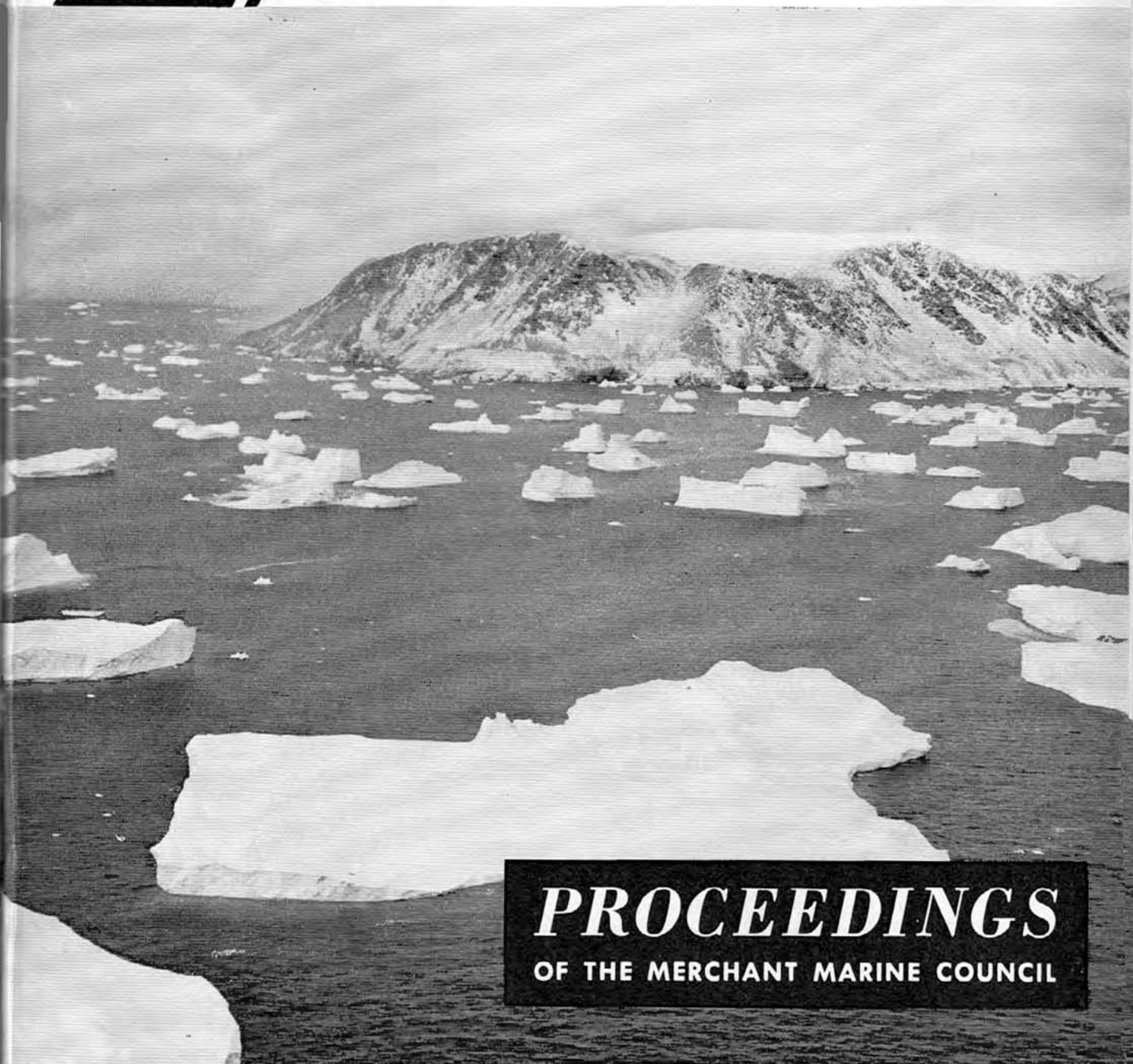




# COAST GUARD



## *PROCEEDINGS* OF THE MERCHANT MARINE COUNCIL

IN THIS ISSUE . . .

Ice Patrol 1970 . . .

Historic Journey of the  
Manhattan . . .

Public Hearing Proposals . . .

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

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### COVERS

**FRONT COVER:** Icebergs near Cape York, Greenland. Such bergs could become a threat to shipping during the winter months, and the International Ice Patrol will soon commence its services to prevent any mishaps.

**BACK COVER:** Cutting her own path through arctic ice, the SS *Manhattan* is shown during her historic conquest of the Northwest Passage.

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# PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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# INTERNATIONAL ICE PATROL SERVICES—1970

## GENERAL INFORMATION

THE U.S. COAST GUARD will, depending upon ice conditions, commence the International Ice Patrol services in February or early March 1970. The primary objective of the International Ice Patrol is to collect and disseminate information to shipping as to the extent and location of icebergs and sea ice in the vicinity of the Grand Banks of Newfoundland.

Commander, Eastern Area, U.S. Coast Guard, is Commander, International Ice Patrol. Ships and aircraft used for the ice patrol service are under his operational control.

To accomplish the objective of the International Ice Patrol, the U.S. Coast Guard will:

Maintain an International Ice Patrol Office in New York to analyze ice reports and to disseminate ice information to shipping.

Deploy ice observation forces as required and conduct ice reconnaissance in the vicinity of the Grand Banks of Newfoundland during the whole of the ice season.

Operate International Ice Patrol Radio Station Argentia Newfoundland (NIK).

As required, deploy an oceanographic ship to the Grand Banks to collect oceanographic and meteorological data.

Should severe ice conditions be encountered, deploy a surface patrol ship to conduct ice observations and to originate special ice broadcasts.

## ICE INFORMATION

### *Scheduled Broadcasts:*

During the Ice Season, ice broadcasts will be made twice daily by participating radio stations. A future notice will publish the date of commencement of International Ice Patrol operations and the ice broadcasts. Special notices will be published in the event of any changes in the transmission time of ice broadcasts. Schedules will be as follows:

International Ice Patrol Radio Station Argentia Newfoundland (NIK)—0018 and 1218 GMT daily. Each broadcast will be preceded by the general call CQ on 500 kHz with instructions to shift frequency and receive on 427, 5320, 8502, or 12750 kHz. NIK will then transmit a test signal and the International Ice Patrol call sign (NIK) for about two minutes to facilitate tuning, followed immediately by the Ice Broadcast at 25 words per minute, after which the broadcast will be repeated at 15 words per minute.

U.S. Naval Radio Station Washington (NSS)—0430 and 1700 GMT.

Canadian Forces Station Mill Cove (CFH)—0130 and 1330 GMT.

### *Special Broadcasts:*

When deemed advisable, special ice broadcasts may be made in addition to those regularly scheduled. Such special ice broadcasts will be preceded by the International Safety Signal TTT.

### *Facsimile Broadcasts:*

During the ice season, a facsimile chart of ice conditions in the vicinity

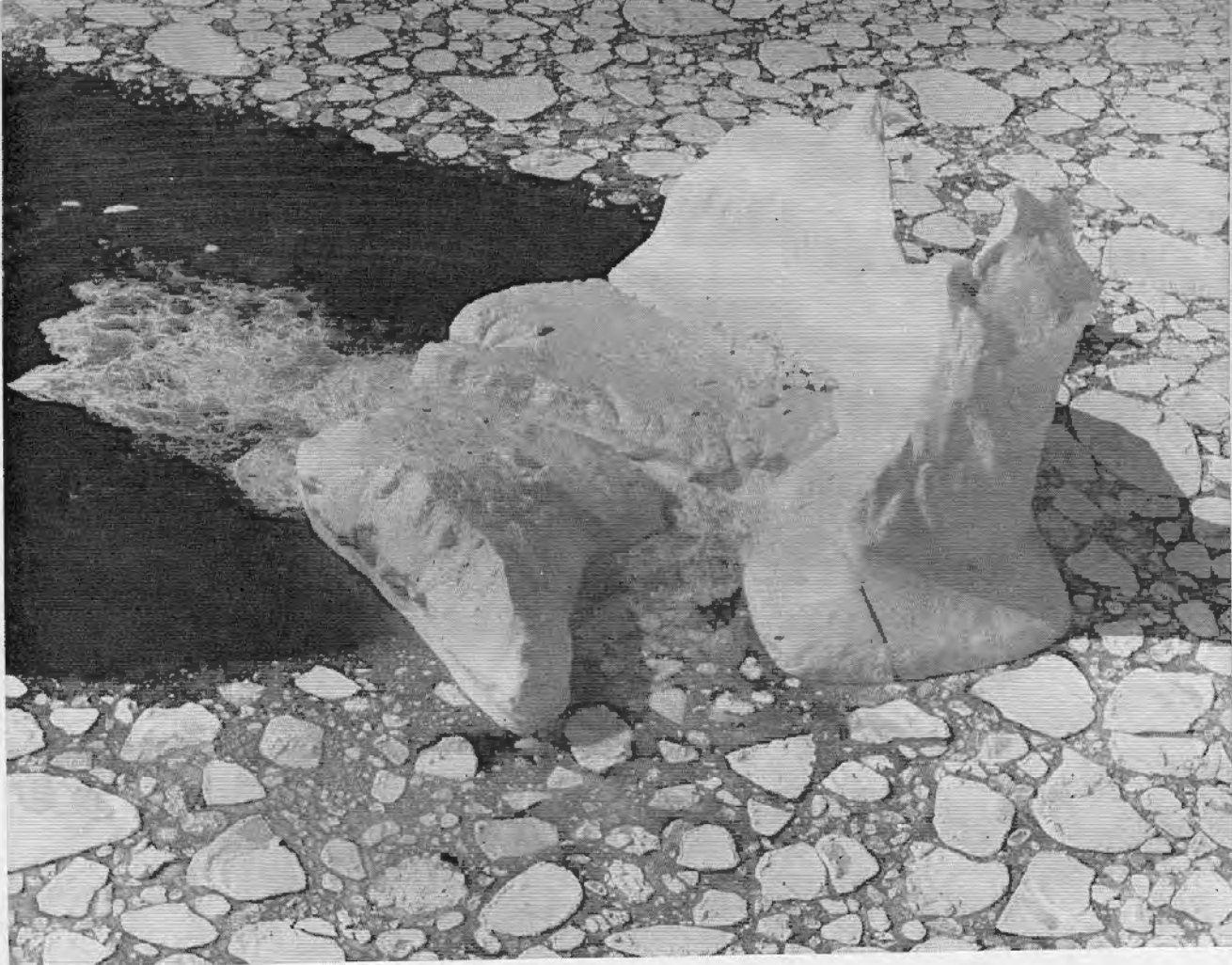
of the Grand Banks of Newfoundland will be transmitted daily at 1330 GMT by International Ice Patrol Radio Station Argentia Newfoundland (NIK) on 5320, 8502, and 12750 kHz at a drum speed of 60 RPM. The facsimile broadcast will be preceded by a short test pattern to facilitate tuning. Ships receiving these transmissions are requested to mail a copy of the facsimile charts, with notations as to the ship's position and other appropriate information, to Commander, International Ice Patrol, Governors Island, New York, New York 10004, for evaluation.

## COMMUNICATIONS

*International Ice Patrol Radio Station Argentia Newfoundland, (NIK)—Ship Communications:*

Duplex operations will be used between NIK and ships for general radio communications, such as requests for special information, reports by ships of ice sighted, sea temperature, visibility, and weather conditions. Ships may call NIK on 500 kHz, or the 8 MHz and 12 MHz maritime calling bands at any time, and then shift to their assigned HF working frequency. NIK will work 427, 8650, or 12889.5 kHz. The surface patrol vessel, radio call sign NIDK when on station, will relay between NIK and ships when necessary. In the event communications cannot be established with International Ice Patrol Radio Station Argentia (NIK) or the surface patrol vessel





*A medium-sized iceberg is surrounded by small ice floes.*

(NIDK), attempts should be made to contact other Coast Guard Radio Stations on the maritime mobile calling bands. Consult the list of Coast Guard AMVER Radio Stations in the latest Automated Merchant Vessel Report (AMVER) Bulletin for the HF working frequencies of a specific station. Reports sent through other Coast Guard Radio Stations should be addressed to Commander, International Ice Patrol. There is no charge for these services.

#### *Ice Reports Outside Ice Patrol Season:*

Prior to the inauguration of the International Ice Patrol services, all reports of ice sightings should be addressed to the U.S. Naval Oceanographic Office, Washington, D.C., 20390 and Commander, Interna-

tional Ice Patrol, Governors Island, New York, N.Y., 10004 via U.S. Coast Guard Radio Station Argentia Newfoundland (NJN), or U.S. Naval Radio Station Washington (NSS).

#### *Importance Of Ice, Visibility, Sea Temperature, And Weather Reports From Shipping:*

Ship reports of ice and weather in the Grand Banks area are an indispensable source of ice, oceanographic, and meteorological data. They materially assist the International Ice Patrol in determining ice conditions and in disseminating ice information to shipping. When reporting icebergs, ships are requested to describe the shape, and to provide an estimate of the berg size. The berg description is required to aid in berg identification, while the size assists in determining

its eventual deterioration. Common iceberg nomenclature used by the Ice Patrol is: Growler—under 4 feet high, less than 20 feet long; Bergy Bit—4-20 feet high, 20-50 feet long; Small Berg—20-50 feet high, 50-200 feet long; Medium Berg—50-150 feet high, 200-400 feet long; Large Berg—over 150 feet high, over 400 feet long. Whenever any dimension falls into a larger size, that size is used.

In addition to ice sighting reports, ships are urged to make weather reports at 6-hour intervals to International Ice Patrol Radio Station Argentia Newfoundland (NIK) when within latitudes 40° N. and 50° N. and longitudes 42° W. and 60° W. The following information should be included in the reports: Ship's position, course, speed, visibility in miles,

air temperature (degrees celcius), sea temperature (degrees celcius), wind direction, wind speed in knots. If weather and sea temperature is being routinely reported to METEO Washington, Commander, International Ice Patrol will receive the information and it is unnecessary to send a separate weather and sea temperature report to Commander, International Ice Patrol. The importance of weather reports to International Ice Patrol operations cannot be overemphasized. Visibility reports are especially valuable in planning ice observation flights. Sea temperatures are used to estimate ice deterioration and to assist in detecting shifts in the branches of the Labrador Current. Wind data is useful in estimating set and drift of ice and in forecasting weather for the purpose of planning ice observation flights. It is realized that ships with but one radio operator may find it impractical to report every 6 hours. It is therefore suggested that the reports be prepared and held until the radio operator is on watch.

#### GULF OF ST. LAWRENCE INFORMATION

Aerial ice reconnaissance and dissemination of ice information to shipping is also performed by the Canadian Department of Transport. Ships may obtain ice information by contacting Ice Operations Officer, Sydney (VCO). This organization, during the period from mid-December 1969 to 30 June 1970 will operate mainly in the Gulf of St. Lawrence and the approaches and coastal waters of Newfoundland and Labrador to the entrance of Hudson Strait. Details of these services are available in the publication "Guidance to Merchant Ships Navigating in Ice in Canadian Waters", published by the Marine Operations Branch, Department of Transport, Ottawa, Canada.

#### SEARCH AND RESCUE

Aircraft and ships assigned to duty with the International Ice Patrol will render assistance to persons and property within the limits of their capability.

#### WARNING

Carefully conducted tests by the International Ice Patrol have proven that radar cannot provide positive assurance of iceberg detection. As sea water is a better reflector of radar signals than ice, a berg or growler inside the area of "sea return" or "clutter" of the radar scope may not be detected. Furthermore, it was determined that the average range of radar detection of a dangerous growler, if detected, is only four miles. While radar remains a valuable aid for ice

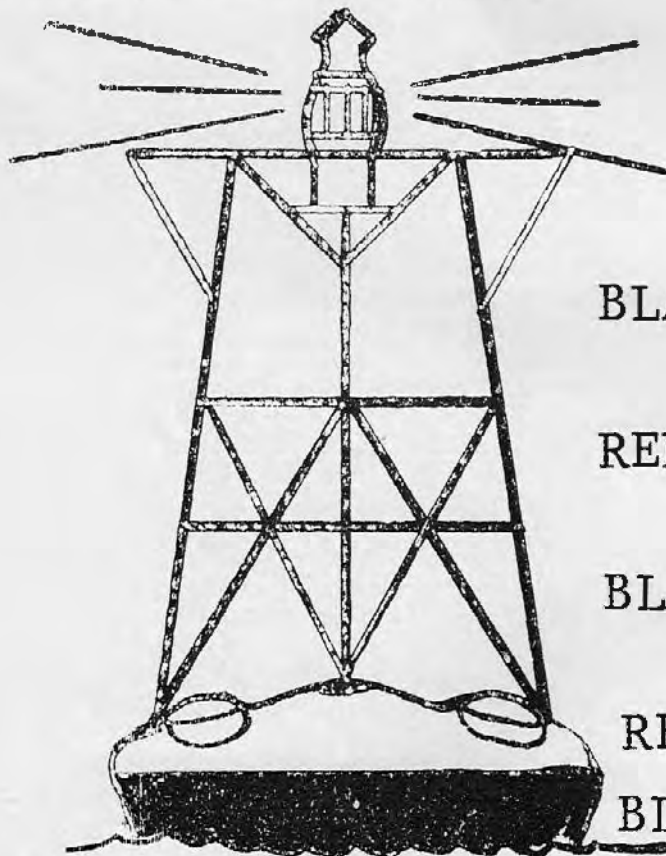
detection, its use cannot replace the traditional caution exercised in a passage across the Grand Banks during the ice season.

#### ICE PATROL OFFICE LOCATION

The International Ice Patrol Office is located at the U.S. Coast Guard Base, Governors Island, New York, N.Y., in Building 110 adjacent to the AMVER Center. Telephone number (Area Code 212) 264-4798 or 264-4799. ±

#### AIDS TO NAVIGATION

- Q. Entering from seaward you sight the black and red horizontal band light buoy shown.
- Which side is best to leave it on in passing?
  - What number would you expect it to have?
  - What color light would you expect it to show?
  - What light phase characteristic would it be likely to have?



- A.
- It is best to leave the buoy to port when entering.
  - It would have no number but might be lettered.
  - The color of the light could be white or green.
  - The light phase characteristic would be likely to be interrupted quick flashing.

# HISTORIC JOURNEY OF THE MANHATTAN

Reprinted from Mariners Weather Log

The *Manhattan* did it! Following a route first charted by legendary explorers hundreds of years ago, the 150,000-ton icebreaking tanker (fig. 1) conquered the summer ice of the Northwest Passage during mid-September. The 1,005-ft vessel reached Point Barrow, Alaska, proving that it is indeed feasible for a commercial ship to transport crude oil or any other product from Alaska's North Slope to the east coast of the United States. In carving its east-west path, the giant ship broke through ice floes up to 15-ft thick as well as occasional ice ridges of up to 40 ft. Other accomplishments included making a 180° turn in heavy ice, moving steadily at speeds up to 6 kt through 9 or 10 ft of ice, and stopping and starting again in ice 7-ft thick.

The search for a trade route through the Northwest Passage (fig. 2) dates back to 1497, when mariners first began sailing their wooden ships toward the roof of the world in quest of a trade route to China. John Cabot's second voyage in 1498 carried him just above the Arctic Circle. Other great men in marine history subsequently added their names to the Northwest Passage story—Martin Frobisher, John Davis, Henry Hudson, Robert Bylot, William Baffin, William Parry, John Franklin, and Robert McClure. In 1906 a young Norwegian named Roald Amundsen completed the first east-west crossing entirely by ship.

The historic voyage of the *Manhattan* started August 25. The ship had previously undergone modifica-

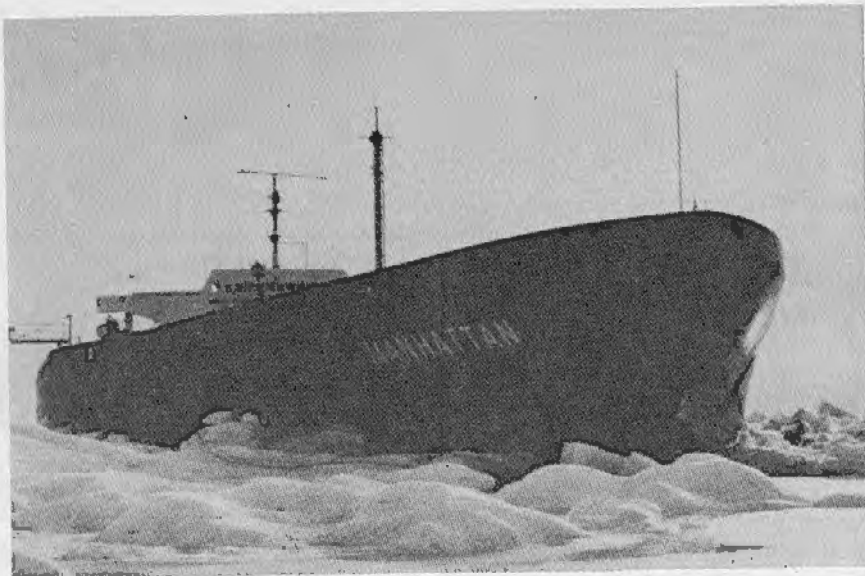


Figure 1. The MANHATTAN is surrounded by ice as it moves slowly through the frozen wastes of the Northwest Passage.

tion designed to provide extraordinary icebreaking capability. The vessel was fitted with a new bow capable of increasing the ice-breaking proficiency of the ship by as much as 40–60 percent over the more conventional ice-breaker design. The bow was devised to move the vessel onto the ice at an 18° angle and then increase to the more conventional 30° angle before the extended bow broke the ice.

The *Manhattan* reached Halifax, Nova Scotia, on the 28th, completing the first leg of its trip. The vessel departed for Thule, Greenland, that same afternoon. On September 2, the ice breaker penetrated its first extensive ice pack in Baffin Bay above the Arctic Circle. Working her way

through the ice the *Manhattan* shared the seaway with the *John A. Macdonald*, a Canadian Department of Transport icebreaker, that joined with and aided the larger icebreaker starting on August 30. The huge ship dropped anchor off Kap Atholl, near Thule, on the 4th. Kenneth E. Cove, a shipboard rawinsonde specialist with the Weather Bureau's Atlantic Weather Patrol, joined the Coast Guard's icebreaker *Northwind* (also accompanying the *Manhattan* over part of its journey) that day to provide observer assistance. On the 5th the *Manhattan* nosed her way into Parry Channel at the entrance of the Northwest Passage; one day later she was at Resolute, Cornwallis Island. From there she sailed through Vis-



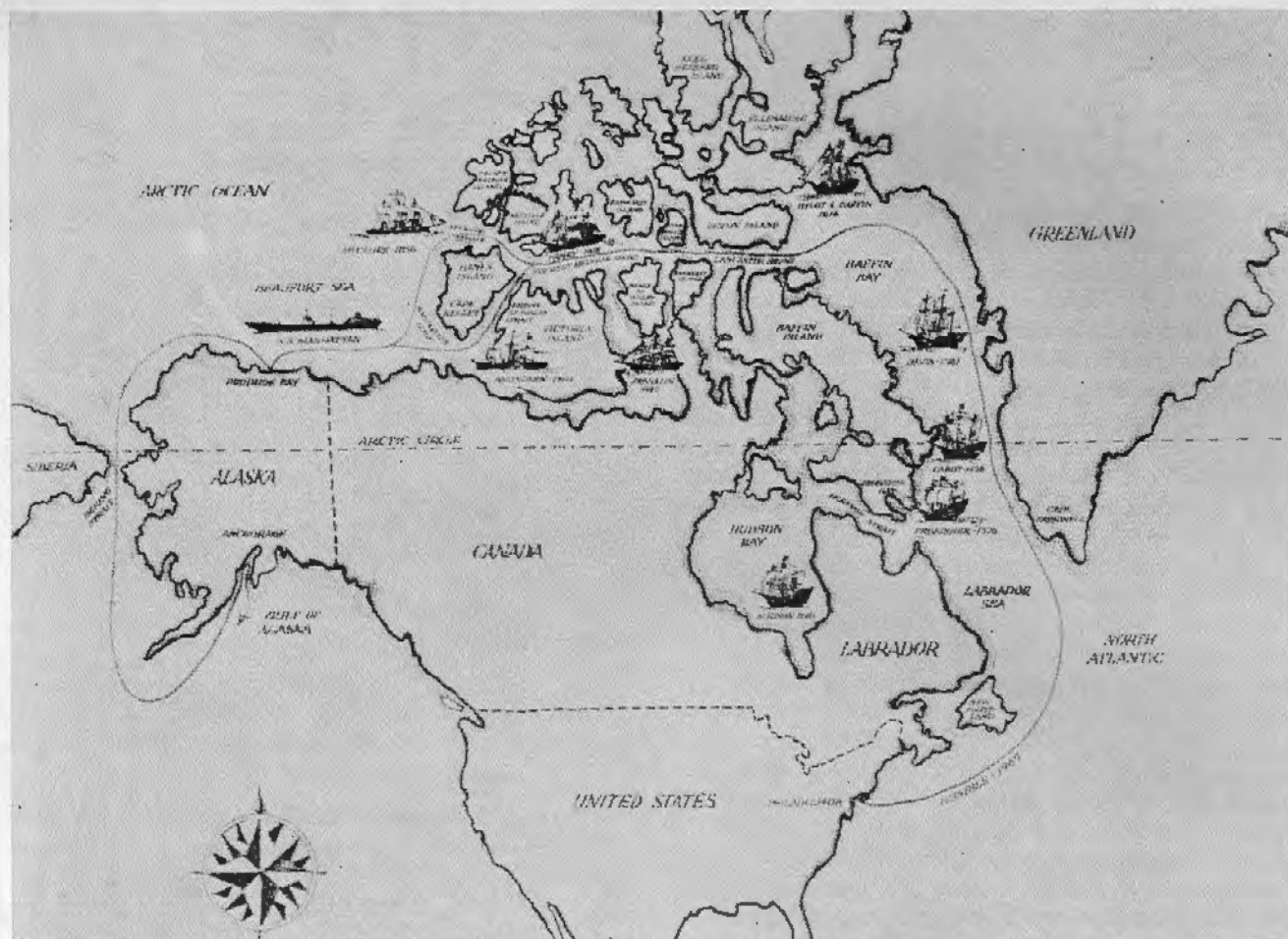


Figure 2. A chart showing the farthest points (indicated by ships) reached by various explorers in their attempts to conquer the Northwest Passage. The light line is the general path followed by the MANHATTAN as she conquered the Northwest Passage, sailing from Philadelphia to Prudhoe Bay. Due to heavy ice in McClure Strait, the southernmost route around Banks Island was used.

count Melville Sound and the Prince of Wales Strait before reaching Sachs Harbor on the 15th. The *Northwind* left the *Manhattan* and John A. MacDonald in Viscount Melville Sound on the 10th and rejoined them off Prudhoe Bay. She was replaced by the *Staten Island* after arrival at Point Barrow. The *Manhattan* had tested the 10-ft ice in McClure Strait on the north end of Banks Island on the 11th. The ship got stuck in thick ice three times; it was decided to reach the Beaufort Sea via the more icefree Prince of Wales Strait after aerial reconnaissance and infrared photography revealed a solid cover of extra-hard ice, at least 2 yr old, lay ahead. Thirty-knot northwesterly winds blowing steadily for 8 days had

pushed permanent pack ice into McClure Strait. The *Manhattan* was freed by the *John A. MacDonald* each time it got stuck. The mammoth tanker reached the Barter Island, Alaska, area on the 18th, Prudhoe Bay on the 19th (where a symbolic barrel of Alaskan crude oil was presented to *Manhattan's* Captain Roger Steward from Alaska Governor Keith Miller), and Point Barrow, Alaska, on the 21st.

Soon afterwards she embarked on her next mission. This was to return eastward into the more rugged reaches of Viscount Melville Sound in order to see how massive icebreakers would perform in ice conditions comparable to the hard winter-type ice the Northwest Passage would offer

on a year-round basis. The ship's round trip through the Passage took about 80 days. She reached the East Coast again on November 12, carrying the single barrel of crude oil.

The benefits of an open Polar sea route are large in number. They include increased United States' self-sufficiency in oil, a U.S. flag tanker fleet which by 1980 could be 2½ times its present size, added U.S. capability to come to the aid of Western Allies in a fuel emergency, opening other mineral resources of far northern Alaska and Canada, advances in scientific knowledge of the Arctic, and other unknown advantages of a new sea route that will bring major world trade centers closer in time.

# Public Hearing 1970 Proposals

THE MERCHANT MARINE COUNCIL will hold a hearing on Monday, March 30, 1970, commencing at 9:30 a.m. in the Departmental Auditorium, between 12th and 14th Streets on Constitution Avenue NW., Washington, D.C., for the purpose of receiving comments, views, and data on the proposed changes in the navigation and vessel inspection rules and regulations.

These proposals are set forth in the Merchant Marine Council Public Hearing Agenda, CG-249, dated March 30, 1970. The agenda contains the specific changes being proposed to the navigation and vessel inspection regulations, and for certain items the present and proposed regulations are set forth in comparison forms, together with reasons for the changes.

These proposals are set forth officially in the Federal Register, which contains general descriptions of the proposed changes in the regulations, together with appropriate references to statutes authorizing such requirements.

Copies of the Agenda have been mailed to persons and organizations who have expressed a continued interest in the subjects under consideration and have requested that copies be furnished them. Copies of the Agenda will be furnished upon request to the Commandant (CMC), U.S. Coast Guard, Washington, D.C. 20591, so long as they are available. After the supply of extra copies is exhausted, copies will be available for reading purposes in Room 4211, Coast Guard Headquarters, or at the offices of the various Coast Guard District Commanders.

Comments on the proposed regulations are invited. Written comments containing constructive criticism, suggestions, or views are welcomed. However, acknowledgment of the comments received, or reasons why the suggested changes were or were not adopted, will not be furnished since personnel are not available to handle the necessary correspondence involved. The public hearing held by the Merchant Marine Council is informal and intended to obtain views and information from those who will be directly affected by the proposals under consideration. Each oral and written comment submitted on time will be fully considered and evaluated. The proposals may be changed as a result of these comments.

Each person or organization who desires to submit comments, data, or views in connection with the proposed regulations set forth in the Merchant Marine Council Public Hearing Agenda should submit them in triplicate so that they will be received by the Commandant (CMC), U.S. Coast Guard Headquarters, Washington, D.C. 20591, prior to March 27, 1970. Comments, data, or

views may be presented orally or in writing at the Public Hearing before the Merchant Marine Council on March 30, 1970. In order to insure consideration of written comments and to facilitate checking and recording, it is requested that each comment regarding a section or paragraph of the proposed regulations be submitted on Form CG-3287, showing the section number (if any), the subject, the proposed change, the reason or basis, and the name, business firm or organization (if any), and the address of the submitter. A small quantity of Form CG-3287 is attached to the Agenda. Additional copies may be reproduced by typewriter or otherwise.

Each item in the Agenda has been given a general title, intended to encompass the specific proposals presented thereunder. It is urged that each item be read completely, because of the application of proposals to specific employment or types of vessels may be found in more than one item.

On the following pages the PROCEEDINGS presents only the most succinct synopses of the proposed items of revision approved for consideration at the hearing. The Agenda must be consulted for full particulars.

## ITEM PH 1-70—LIFESAVING EQUIPMENT

### 1a—DISTRIBUTION OF LIFE PRESERVERS ON PASSENGER VESSELS

It is proposed to amend the Rules and Regulations for Passenger Vessels in order to insure that a number of the additional life preservers required by 46 CFR 75.40-10(b) are readily accessible to personnel on watch in the engineroom and pilothouse. Inasmuch as the 5 percent additional life preservers already required on passenger vessels will exceed the number of persons on watch at any one time, no additional life preservers will be required by this change.

### 1b—PRIMARY LIFESAVING EQUIPMENT FOR VESSELS HAVING NO AMIDSHIPS SUPERSTRUCTURE

The various Subchapters require all vessels of 500 gross tons and over in ocean service, to have a number of inflatable liferafts of sufficient capacity to accommodate at least 50 percent of the persons on board. Additionally, they require that vessels having widely separated accommodation and/or working spaces shall have at least one liferaft in each location. The term working space as used in these regulations refers to spaces forward, on vessels with no amidship superstructure, where personnel are normally employed.

Recognizing the need to improve Safety of Life at Sea, the Maritime Safety Committee at its 14th and 15th sessions, adopted, among others, ANNEX V of the Amendment to SOLAS 60 to improve the arrangements for lifesaving appliances on certain cargo and tank vessels. The



amendment requires a liferaft forward on all vessels 492 feet or more in length, with no amidships superstructures, therefore, the reference to widely separated working space will no longer be necessary in our regulations. Since the United States agrees with this amendment and accepted it as adopted, appropriate changes are proposed for inclusion in the cargo and tank vessel regulations.

#### **ITEM PH 2-70—NONMETALLIC MATERIALS IN PIPING SYSTEMS ON SMALL PASSENGER VESSELS**

It is proposed to revise Subchapter T, Rules and Regulations for Small Passenger Vessels for the following reasons:

1. Current Subchapter T regulations contain no guidelines concerning the use of nonmetallic materials in piping systems other than fuel oil. The only standards available are outlined in Subchapter F (Marine Engineering) which are too restrictive for T vessels and are not necessarily applicable.

2. Periodic information has indicated the existence of widespread differing standards in the application and use of PVC and other nonmetallic materials in piping systems on Subchapter T vessels. Accordingly, establishment and publication of specific guidelines is considered necessary.

#### **ITEM PH 3-70—PERSONNEL—RADAR OBSERVERS' ENDORSEMENTS**

Title 46 CFR 10.02.9(a) (1) and (2) requires that an applicant for renewal of a deck license demonstrate his knowledge of the Rules of the Road either by presenting an affidavit that he has read the Rules of the Road applicable to the waters for which he is licensed and demonstrating knowledge thereof, or by taking an examination of Rules of the Road if he has not served under the authority of his license for the three years preceding the date of application. In the 10 years since the requirement for "radar observer" endorsement on deck licenses, the use of radar has expanded and this navigational aid and/or collision avoidance device is now as much used as any other aid. Accordingly, it is proposed that new regulations be adopted to require that the applicant for renewal of a deck license which is endorsed "radar observer" be required to demonstrate his knowledge of radar plotting either by an exercise or an examination depending on the recency of service on his license. If the applicant can show that he has successfully completed a radar simulator course, he will be excused from the exercise or examination.

Current regulations make no mention of pilots in relation to the "radar observer" requirement. The proposed change makes the "radar observer" requirement specifically applicable to pilots.

#### **ITEM PH4-70—ELECTRIC NAVIGATION LIGHTS (WITHDRAWN)**

#### **ITEM PH 5-70—TANK VESSELS**

##### **5a—DISPLAY OF WARNING SIGNS ON TANK VESSELS**

The present regulation does not clearly indicate the requirement for actual display of the warning sign, and limits the requirement to periods of cargo transfer. Therefore it is proposed to amend Paragraph 35.30-1 (b) of Subchapter D to indicate that a sign shall be displayed to warn persons approaching the gangway while a vessel is moored or anchored, unless the vessel is empty and gas-freed.

##### **5b—PORTABLE FIRE EXTINGUISHERS ON UNMANNED TANK BARGES**

Unmanned barges carrying combustible or flammable liquids in bulk are currently required to be equipped at all times with a portable fire extinguisher. Additional portable fire extinguishers are required if the barge is equipped with a cargo pump and/or an auxiliary boiler. Current information indicates that there is rampant pilferage of these portable extinguishers, resulting in a large economic burden on the part of barge operators. Studies have also revealed that in operations other than cargo transfer, the portable extinguishers serve no useful purpose. Accordingly, it is proposed to amend Title 46, CFR, Part 34, Table 34.50-10 (a) to indicate that the portable extinguishers are not required on board except during cargo transfer operations and/or when operating the cargo pump or auxiliary boiler. It is further proposed to amend Title 46, CFR, 35.35-20 to require the certificated tankerman in charge of the barge to insure that the required portable extinguishers are on board and readily accessible prior to commencing transfer operations or operation of the cargo pump or auxiliary boiler.

##### **5c—PUMPROOM VENTILATION**

A change to Part 32 of the Tank Vessel Regulations is proposed in order to clarify the natural supply ventilation requirements for pumprooms. To insure that the pumproom is adequately ventilated at all times, positive means, other than an access door, shall be provided. The proposed change reflects the methods presently utilized in vessel construction.

##### **5d—EMERGENCY LIGHTING**

The purpose of this change is to bring paragraphs 46 CFR 35.10-15(c) and 97.15-30(c) into agreement with Table 46 CFR 112.05-5(a) which specifies the minimum emergency lighting requirements for U.S. vessels. This change will make the Tank Vessel Rules read exactly as the Cargo and Passenger vessel rules and define the specified time periods.

## ITEM PH 6-70—MARINE ENGINEERING REGULATIONS

### 6a—NUCLEAR PRESSURE VESSELS

Additions to the regulations are proposed to modify the provisions in Section III of the ASME Code with regard to nuclear reactor containment. These considerations are necessary because of possible environmental circumstances peculiar to shipboard installations, such as the occurrence of high external pressures in the event of sinking.

Also proposed is a change intended to provide an adequate design for a pressure vessel which is by configuration and size vulnerable to small external pressures. The requirements will be invoked whenever subject vessel, though not intended for exposure to external pressure, may in service be subjected to such pressure.

### 6b—EXEMPTION OF CERTAIN PRESSURE VESSELS FROM SHOP INSPECTION AND PLAN APPROVAL

The proposed change would exempt all Class II pressure vessels having an internal volume of less than 5 cubic feet from Coast Guard shop inspection and plan approval provided they are ASME U or UM stamped.

### 6c—LARGE AUTOMATIC AUXILIARY HEATING EQUIPMENT

An additional paragraph to Section 63.05-20 of Subchapter F is proposed, to bring the regulations into compliance with National Fire Protection Association and Underwriters' Laboratories Standards. The proposed change deals with control systems for large automatic auxiliary heating equipment.

## ITEM PH 7-70—SPECIFICATIONS

### 7a—MICROCELLULAR NYLON

It is proposed to amend Part 164 by the addition of a new Subpart, 164.016. Microcellular nylon foam has recently been developed and has application as a buoyant material for use in personal lifesaving devices. Experience with test samples and ring life buoys approved under Subpart 160.064 indicates the material is suitable for this purpose. The new specification is proposed to provide a reference specification.

### 7b—INTERIOR FINISHES

Experience with approval procedure of the current specification has not been satisfactory for the U.S. Coast Guard, naval architects, ship builders and materials manufacturers. Considerable confusion has existed as to what is approved and what is not. The proposed revision to Subpart 164.012 will establish procedures to provide marking

to aid field identification by vessel inspectors and permit publication of an approval listing to aid naval architects, ship builders and C. G. plan review.

### 7c—LIFESAIVING DEVICES

The proposed amendments provide for a personal lifesaving device, listed and labeled by a recognized laboratory, such as Underwriters' Laboratories, Inc., Marine Department, to be accepted as approved for use on vessels in accordance with the applicable requirements. These devices include life preservers, buoyant vests, ring life buoys and buoyant cushions. This would be similar to the present program for special purpose water safety buoyant devices, and portable and semiportable Marine Type fire extinguishers.

The purposes of these proposals are to:

a. Provide for the recognition of non-profit laboratories which have established testing standards, factory inspection, and a listing and labeling program for personal lifesaving devices.

b. Provide for unannounced inspections at an increased frequency by personnel which are specifically hired and trained for this purpose. This frequency will depend on actual problems determined by experience and will be independent of the workload of the Marine Inspection Offices and their staffing restraints. Experience has shown that the present system of approval and inspection has not always performed at a uniform level because of the above reasons.

c. Provide for testing facilities in the plants and at the laboratory with more consistent results.

d. Provide for a reduction in the approval process time due to increased manpower.

e. Separate policy making and operational functions which will allow for the following:

i. Allows Coast Guard to spend more time on: fostering development of new devices and materials; research and development of statistical studies involving performance, acceptability, wearability, etc.; industry advisory activities; formulation of new standards and test procedures; and control of overall coordination of inspection and testing functions.

f. Provide the basis for a strict compliance program coordinated by the Coast Guard in the interest of public safety.

The following subparts are included:

- (1) 160.002 Life Preservers, Kapok
- (2) 160.005 Life Preservers, Fibrous Glass
- (3) 160.009 Ring Life Buoys, Cork or Balsa
- (4) 160.047 Buoyant Vests, Kapok or Fibrous Glass
- (5) 160.048 Buoyant Cushions, Kapok or Fibrous Glass
- (6) 160.049 Buoyant Cushions, Unicellular Plastic Foam

(7) 160.050 Ring Life Buoys, Unicellular Plastic Foam

(8) 160.052 Buoyant Vests, Unicellular Plastic Foam

(9) 160.053 Work Vests

(10) 160.055 Life Preservers, Unicellular Plastic Foam

(11) 160.060 Buoyant Vests, Polyethylene Foam

#### **7d—FLOATING ORANGE SMOKE DISTRESS SIGNAL**

This item consists of proposed changes to Subpart 160.022 which are intended to:

(1) Clarify the text of the specification with regard to consideration of alternate designs.

(2) Remove specific requirements which do not directly contribute to achieving the desired performance requirements and which may hamper development of other suitable signals.

(3) Require representative testing to simulate actual use conditions to determine capability to withstand expected use conditions.

Section 2 of the present specification provides for consideration of alternate designs. However, questions have arisen concerning this provision. The specific values concerning dimensions and color of the container that do not directly affect desired performance have been deleted.

A representative open water test is proposed to provide for preapproval samples under simulated actual conditions.

#### **7e—INCOMBUSTIBLE MATERIALS**

Experience has shown that certain highly combustible low density products when tested in accordance with 46 CFR 164.009 pass the test by virtue of their extremely rapid combustion. This is caused by the delayed reaction time of the thermocouple which measures the temperature rise. If a material flashes, the thermocouple will not react fast enough to record the temperature rise. The proposed changes will amend the incombustibility test in section 164.009-3 to require that the specimen shall retain at least 50 percent of its original weight.

#### **7f—FIRE PROTECTIVE SYSTEMS**

Changes to 46 CFR 161.002 are proposed which pertain to the source of power for automatic fire detecting systems and are necessary to meet a forthcoming amendment to the International Convention for the Safety of Life at Sea, 1960. The addition of Part H of Chapter II (Regulation 121(f)) to SOLAS 60 will require all new passenger ships to have not less than two sources of power supply for the fire alarm and fire detection system, and each supply shall be provided by separate feeders reserved solely for that purpose.

#### **7g—ELECTRIC HAND FLASHLIGHTS**

Changes to Subpart 161.008, pertaining to explosion-proof flashlights, are proposed and will not impose additional requirements on the Marine Industry. Explosion-proof electrical equipment, labeled by Underwriters' Laboratories, is acceptable to the Coast Guard for use in the hazardous locations for which they are labeled. The Underwriters' Laboratories standard for explosion-proof flashlights is sufficient, and Coast Guard approval of these same flashlights is superfluous and unnecessary. The proposed changes will alter this specification to apply only to watertight flashlights, thereby eliminating the examination of explosion-proof flashlights by the Coast Guard. The procedure for approval is also changed to comply with present practice.

#### **ITEM PH 8-70—ELECTRICAL**

##### **8a—COMMUNICATIONS AND ALARM SYSTEMS EQUIPMENT**

Paragraph 46 CFR 113.25-10(a) specifically permits the General Alarm and other alarm systems to be supplied from a duplicate storage battery source and specifies an endurance under maximum load conditions. The regulation is remiss in that it does not specify an endurance under normal conditions and nothing prohibits the alarm circuits normal current demand from approximating its maximum load demand. Existing systems have normal current loads requiring almost daily recharging. The duplicate storage battery system is not considered acceptable for multi-alarm service unless the battery capacity is such as to require servicing not more than once a week. Systems requiring more frequent servicing should not be permitted.

The proposed changes to 46 CFR 113.25-10(a) will require a dual voltage system to have battery capacities sufficient to maintain the normal loads for a period of one week.

##### **8b—CLARIFICATION OF EXISTING REGULATIONS**

Minor changes to Parts 111, 112 and 113 of Subchapter J are proposed to clarify existing regulations.

##### **8c—MOTOR CIRCUITS AND CONTROLLERS**

It has been standard marine practice to require cable entrance plates for large motor controller enclosures. This is to permit the removal of the plate for drilling holes to accommodate terminal tubes. Recently, a controller manufacturer demonstrated that it is practicable and economical to omit the entrance plate and to punch the holes directly in the enclosure. Tools for this purpose are readily available. This method for drilling holes has been in general use for many years by the electrical indus-



try ashore. It is proposed to amend Subpart 111.45 to reflect this procedure.

#### **8d—DISTRIBUTION AND CIRCUIT LOADS**

The existing requirements of 46 CFR Table 111.50-20(a) are generally felt to be excessive. The changes proposed are relaxations to comply with the National Electric Code and IEEE recommended practices.

#### **8e—DEFINITION OF DRIPPROOF MACHINE**

A proposed change would update the definition of a dripproof machine to agree with a change to the NEMA Standard/MG-1-1968 from which the definition was derived. The change is minor and will not impose additional requirements on the marine industry.

#### **8f—REVISION AND REARRANGEMENT OF 46 CFR, PART III**

The Electrical Engineering Regulations have been in their present form since November 1952 when they were first issued. The original format was similar to that of the National Electric Code wherein the subject matter is listed by components. There have been frequent complaints by Inspection Personnel, Design Agents, and other users that the regulations are difficult to use. Therefore Part 111 has been revised in hope of making the contents easier to assimilate and use. Basically the new arrangement is by system rather than by components. The order is that of generator to switchboard to distribution to ultimate use. This has reduced considerably the required amount of cross-referencing that was previously required.

In addition to numerous editorial changes, the following substantive changes have been made to the text:

1. 111.05-5(b) has been expanded to include plan submittal to Comander, 9th Coast Guard District.

2. 111.05-5(d) The requirement for submittal of the following plans or data has been deleted: ventilation shutdown, motors, engine order telegraph system wiring diagrams, rudder angle indicator system, shaft speed system, gyro compass and gyro pilot systems, radio system, radar systems, loran system, and refrigeration spaces alarm system. Suitability of these systems is adequately determined by the required ship inspection program.

3. 111.05-5(d) A requirement has been added for the submittal of automated propulsion system schematic and logic diagrams and the associated operating, instruction maintenance manuals. Submittal of these items is necessary to determine the adequacy of a system to substitute for previously required watch personnel.

4. 111.05-10(c)(7) This inspection procedure has been amplified to assure installation of the correct overcurrent devices and to require the wiring diagram to be of a lasting material.

5. 111.05-10(c)(18) The inspection of automated systems has been specifically designated.

6. 111.05-10(d)(3) This inspection requirement has been amplified to assure that properly designed and rated motors have been installed.

7. 111.05-15(f)(2) This section was changed from 50 volts to 100 volts to be consistent with other sections of the regulations. The change does not make a significant difference since there are few if any systems with voltage between 50 and 100 volts.

8. 111.10-1(b)(2) This added alternative is a significant change from the existing regulations for two equally sized generators. However this only formalizes existing policy which permitted installations of this alternative type on recently constructed vessels.

9. 111.10-15(c) This has been changed to require heaters in all emergency generators. This is felt necessary to assure the units immediate operability. In practice nearly all emergency generators are so equipped.

10. 111.15-5(a) This has been changed to require Class I Group B in lieu of Group D explosionproof equipment in large battery compartments. This is in accordance with the accepted rating of a hydrogen atmosphere.

11. 111.30-1(d) This section has been updated to make steel enclosed switchboards standard.

12. 111.70-20(i) The requirements for cable entrance plates has been deleted to permit the use of drilled holes and proprietary type cable entrance fittings of equivalent tightness.

13. 111.70-30(e)(2)(iii) The overcurrent requirement has been raised from 115 to 125 percent to be consistent with other sections of the regulations.

14. 111.50-20(c) This section has been revised to require a fault current analysis for all electric plants with an aggregate generating capacity in excess of 750 kilowatts. This is necessitated by the increasing plant capacities and in particular the much larger fault currents available out in the system at the distribution panels. The previous rule of thumb gave no guidance for protection of branch circuits. This calculation is currently almost always provided.

15. 111.50-20 All reference to cascade type circuit protection has been deleted. Such systems are no longer used and the improved quality of molded case circuit breakers makes them unnecessary. This deletion corresponds to similar action by other regulatory or technical society actions. Any special case can always be considered under the equivalency clause.

16. 111.80-5(a) The definitions of hazardous locations have been updated to agree with the National Electric Code.

17. 111.80-5(a)(7) A note has been added that additional materials are assigned hazardous ratings in Subchapter O.

18. 111.80-5(e)(9) The maximum allowable temperatures for Class III locations has been included as in the National Electric Code.

19. 111.80-55 This section has been revised to delete the requirement for a special watertightness (spray) test. Standard watertight enclosures are considered adequate. Additionally, the requirement for equipment listing has been deleted. Equipment meeting the requirements of this section may be approved by the field offices for individual applications.

20. 111.80-65(b) (6) This paragraph has been revised to permit the installation of the disconnecting device within the cooking equipment itself.

21. 111.60-1(j thru n) The requirements concerning A. C. propulsion cables have been made applicable to A. C. cable in general. This is necessary since modern ship's service systems have the power of many older propulsion systems. The problem is related to the capacity of the system and not the service.

## **ITEM PH 9-70—MEASUREMENT OF VESSELS— LIMITATIONS OF DEEP FLOOR FRAMES, DOUBLE BOTTOMS, AND SIDE FRAMES**

Section 4153 of the Revised Statutes, as amended (46 U.S.C. 77), provides essentially that the depth of an under tonnage deck transverse section shall be taken down to the upper side of the floor timber. Section 69.03-33 of the Coast Guard Regulations (46 CFR 69.03-33), provides essentially that this depth shall be taken down to the upper side of the floor timber or floor plates; or bottom floors alongside the keelson; or longitudinals; or the tank top of a cellular double bottom, as the case may be. Admeasurement cases reviewed during the past several years indicate an increasing tendency to build up or install floors, double bottoms and bottom frames to such abnormal heights as to lead to the conclusion that the structures serve purposes other than those for which such structures are normally installed. The changes to the regulations are proposed to define the extent to which those structures will be considered to represent the "floor timber" for admeasurement purposes.

## **ITEM PH 10-70—DANGEROUS CARGOES**

### **10a—DANGEROUS CARGOES, MISCELLANEOUS CHANGES**

Various amendments to the Dangerous Cargo Regulations in 46 CFR 146 have been necessitated by corresponding changes made in the regulations of the Department of Transportation governing land transportation of the same commodities. R.S. 4472, as amended (46 U.S.C. 170) requires that the Coast Guard accept and adopt such definitions, descriptions, descriptive names, classifications, specifications of containers, packing, marking, labeling, and certification of explosives or other dangerous articles or substances to the extent as are or may be established from time to time by the Department

of Transportation insofar as they apply to shippers by carriers engaged in interstate and foreign commerce by water.

The transportation requirements for wet iron mass, wet iron sponge and wet iron oxide are deleted since the manufacturing process has been developed to such an extent that the material no longer has a self heating property.

The regulations applicable to transporting baled cotton (Section 146.27-25) are revised to provide the same requirements for vegetable fibers.

Several editorial changes are made to the military explosives regulations (46 CFR 146.29).

### **10b—TEST TO CO2 FIREFIGHTING EQUIPMENT**

During a fire in a cargo hold of a U.S. merchant vessel, the vessel's Type D CO2 fire extinguishing system was utilized. When the system was discharged, two of the system's flexible discharge lines ruptured. As a result of this casualty, sampling tests were conducted on several vessels in major ports. These tests revealed that some of these flexible connections failed even though they appeared satisfactory.

To prevent the chance of failures during emergencies, it is considered necessary that these connections be tested or renewed periodically. It is proposed to add a paragraph to this effect to 46 CFR 147.04-1.

## **ITEM PH 11-70—NUMBERING OF UNDOCUMENTED VESSELS**

### **11a—AMENDMENT OF FEES SCHEDULE**

It is proposed to revise 46 CFR Subpart 171.17 to increase the fee for the numbering of a vessel or renewal thereof. The fee for a three-year certificate of number would be increased from \$3.00 to \$6.00, since the cost of administering the program in those States that do not have an approved numbering system is about \$2.19 per year per certificate.

### **11b—VALIDATION STICKER**

In order to assure reasonable compliance with the Federal Boating Act of 1958 without devoting all enforcement efforts to stopping and boarding of numbered boats, the use of a visual validation sticker is proposed. At the present time, 26 of the States use such stickers and a color code has been established to indicate the year of expiration. This color code would be adapted.

Each sticker would be numbered to correspond with the bow number so that it could not be used with another number.

A proposed paragraph (46 CFR 171.15-12) sets forth the procedure to be followed in validation and for replacement of lost or destroyed stickers.

## SEAMANSHIP TROPHY WON BY SS AFRICAN STAR



Photo courtesy Flying Camera, Inc.

Oct. 10, 1969—Presentation of 1969 American Merchant Marine Seamanship Trophy to SS African Star. Left to right—Herman Cofield, B'sun; Thomas J. Smith, President Farrell Lines; Raymond Purnell, Asst. Pantryman; Captain Adorian W. Schodle, Master; James McCarthy, Second Mate; Raymond F. Tocci, 2nd Asst. Engineer; Hon. Andrew E. Gibson, Maritime Administrator; Herbert V. Woodger, Chief Engineer; James A. Farrell, Jr., Chairman of Board, Farrell Lines; Capt. F. Johansson, present Master SS African Star.

The SS *African Star* owned by Farrell Lines has been selected as the recipient of the 1969 American Merchant Marine Seamanship Trophy. The Seamanship Trophy is awarded in recognition of deeds exemplifying exceptionally high standards of seamanship and outstanding heroism.

The *African Star* was chosen in recognition of the heroic actions of her master and crew when the vessel, with 63 passengers and crew members aboard, was struck by the MV *Midwest Cities*, a barge laden with oil. This collision resulted in a disastrous fire. The captain and the crew of the

*African Star* fought the fire and took part in daring feats of seamanship that enabled rescue operations by helicopter, lifeboat and other assisting vessels to be carried out successfully. Though it was dark and hazy, the disruption that naturally followed the catastrophe was immediately brought under control by the ship's crew, who displayed a courage and devotion to duty that is synonymous with the high traditions of American merchant seamen. By concerted action, many lives were saved and the tragedy minimized. This unity between officers and crew is the essence of ship organization and is the foundation from which expert seamanship and unselfish heroism stem.

Outstanding on that day of many noteworthy actions by the officers and crew of the *African Star* were the deeds of Captain Adorian W. Schodle and Second Officer James McCarthy and Second Assistant Engineer Raymond F. Tocci.

Captain Schodle, master of the vessel, immediately recognized the gravity of the situation and directed the ship into the river bank where she was run hard aground. When the *African Star* was safely aground, Captain Schodle, after giving the required orders for the general safety, proceeded through the 'midship passageways which were engulfed in flames to aid in the search and rescue of surviving passengers. During the search in the smoke-filled quarters, Captain Schodle was required to extricate himself when trapped in a stateroom while searching for passengers and after assuring that passenger, officer and crew quarters were evacuated, although injured, he attempted to proceed back to the bridge, but due to his weakened condition from severe burns on his hands



and feet he had to be carried to the bridge. Although subjected to repeated fainting spells from the severity of his burns, he continued directing and encouraging his officers and crew in the rescue of survivors and in the firefighting. Refusing offered medical assistance—fearing that pain-relieving drugs might impair his ability to make sound judgments—Captain Schodde continued for over five hours to provide his ship with leadership and inspiration.

Second Officer James McCarthy raced to the hoat deck when he was alerted by the vessel's general alarm. There he gathered all dazed passengers and crew members in the vicinity and virtually herded them into a nearby room and closed the door against the inferno outside. The area was flooded by a lake of fire moments later, and it was apparent that Mr. McCarthy's quick action saved many lives. Emerging from the room, he participated in firefighting and rescue operations, assisting in extinguishing a fire in the starboard lifeboat and supervising its lowering into the river with several passengers and injured seamen. He sustained physical injuries during the tragedy, which subsequently required surgery.

Second Assistant Engineer Raymond F. Tocci assisted in safely evacuating the surviving passengers of the *African Star* and then turned to fighting the flames running rampant aboard the ship. He proceeded to the engine room, his post of responsibility, to aid in fighting the fire in that vital area. He remained at his post in the engineroom for more than 36 hours. ‡

## Use of "OBS" in Making Calls to Coastal Radio Stations

Frequently, radio officers report that they have experienced difficulty in delivering weather messages to

radio stations ashore. The chances of getting an answer when calling a shore radio station are increased if "OBS" is included in the ship's call, i.e., "WCC DE KABC OBS." This informs the operator at the radio station that the message rates the priority assigned weather messages by international radio regulations. ‡

—Mariners Weather Log

## Report Available

The Maritime Administration announced that it has copies available of a report on "Containerships under Construction and on Order (Including Conversions) in the United States and Foreign Shipyards, Ocean-going Ships of 1,000 Gross Tons and over, as of June 30, 1969" at its Public Information Office. The office is located at Room 3718, Commerce Department Building at 14th and Constitution Avenue NW., in Washington, D.C. ‡

## AIMS Pamphlet

The American Institute of Merchant Shipping, 1120 Connecticut Avenue NW., Suite 930, Washington, D.C. 20036 (AIMS), representing all elements of the merchant fleet, has produced a pamphlet, "All About AIMS" to explain the makeup and objectives of the management organization.

It was published to familiarize its own membership with AIMS varied activities, and as an informational guide to prospective members.

The 36-page booklet also will be circulated nationally to acquaint leaders in the Congress, in government agencies, in the business community and in the maritime industry with AIMS goals and functions, both national and international in scope. ‡

—Journal of Commerce

## Public Library of the High Seas

More than 4,800 library units, comprising about 60 hardcover and paperback books each, were put aboard American flag ships during 1968 by the American Merchant Marine Library Association, "The Public Library of the High Seas."

In its 47th annual report issued last fall, AMMLA said that in 4,074 ship services last year by its eight port offices 4,836 library units were put aboard U.S. merchant ships and vessels of the Coast Guard and other waterborne operations of the Government. The Association is the only national organization providing a sea-going library service exclusively to the men who sail American flag ships. Since the organization was established in 1921, the Association had provided 265,845 library units containing 16,031,492 books to the men who sail American ships.

Dependent on contributions for its book stocks, AMMLA last year received 258,210 hardcover books; 105,159 paperbacks and 399,611 magazines from 5,141 individuals and organizations. While the Association's total income for 1968 was \$127,738.87 against \$123,146.93 for 1967, its expenses rose from \$128,999.45 in 1967 to \$132,113.91 last year.

In addition to the sea-going library service, the non-profit Association also maintains shore library facilities at its port offices. Here, individual seamen may borrow specific titles as well as books of study for use during sea voyages. A unique feature of the shore library permits the borrower to return the books to any AMMLA port office. With national headquarters at 1 Bowling Green, New York, N.Y., the Association maintains port offices at Boston, Norfolk, New Orleans, San Pedro (California), San Francisco, Seattle and Sault Ste. Marie, Michigan. ‡

# AMENDMENTS TO REGULATIONS

## Title 46 Changes

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

#### **SUBCHAPTER A—PROCEDURES APPLICABLE TO THE PUBLIC**

##### **SUBCHAPTER O—CERTAIN BULK DANGEROUS CARGOES**

### **PART 6—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS**

#### **PART 154—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS**

##### **Miscellaneous Amendments**

On March 24, 1969, the Merchant Marine Council held a public hearing on a number of proposed items of rule making that were published in the *FEDERAL REGISTER* of February 7, 1969 (34 F.R. 1831), and in the Merchant Marine Council Public Hearing Agenda dated March 24, 1969 (CG-249). Item PH 1-69 proposed to change the heading of Subchapter O from "Regulations Applicable to Certain Vessels During Emergency" to "Certain Bulk Dangerous Cargoes" in order to develop regulations for water transportation of all bulk dangerous cargoes having hazards other than, or in addition to, the conventional flammability and combustibility of petroleum products. Item PH 1-69 stated that the existing regulations in Subchapter O would be transferred to Part 6 of Subchapter A of Title 46, Code of Federal Regulations. This document accomplishes this transfer. The publication of regulations in Subchapter O relating to bulk dangerous cargoes will be accomplished by subsequent documents.

Section 154.20 which is being redesignated § 6.20 by this document grants a waiver of the provisions of section 672 of Title 46, United States Code. Paragraph (b) permits the issuance of a Merchant Mariner's Document with a rating of "Able Seaman—Any Waters—12 months" to any person who (1) has successfully completed a Coast Guard approved course in a training school conducted by a recognized maritime union or nonprofit organization, (2) has satisfactory evidence of service in the deck department of a merchant vessel for at least 6 months, and (3) has passed the required professional and physical examinations described in Part 12, 46 CFR. Paragraph (c) permits the issuance of a Merchant Mariner's Document with a rating, "Qualified Member of the Engine Department" (QMED) to any person who (1) has successfully completed a Coast Guard approved course in a training school conducted by a recognized maritime union or nonprofit organization, (2) has satisfactory evidence of service in the engine department of merchant vessels for at least 3 months, and (3) has passed the required professional

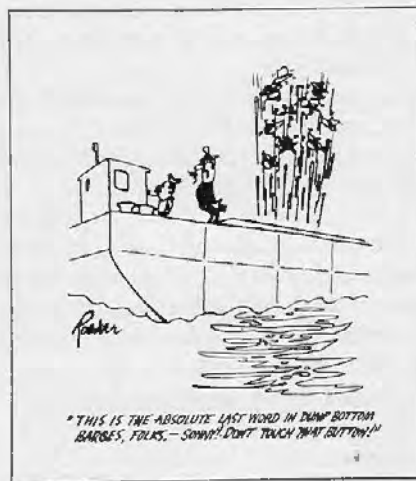
and physical examinations described in Part 12. Paragraph (g) provides that these waivers shall remain in effect until December 31, 1969.

These waiver orders which became effective on September 7, 1967, were predicated on a shortage of qualified persons in both the deck and engine departments to man the merchant vessels of the United States. In view of their imminent expiration the Coast Guard addressed inquiries to the marine industry as to the need for the continuation of these waiver orders beyond December 31, 1969. All segments of the industry, management, unions, and Government agencies, agree that the shortage of seamen still exists and that the waiver orders should be continued beyond December 31, 1969. In addition, the Merchant Marine Council Committee has recommended the extension of these waivers until December 31, 1971. Based on these views and recommendations the Commandant hereby approves the extension of these waivers until December 31, 1971. In the light of these circumstances, it is hereby found that compliance with the provisions of the Administrative Procedure Act relating to notice of proposed rule making, public procedures thereon and effective date requirement is impracticable and unnecessary.

1. Part 154 of Subchapter O, Chapter I of Title 46 of the Code of Federal Regulations is redesignated as Part 6 of Subchapter A, Chapter I of Title 46.

2. As redesignated, the authority note for Part 6 following the table of contents is revised to read as follows:

**AUTHORITY:** The provisions of this Part 6 issued under sec. 1, 64 Stat. 1120, sec. 6 (b)(1), 80 Stat. 937; 46 U.S.C. Note prec. 1, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2).



3. As redesignated § 6.20(g) is revised to read as follows:

§ 6.20 Service requirements for certification as able seaman or qualified member of the engine department.

\* \* \* \* \*

(g) This waiver order shall remain in effect until December 31, 1971, unless sooner terminated by notice of cancellation published in the FEDERAL REGISTER.

4. The heading for Subchapter O, Chapter I of Title 46, Code of Federal Regulations is changed as set forth above.

(R.S. 4405, as amended, 4462, as amended, sec. 1, 64 Stat. 1120, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 46 U.S.C. Note prec. 1, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

*Effective date.* These amendments shall become effective on the date of their publication in the FEDERAL REGISTER.

Dated: November 26, 1969.

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

[F.R. Doc. 69-14237; Filed, Dec. 1, 1969; 8:48 a.m.]

(Federal Register of December 2, 1969.)

## Chapter I—Coast Guard, Department of Transportation

### SUBCHAPTER M—BULK GRAIN CARGOES

## PART 144—LOADING AND STOWAGE OF GRAIN CARGOES

### Equivalent Set of Bulk Grain Regulations

Subchapter M was last amended by a document published in the FEDERAL REGISTER of March 19, 1966 (31 F.R. 4209) as a result of a number of casualties involving vessels transporting bulk grain cargoes. The purpose of this amendment was to require the use of centerline divisions in and below the "feeders". It was concluded that without these divisions the uninhibited flow of the grain athwartship produced adverse heeling which reduced the vessel's safety. However, at the time this amendment was made it was recognized as only an interim

measure pending the results of further study and research into the nature of the behavior of bulk grain cargoes on board vessels. Since then research into this problem has been carried on under the aegis of the U.S. Solas Subcommittee Working Group on Subdivision and Stability and its panel on Bulk Cargoes. As a result of this study an alternative set of bulk grain regulations has been developed. This alternative employs an engineering approach that treats each vessel in terms of its ability to carry bulk grain from the standpoint of stability considerations. For each given loading arrangement account is taken of the heeling moment which can occur due to a shift of the grain. The vessel's stability under those conditions is compared with minimum criteria of heel angle, dynamical stability, and metacentric height (GM). The required grain fittings are those necessary to restrict the total heeling moment to that value which can be accommodated by the stability characteristics of the particular vessel.

This alternative method of demonstrating satisfactory stability is deemed to represent an improvement over the requirements presently contained in Subchapter M and its use

is encouraged by the Coast Guard. It must, however, be used in its entirety and not in combination with any portion or portions of the existing requirements. It is also recognized that a final evaluation of the new requirements cannot be made until after a reasonable trial period, expected to be about 3 years. Accordingly, it has been decided for the present to permit the owners of vessels at their option to utilize these requirements instead of the existing requirements in Subchapter M. It is anticipated that after this trial period, Subchapter M will be revised on the basis of the experience gained. Because of the approach of the winter season, it has been determined that the use of this alternative should be permitted without further delay.

The alternative regulations are set forth in detail in Navigation and Vessel Inspection Circular No. 10-69 dated November 20, 1969. This document amends Subchapter M by authorizing the owners or masters of vessels to utilize the new requirements as a total alternative to the existing requirements of Subchapter M.

Since the effect of this amendment is permissive and time is of the essence, it is hereby found to be unnecessary and impracticable to comply with the requirements of the Administrative Procedure Act relating to notice of proposed rule making, public procedure thereon, and the effective date. Therefore, this amendment is exempted from these requirements by the provisions of 5 U.S.C. 553.

1. Section 144.10-1 is revised to read as follows:

#### § 144.10-1 Scope.

(a) The regulations in this part contain the minimum requirements for the handling, stowage, and transportation of loose grain in bulk on board vessels. However, instead of complying with the regulations in this subpart, the owner or master of any vessel may, at his option handle, store, and transport loose grain in bulk in accordance with the provisions of

### Approved Equipment

### Commandant Issues Equipment Approvals; Terminates Others

U.S. Coast Guard approval was granted to certain items of lifesaving, and other miscellaneous equipment and materials. At the same time the Coast Guard terminated certain items of lifesaving, and other miscellaneous equipment and materials.

Those interested in these approvals should consult the Federal Register of December 13, 1969, for detailed itemization and identification.



Navigation and Vessel Inspection Circular No. 10-69 dated November 20, 1969. This circular may be obtained from the Commandant (CAS-2), U.S. Coast Guard Headquarters, Washington, D.C. 20591, or at any Coast Guard Marine Inspection Office.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2))

*Effective date.* This amendment shall become effective on the date of its publication in the FEDERAL REGISTER.

Dated: December 1, 1969.

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

[F.R. Doc. 69-14459; Filed, Dec. 3, 1969;  
8:51 a.m.]

(Federal Register of December 4, 1969.)

## AFFIDAVITS

The following affidavits were accepted during the period from November 15 to December 15, 1969:

*Hoke Manufacturing Co.*, P.O. Box 501, Tenafly, N.J. 07670, FITTINGS.

*Maxter Metals Corp.*, 10 East 40th St., New York, N.Y. 10016, FITTINGS & FLANGES.

## NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 10-69

20 November 1969

Subj: 1969 Equivalent to Subchapter M—Rules and Regulations for Bulk Grain Cargoes

### PURPOSE

To publish an equivalent set of bulk grain requirements as an alternative to the existing Rules and Regulations for Bulk Grain Cargoes, Subchapter M (CG-266).

### BACKGROUND

Due to a number of casualties to bulk grain laden vessels, the original text of Subchapter M was amended by Federal Register document 66-13, dated 10 March 1966. This was an interim measure pending the results of studies and research, then underway, to uncover the true nature of grain behavior aboard ships. This work was carried out under the aegis of the U.S. SOLAS Subcommittee Working Group on Subdivision and Stability and its Panel on Bulk Cargoes. Use of the subject equivalent requirements, developed from these studies, is strongly encouraged by the Coast Guard as a total alternative to the present text of Subchapter M.

### DISCUSSION

These equivalent requirements employ an engineering approach that treats each vessel in terms of its own ability to carry bulk grain from the standpoint of stability consideration. For each given loading arrangement account is taken of the heeling moment which can occur due to a shift of grain. The vessel's stability under those conditions is compared with minimum criteria of heel angle, dynamical stability and metacentric height (GM). The required grain fittings are those necessary to restrict the total heeling moment to that value which can be accommodated by the stability characteristics of the vessel.

To keep the basic computations, which assure compliance with the requirements, to a minimum and not exceed the work asked of masters under the present Subchapter M, a standard approach has been developed. The format is comprised of a basic GM calculation used in conjunction with a table of allowable heeling moments and one of actual heeling moments. Prior to loading grain shipboard personnel need only to perform a simple GM

calculation to determine the virtual, vertical center of gravity (VCG) and displacement for the anticipated stowage arrangement. Volumetric moments for the grain laden compartments, taken from a table, are added and converted into foot-tons by dividing by the stowage factor of the grain cargo. This value is compared to the maximum allowable heeling moment, for the derived displacement and virtual VCG, taken from that table. In the event the actual heeling moment exceeds the allowable heeling moment, another arrangement which will limit the shift of grain and produce less heeling moment must be chosen.

### ACTION

Owners may utilize the provisions of Enclosure (1), 1969 Equivalent to Subchapter M—Rules and Regulations for Bulk Grain Cargoes in lieu of the provisions of the existing Subchapter M. However, this equivalent shall be used in its entirety and not in combination with any portion or portions of the existing regulations.

The tables described in the discussion above should be prepared, from valid stability data, by Naval Architects and furnished to the ship's Master by the owner. Details and guidance in preparing this information may be obtained from either Coast Guard (MMT) offices or National Cargo Bureau, Inc., 99 John Street, New York, N.Y. 10038.

The use of this method is not mandatory since the presentation of such information in any other practical simplified form which effectively demonstrates compliance with the requirements may also be accepted.

### EFFECTIVE DATE

The subject equivalent will become effective on 1 December 1969. It is anticipated that after a trial period, expected to be about three years, Subchapter M will be amended based on experience with these equivalent regulations. At that time all U.S. vessels will be expected to comply.

Copies of this circular with Enclosure (1) may be obtained at the local marine inspection office or by writing Commandant (CAS-2), U.S. Coast Guard, Washington, D.C. 20591.

## MERCHANT MARINE SAFETY PUBLICATIONS

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

The Federal Register will be furnished by mail to subscribers, free of postage, for \$2.50 per month or \$25 per year, payable in advance. The charge for individual copies is 20 cents for each issue, or 20 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1969 are now available from the Superintendent of Documents; price: \$3.75.

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7-1-63).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (5-1-68).
115	Marine Engineering Regulations and Material Specifications (3-1-66). F.R. 12-6-66, 12-20-67, 6-1-68, 12-18-68.
123	Rules and Regulations for Tank Vessels (5-1-69). F.R. 10-29-69.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (9-1-65). F.R. 12-8-65, 12-22-65, 2-5-66, 3-15-66, 7-30-66, 8-2-66, 9-7-66, 10-22-66, 12-23-67, 6-4-68, 10-29-69, 11-29-69.
172	Rules of the Road—Great Lakes (9-1-66). F.R. 7-4-69.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-65).
176	Load Line Regulations (1-3-66). F.R. 12-6-66, 1-6-67, 9-27-67, 7-12-68, 6-5-69, 7-26-69, 10-12-69.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
184	Rules of the Road—Western Rivers (9-1-66). F.R. 9-7-66, 5-11-67, 12-23-67, 6-4-68, 11-29-69.
190	Equipment Lists (8-1-68). F.R. 11-7-68, 11-8-68, 11-16-68, 11-19-68, 11-20-68, 12-11-68, 12-18-68, 2-11-69, 2-18-69, 2-21-69, 2-26-69, 3-15-69, 3-27-69, 4-4-69, 4-12-69, 4-19-69, 4-25-69, 4-26-69, 4-28-69, 5-3-69, 5-9-69, 6-18-69, 6-19-69, 7-1-69, 7-15-69, 7-17-69, 9-12-69, 9-25-69, 10-10-69, 10-11-69, 10-22-69, 10-31-69, 11-19-69, 12-13-69.
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (5-1-68). F.R. 11-28-68.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4-1-57).
227	Laws Governing Marine Inspection (3-1-65).
239	Security of Vessels and Waterfront Facilities (5-1-68). F.R. 10-29-69.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (5-1-69). F.R. 10-29-69.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (8-1-69). F.R. 10-29-69.
258	Rules and Regulations for Uninspected Vessels (3-1-67). F.R. 12-27-67, 1-27-68, 4-12-68, 12-28-68, 3-27-69, 10-29-69.
259	Electrical Engineering Regulations (3-1-67). F.R. 12-20-67, 12-27-67, 1-27-68, 4-12-68, 12-18-68, 12-28-68, 10-29-69.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69.
268	Rules and Regulations for Manning of Vessels (5-1-67). F.R. 4-12-68.
293	Miscellaneous Electrical Equipment List (9-3-68).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (11-1-68). F.R. 12-17-68, 10-29-69.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (7-1-69). F.R. 10-29-69.
329	Fire Fighting Manual for Tank Vessels (7-1-68).

### CHANGES PUBLISHED DURING DECEMBER 1969

The following have been modified by Federal Registers:  
 Subchapters A and O, Federal Register, December 2, 1969.  
 CG-266, Federal Register, December 4, 1969.  
 CG-190, Federal Register, December 13, 1969.  
 Subchapter G, Federal Register, December 23, 1969.

