corrected	9-5-74						
Vinyl chloride (CGD 74-167).....	7-23-74	8-15-74	9-6-74	×			
Vinyl chloride, supplementary notice (CGD 74-200).....	9-19-74		11-4-74	×			
Unmanned barges carrying certain bulk dangerous cargoes (CGD 74-275).....	1-15-75		2-28-75	×			
Unslaked lime in bulk (CGD 74-225).....	1-29-75	2-25-75	3-17-75				
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Marine Sanitation Devices (CGD 73-83).....	3-1-74	5-1-74	5-14-74			1-30-75	1-30-75
Boundary Lines of Inland Waters (CGD 73-241).....	4-8-74		5-26-74	×			
Corrected	5-8-74						

Coast Guard Rulemaking—Continued

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

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

MERCHANT MARINE SAFETY PUBLICATIONS

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

The Federal Register will be furnished by mail to subscribers, free of postage, for \$5.00 per month or \$45 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

CG No.	TITLE OF PUBLICATION
101	Specimen Examinations for Merchant Marine Deck Officers (Chief Mate and Master) (1-1-74).
101-1	Specimen Examinations for Merchant Marine Deck Officers (2d and 3d mate) (10-1-73).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (4-1-72). F.R. 7-21-72, 12-1-72, 11-14-74.
115	Marine Engineering Regulations (6-1-73). F.R. 6-29-73, 3-8-74, 5-30-74, 6-25-74, 8-26-74.
123	Rules and Regulations for Tank Vessels (1-1-73). F.R. 8-24-73, 10-3-73, 10-24-73, 2-28-74, 3-18-74, 5-30-74, 6-25-74, 1-15-75.
129	Proceedings of the Marine Safety Council (Monthly).
169	Rules of the Road—International—Inland (8-1-72). F.R. 9-12-72, 3-29-74, 6-3-74, 11-27-74.
172	Rules of the Road—Great Lakes (7-1-72). F.R. 10-6-72, 11-4-72, 1-16-73, 1-29-73, 5-8-73, 3-29-74, 6-3-74, 11-27-74.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-73).
176	Load Line Regulations (2-1-71). F.R. 10-1-71, 5-10-73, 7-10-74.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
182-1	Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (10-1-73).
184	Rules of the Road—Western Rivers (8-1-72). F.R. 9-12-72, 5-8-73, 6-27-73, 6-28-73, 3-29-74, 6-3-74, 11-27-74.
190	Equipment List (8-1-72). F.R. 8-9-72, 8-11-72, 8-21-72, 9-14-72, 10-19-72, 11-8-72, 12-5-72, 1-15-73, 2-6-73, 2-26-73, 3-27-73, 4-3-73, 4-26-73, 6-1-73, 8-1-73, 10-5-73, 11-26-73, 1-17-74, 2-28-74, 3-25-74, 4-17-74, 7-2-74, 7-17-74, 9-5-74, 10-22-74, 11-27-74, 12-3-74, 12-30-74, 1-15-75, 1-21-75.
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, 12-3-74, 1-6-75, 1-29-75.
*256	Rules and Regulations for Passenger Vessels (5-1-69). F.R. 10-29-69, 2-25-70, 4-30-70, 6-17-70, 10-31-70, 12-30-70, 3-9-72, 7-18-72, 10-4-72, 10-14-72, 12-21-72, 4-10-73, 8-1-73, 10-24-73, 12-5-73, 3-18-74, 5-30-74, 6-25-74, 9-20-74, 1-15-75.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (4-1-73). F.R. 6-28-73, 6-29-73, 8-1-73, 10-24-73, 3-18-74, 5-30-74, 6-25-74, 1-15-75.
*259	Rules and Regulations for Uninspected Vessels (5-1-70). F.R. 1-8-73, 3-28-73, 1-25-74, 3-7-74.
*258	Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72, 8-16-72, 8-24-73, 11-29-73.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69.
268	Rules and Regulations for Manning of Vessels (12-1-73).
293	Miscellaneous Electrical Equipment List (7-2-73).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7-1-72). F.R. 7-8-72.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9-1-73). F.R. 1-25-74, 3-18-74, 9-20-74.
329	Fire Fighting Manual for Tank Vessels (1-1-74).
439	Bridge-to-Bridge Radiotelephone Communications (12-1-72).

CHANGES PUBLISHED DURING JANUARY 1975

The following have been modified by Federal Registers:

CG-239, Federal Registers of January 6 & 29, 1975.

CG-123, 256, 257, Federal Register of 1-15-75.

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

