PROCEEDINGS
OF THE MARINE SAFETY COUNCIL

DEPARTMENT OF TRANSPORTATION — UNITED STATES COAST GUARD

Vol. 32, No. 5 — CG–129 — May 1975

IN THIS ISSUE . . .

Lessons

English as a Universal Nautical Language

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FEATURES

DEPARTMENTS

FRONT COVER

When is a ship not a ship? When it's a hydrofoil crusing above the waves at 50 miles per hour. Boeing Aerospace Company built this Jetfoil 929–100 for use as a passenger vessel.

BACK COVER

Union Mechling Corporation's *Jason,* now plying the lower Mississippi River, was christened in September 1974. Dravo Corporation built the 10,500 horsepower vessel.

DIST. (SDL No. 100)
A: abcde(2), fhklmntuv(1)
B: n(40); c(6); e(5); f(4); ghj(3); r(2); bkipq(1)
C: egmp(1)
D: i(5); adgklm(1)
E: mn(1)
F: kp(1)
Lists TCG–06, CG–13, CG–20

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PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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Lieutenant (jg) G. D. Szczurek, Editor

Lessons from Casualties

Double Jeopardy

On the evening of September 22, 1973, a Liberian freighter proceeded up the Sacramento River from San Francisco enroute Berth 5, Port of Sacramento. Arrangements had been made for a tugboat to assist in the berthing operation. A twin-screw, 520-hp vessel, driven by four diesel engines, two on each shaft, with a rudder and a monkey rudder in line with each screw was dispatched. At approximately 1941, the two vessels rendezvoused near Beacon 99 on the western approach to the Sacramento turning basin.

The tug took a position on the port bow of the merchant vessel. The tug's two bow lines were rigged through fairleads and onto two bitts on the freighter about 50 feet forward and 50 feet aft of the tug's bow. The lines were pulled taut and secured to the "H" bitt on the tug's forecastle.

The pilot requested the tug to come ahead with just the tug's two bow lines secured while the merchant vessel was moved slowly ahead under her own power. The plan was to turn the merchant vessel to starboard through approximately 270° as they crossed the Sacramento turning basin.

The tug, with her engines ahead full and rudder at right full, was able to keep an effective working angle and began to swing the merchant vessel's bow to starboard. The tug's efforts to maintain a large working angle resulted in her taking on a considerable port list due to the headway of ther merchant vessel. The list increased and allowed water to flood into the tug's engineroom through the open centerline companionway and/or through the four open portholes on the port side of the engineroom fiddley. The amount of water shipped was sufficient to raise the depth of the water in the bilges from 4 or 5 inches to about 9 inches.

After receiving a routine "stop order" at about 1951, the tug took her two starboard engines off their propulsion shaft and used them to operate her bilge pump. During this lull in operation most of the excess water was pumped from the tug's engine room and the attachment of the "lazy stern line" was completed. This led from the tug's towing bitt around another bitt on her starboard side and spanned about 100 feet to the main deck of the merchant vessel. The lazy stern line would prevent the stern of the tug from swinging toward the bow of the merchant vessel while the merchant vessel was backing.

At about 1955, the pilot ordered the tug to take the starboard swing off the bow of the merchant vessel. The captain of the tug, feeling that the tug was pumped down enough to have satisfactory stability, responded by backing the tug's engines. The tug then continued to follow engine orders from the pilot as he began to back the freighter into Berth 5 using the ship's engines from slow to half astern. The pilot did not forewarn the tug captain of his intention to back the engines. The pilot stated that "ordinarily" there was no danger in the use of a "lazy stern line".

At approximately 2000, with the merchant vessel about 100 to 50 feet off the dock and making slight sternway, the Captain of the tug observed heavy wash coming from the freighter's screw and asked the pilot to slow. (While there is no evidence or claim of verbal response to this request, the bell books show a reduction from half astern to slow astern at 2001). A few seconds later the tug captain reported a "bad list." Immediately, the pilot of the merchant ship ordered "full ahead" and let go the starboard anchor. As he gave these orders he rushed to the port bridge wing to observe the tug lying on her starboard side.

Almost immediately water began to flood through the open companionway and starboard fiddley portholes into the tug's engineroom. As the tug lay on her starboard side and began to sink by the stern, her three man crew scrambled to her bow where they held on until rescued.

On seeing the plight of the tug, the pilot of the merchant vessel called another tug, which he knew to be in the area, to pick up the survivors.

After the second tug picked up the crew of the sunken tug she assisted in bringing the freighter alongside Berth 5. When the tug had finished with the merchant vessel, at about 2113, she went directly to assist another vessel which was to depart from nearby Berth 2. Since this vessel was the tug's originally scheduled job, and there had already been a delay, the crew of the sunken tug decided to stay in the warmth of the galley until the latter tug was finished for the night. The tug proceeded to assist the merchant vessel in backing from Berth 2 and turning around in the Sacramento turning basin, so that she might proceed down the river.

The pilot aboard the merchant vessel directed the tug to pass a single line through the center stern chock about 32 feet above the water surface. After about 90 feet of line was passed and secured to the freighter as directed, the other end was belayed to

the tug's H-type towing bit, about 24½ feet forward of the tug's stern and about 5 feet from the waterline. With the tug going "full head" and pulling at various angles off the stern of the merchant ship, and the ship assisting by slowly and intermittently backing her own engines, the merchant vessel began to back into the turning basin.

As the freighter began to leave Berth 2 the pilot ordered the starboard anchor, which had been dropped during mooring, to be housed. However, with sternway on the ship, the anchor was dragging and could not be hauled in. At this point, in an effort to take sternway off and facilitate recovery of the anchor, the pilot gave a "slow ahead" order followed shortly by a "full ahead" order.

The tug was at this time slightly to starboard of the extended centerline of the merchant ship, pulling almost straight away. The captain of the tug said he "had a little bit right rudder" in an attempt to settle his tug straight astern of the ship. While in this position the wash from the larger vessel's forward turning propeller struck the tug.

Within a period of about 20 seconds, with the force of the propeller wash working against the force of the tow line, the tug turned sharply to port and rolled on her port side. The tug immediately began to fill with water and sink.

The capsizing of the tug forced the six men aboard, including the three rescued from the first tug, into the water. After entering the water they were swept away from the tug and the merchant vessel by the propeller wash.

Five of the six men were able to swim ashore or were assisted ashore by the West Sacramento Fire Department and Yolo County Sheriff's Department personnel. An extensive search that night for the missing crewman was unsuccessful. On September 26, 1973, the body of the sixth crewman was recovered. The coroner's examination revealed that death was caused by drowning.

These two casualties are classic examples of the hazards associated with tugs assisting in docking of large vessels which, by amazing coincidence, occurred within hours of each other, in the same turning basin, and involved some of the same personnel. The cases clearly point out some significant factors in tugboat tripping—the adverse effects of propeller wash, and the need for pilots, masters, and tug crews to be eternally vigilant for the unexpected.

Rig Blast

Recently, an explosion occurred in a column of a semisubmersible drilling rig under construction. Two shipyard workers who were spray painting in the column at the time of the blast were killed. The paint being used by the workers, which was considered to be the source of the explosive mixture, is an epoxy type that is in use worldwide. At the time of the explosion, work was over 95 percent complete and the rig was receiving its final coats of paint along with other minor outfitting work.

The four corner columns of the rig consist of an outer ring or shell approximately 30 feet in diameter and an inner ring or shell approximately 22 feet in diameter. It is 110 feet from the base line to the top of each column with decks at the 50-, 70-, 100- and 110-foot levels. Each column is partitioned with an intricate series of bulkheads and horizontal stiffeners to afford proper strength to the column.

At the 100-foot level, the bulkheads are continuations of the upper hull bulkheads with lightening holes cut in them to provide both air circulation and access for inspection, cleaning, and maintenance. However, the lightening hole was inadvertently omitted at the bulkhead between the outer and inner shells where the explosion occurred.

During the course of the rig construction, the spray painters applied a primer, an intermediate coat to seal the primer, and a finish coat consisting of a two-pack cured epoxy. The flash point for the finish coat, which was being applied at the time of the explosion, was 73° F.

Ventilation in the columns while painting was provided by two 12-inch exhaust hoses. One was placed in the center of the column, one reached into the space being painted, and both discharged the air on deck. Air was exhausted through the hose by means of air operated, turbine driven blower-exhausters similar to those in common use throughout the shipbuilding industry. There was no air forced into the column and there were no openings in the sides of the column at any level.

Lighting was normally provided in the columns for the painters by means of explosionproof portable lights, with rubber covered sockets, an explosionproof globe, and a wire cage around the globe. Other lights, used extensively by the shipyard for other operations, consisted of a long portable cord with clip-on sockets and bare light bulbs, sometimes covered by a wire cage, but more often not covered at all. These clip-on sockets frequently fell off, leaving two small holes in the insulation and exposing the bare wires underneath.

After the explosion, one explosionproof portable light and one portable light with a wire cage were found in the area where the painting was being done. Other portable lights were found in other parts of the column but these were probably not plugged in.

The closest hot work being performed on the rig at the time of the explosion was some burning being done on a knee brace at about the 110-foot level, approximately 180° from the point of the explosion and approximately 30 feet away. Best accounts indicate that the burning had been taking place no more than 5 minutes prior to the explosion.

Spray painting of the finish coat in the starboard aft column began in the afternoon on the day prior to the casualty and continued into the evening. Work was resumed the following morning and continued with-

out interruption until the explosion at 1700. At the time of the explosion the weather was clear, with the temperature reading approximately 80° F.

Investigators noted that the explosion resulted from the ignition of combustible gases produced from the spray painting process. While the source of the ignition was not positively identified, there were numerous pieces of equipment in use by the painters that were capable of producing an incendiary spark. In addition, it was likely that the temperature inside the column was higher than flash point of the paint.

The lessons pointed out by this casualty should be noted by everyone involved in the seemingly "safe" operation of painting. Care must be taken to properly ventilate a space where spray painting is being carried out. Accurate data should be available to a shipyard to show the necessary air change rate that is required to keep the air mixture out of the explosive range.

Dead air spaces should be kept to an absolute minimum and hot work should always be closely supervised to ensure that it will not provide the source of ignition for explosive vapors. Care should be taken to recognize the potential danger when ambient temperatures approach or reach the flash point of the material being applied. Finally, only explosion-proof lights and properly grounded equipment should be used when vapor concentrations are within the explosive range.

Steering Gear Failures

Review of at least two steering gear casualties pointed out an area of potential failure with shipboard steering gear. In one case the failure led to a catastrophic casualty with the loss of 16 lives and nearly $50 million of property damage; in the other, fortunately, no damage resulted.

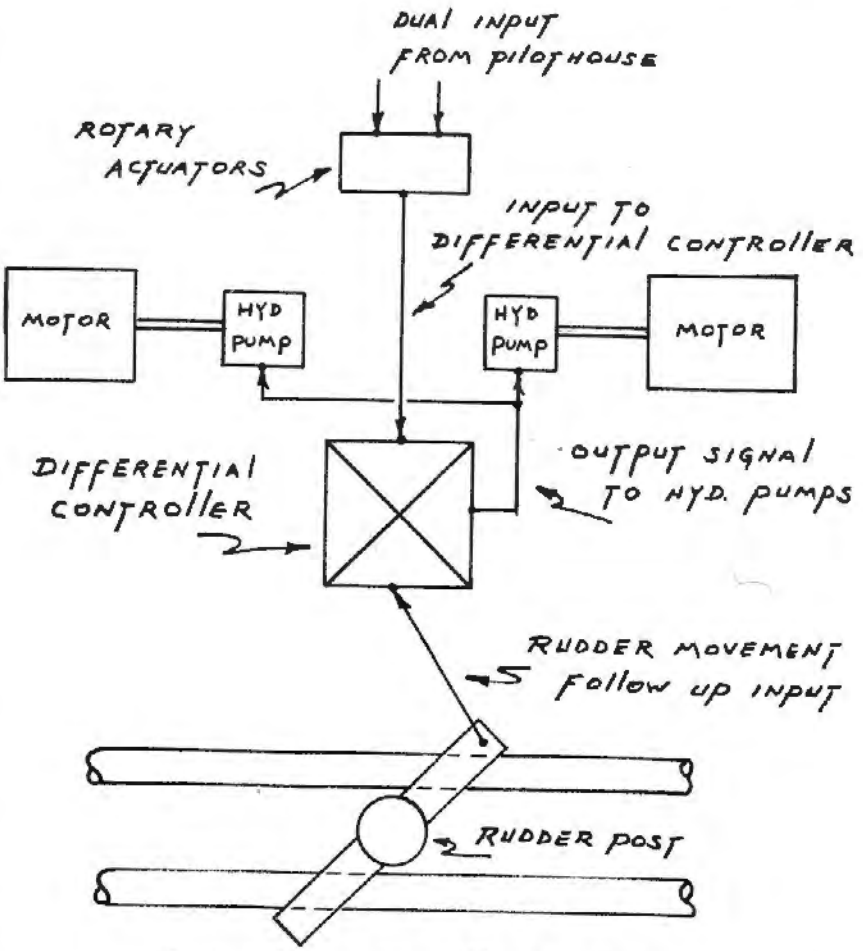
Steering gear, as all deck and engineering personnel are aware, has many redundant components, such as electrical sources of supply, motors, and hydraulic pumps. These are required by regulation and are found aboard all vessels. However, there are points in each system where duplication is not required and where failure would render the equipment inoperative.

The most significant of these is the differential controller, a gear box which receives a helm order signal, a follow-up signal, and provides an output signal to the main hydraulic pumps. These signals are transmitted by rotating shafts or plungers which may be connected by various type couplings and universal joints held in place with taper pins, keys, set screws, cotter pins, or compression pins.

The controller is generally mounted on the steering gear platform adjacent to the other components. The "trick wheel" is also directly connected to the differential controller. Service has shown this piece of equipment to be extremely reliable; thus no requirement has been established for its duplication. What has failed, however, is the connecting linkage between the differential controller and the other components.

Although the report from the Marine Board of Investigation concerning the collision between the C.V. *Sea Witch* and S.S. *Esso Brussels* has not received final review, the preliminary findings attribute that casualty to failure of a connection between the differential controller and the helm order input shaft. Another vessel recently experienced complete loss of steering when a coupling connecting

(*Continued on page 74.*)



Typical Steering Gear Differential Control

IMCO URGES TRIAL USE OF STANDARD MARINE NAVIGATION VOCABULARY

Numerous collisions and near-misses between ships over the years have highlighted the need for a rapid ship-to-ship voice communications system. The International Telecommunications Union last year designated channel 16 (156.80 MHz) as the VHF–FM International Distress, Safety and Calling frequency. In U.S. inland waters the Bridge-to-Bridge Radiotelephone Act of 1972 requires ships (except those operating under Great Lakes Rules of the Road) to be capable of receiving and transmitting on channel 13 (156.65 MHz). Great Lakes vessels monitor channel 16 or one of several local frequencies.

Although these lines of communication between vessels have been opened in recent years, the technical advances have not surmounted the last obstacle to effective ship-to-ship communication: the language barrier that exists between ships of differing nationalities. Recognizing that voice communications systems cannot be effective until all parties speak and understand the same "language", the Maritime Safety Committee of the International Maritime Consulative Organization (IMCO) has developed a Standard Marine Navigation Vocabulary for use on a trial basis.

This vocabulary is the product of a Maritime Safety Committee working group composed of representatives of the Federal Republic of Germany, Finland, Greece, Liberia, Union of Soviet Socialist Republics, and the United Kingdom. After concluding that the English language is the closest to a universal tongue among the world's mariners, the working group drafted a glossary of standard nautical terms and phrases in English to be used in all ship to ship communications. It is hoped that by using a standard phraseology between English-speaking ships, clarity of communications will be improved and fewer repetitions required, especially under conditions of poor radio reception. The use of a standard vocabulary will also allow non-English-speaking watchstandards to communicate phonetically, if necessary, and to utilize the voice communication network more fully.

IMCO has asked all member governments to conduct trials of the vocabulary, a portion of which is reprinted below. The remainder will appear in serial form in future issues of the *Proceedings*. Keep this vocabulary handy for reference on the bridge of your vessel. U.S. ships are requested to use the words and phrases as often as possible, both in conversation with foreign-flag vessels and with English-speaking vessels. Comments on the use of this procedure are welcomed and may be directed to Commandant (G–WLE–4), U.S. Coast Guard, Washington, D.C. 20590.

Note.—Only the letter spelling table as contained in Chapter X of the International Code of Signals and in the radio regulations is to be used on any occasion when spelling is necessary.

These phrases are not intended to supplant or contradict the International Regulations for Preventing Collisions at Sea or special local Rules or Recommendations made by IMCO concerning ships' routing schemes. Neither are they intended to supercede the International Code of Signals and the Radio Regulations nor to supplant normal Radiotelephone practices as set out in the ITU Regulations.

It is not intended that use of the vocabulary shall be mandatory, but rather through constant repetition in ships and in training establishments ashore, that the phrases and terms used will become those normally accepted and commonplace among seamen. Use of the contents of the vocabulary should be made as often as possible in preference to other wording of similar meaning.

In this way it is intended to become an acceptable "language," using the English tongue, for the interchange of intelligence between individuals of all maritime nations on the many and varied occasions when precise meanings and translations are in doubt, increasingly evident under modern conditions at sea.

The typographical conventions used throughout most of this vocabulary are as follows:

[ ] brackets indicate that the part of the message enclosed within the brackets may be added where it is relevant.

/ oblique stroke indicates that the items on either side of the stroke are alternatives.

. . . dots indicate that the relevant information is to be filled in where the dots occur.

PART I
PROCEDURE

Should it be necessary to indicate that phrases in this vocabulary are to be used the following message may be sent:

"Please use the Standard Marine Vocabulary."

STANDARD VERBS

Where possible sentences should be introduced by one of the following verb forms:

Indicative	Negative	Interrogative
I require	I do not require	Do you require?
I am	I am not	Am I?
I have	I do not have	Do you have?
I can	I can not	Can I (is it possible)?
I wish to	I do not wish to	Do you wish to?
I will (future)	I will not (future)	
You must [1]	Do not [1]	
You may	You need not	May I (permission)?
You are	You are not	Are you?
Advise [1]	Advise not [1]	What is?/are?

[1] **Note.—"You must", "do not" are to be used when mandatory orders are being given; "Advise", "Advise not" are to be used when recommendations are being given. The interrogative may be preceded by the use of the word "question".**

RESPONSES

Where the answer to a question is in the affirmative say:

"YES" followed by the appropriate phrase in full (e.g. yes my radar is working).

Where the answer to a question is in the negative say:

"NO" followed by the appropriate phrase in full (e.g. no my radar is not working).

Where the information is not immediately available but soon will be say:

"WAIT."

Where the information cannot be obtained say:

"NO INFORMATION."

URGENT MESSAGES

"ATTENTION . . ." Repeated if necessary, may be used at the beginning of an urgent message.

MICELLANEOUS PHRASES

What is your name and call sign?

How do you read me?

I read you strength . . .

1 (very weak)/2 (weak)/3 (fairly good)/4 (good)/5 (very good).

You are very weak (advise try channel . . .).

Standby on radio channel . . .

Change to channel . . .

I cannot read you. (Pass your message through vessel . . .)

I cannot understand your language. Please use the Standard Marine Vocabulary/International Code of Signals.

I am passing a message for vessel . . .

Say again.

Correction . . .

BEARING AND DISTANCES AND COURSES

When given from shore-based radar to vessels Bearings and Distances shall normally refer to the stem of the vessels concerned, unless otherwise stated.

DISTANCES.—To be expressed in nautical miles or cables (tenths of a mile), or in kilometres or metres, the unit always to be stated.

VISIBILITY DISTANCES.—To be expressed as for distances above.

BEARINGS AND COURSES.—Always to be expressed in the 360° notation from NORTH. (True north unless otherwise stated.) Bearing is always that of the ship from the mark.

SPEED

To be expressed in knots (or decimals).

NUMBERS

Numbers are to be spoken thus "One-Five-Zero" for 150. "Two point five" for 2.5.

GEOGRAPHICAL NAMES

Place names used should be those on the chart or Sailing Directions in use. Should these not be understood latitude and longitude should be given.

TIME

Times should be expressed in the 24-hour notation indicating whether GMT zonetime or local shoretime is being used.

NOTE.—In cases not covered by the above phraseology normal R/T practice will prevail.

PART II
GLOSSARY

Anchor position.—Place where a specific ship is anchored or is to anchor.

Berth.—General term for wharf, jetty, quay, pier, or mooring place.

"Correction".—An error has been made in this transmission, the corrected version is . . .

Deep water route.—A designated area within definite limits which has been accurately surveyed for clearance of sea bottom and submerged obstacles to a minimum indicated depth of water.

Anchor dragging.—An anchor moving over the sea bottom involuntarily by the movement of a ship.

Dredging anchor.—Vessel moving, under control, with anchor pulling along the sea bottom.

Draught.—Depth from waterline to ship's bottom, maximum unless otherwise specified.

Established.—Of a navaid—brought into service, placed in position.

"ETA".—Estimated time of arrival.

Fairway.—Navigable part of waterway.

Fairway speed.—Mandatory speed in a fairway.

"Foul, my anchor is".—My anchor has its own cable twisted around it or has fouled an obstruction on the sea bottom.

"Foul, my propeller is".—A line, wire, net, etc. is wound round my propeller.

Icing.—Formation of ice on ships.

Inoperative.—Of a navaid—not functioning.

Inshore traffic zone.—A designated area between the landward boundary of a traffic separation scheme and the adjacent coast intended for coastal traffic.

Lane.—See traffic lane.

Mark.—General term for a buoy, structure or topographical feature which may be used to fix a ship's position.

Masthead height.—Height from highest point of vessel to waterline.

"My anchor is foul".—See "Foul, my anchor is".

Off station.—Out of correct position.

Roundabout.—A circular area within definite limits in which traffic moves in a counter-clockwise direction around a specified point or zone.

Route.—See deep water route, traffic route, two-way-route. Means whichever type is appropriate in the context unless otherwise specified.

Routing.—A complex of measures concerning routes aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, tracks, areas to be avoided, inshore traffic zones and deep water routes.

Separation zone or line.—A zone or line separating traffic proceeding in one direction from traffic proceeding in another direction. A separation zone may also be used to separate a traffic lane from the adjacent inshore traffic zone.

Track.—The recommended direction or path to be followed when proceeding between pre-determined position.

Traffic.—Movement of shipping.

Traffic lane.—An area within definite limits inside which one-way traffic is established.

Traffic route.—General term for a fairway in which some degree of traffic control exists.

Traffic separation scheme.—A scheme which separates traffic proceeding in opposite or nearly opposite directions by the use of a separation zone or line, traffic lanes or by other means.

Two-way-route.—An area within definite limits inside which two-way traffic is established.

Vessel crossing.—A vessel proceeding across a fairway/traffic lane/route.

Vessel inward.—A vessel which is proceeding from sea to harbour or dock.

Vessel leaving.—A vessel which is in the process of leaving a dock, pier, quay, or anchorage. When she has entered the navigable fairway she will be referred to as an outward, inward crossing or turning vessel.

Vessel outward.—A vessel which is proceeding from harbour or dock to seawards.

Vessel turning.—A vessel making large alteration in course; such as to stem the tide when anchoring, or to enter, or proceed, after leaving a berth, or dock.

Way point/reporting point/C.I.P.[1]—A mark or place at which a vessel is required to report to establish its position.

[1] C.I.P. (Calling in point.)

COAST GUARD RULEMAKING

(Status as of 1 April 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	X			
ANCHORAGE REGULATIONS							
Beverly and Salem Harbors, MA (CGD 74–189)	12–18–74		1–20–75			2–11–75	3–14–75
Los Angeles & Long Beach Harbors, CA (CGD 75–022)	2–4–75		3–7–75				
BOATING SAFETY							
Lifesaving devices on white water canoes & kayaks (CGD 74–159)	2–4–75		4–17–75				
Safe loading and safe powering standards (CGD 73–250)	3–6–75		4–21–75				
Inboard safe loading standard (CGD 74–83)	3–6–75		4–21–75				
BRIDGE REGULATIONS							
Sacramento R. et. al., CA (CGD 73–142)	5–24–74		7–2–74	X			
Cheesequake Ck., NJ (CGD 73–162)	8–10–73		9–11–73	X			
AIWW, Mile 342, Lauderdale By The Sea, FL (CGD 74–180)	8–7–74		9–6–74	X			
Stony Ck., MD (CGD 73–242)	10–12–73		11–20–73	X			
San Joaquin River, Georgiana Slough, Sacramento River, CA (CGD 73–172)	5–24–74		7–2–74	X			
AIWW, Hillsboro Inlet, FL (CGD 74–22)	1–25–74		3–1–74	X			
Chesapeake & Del. Canal, Del. (CGD 74–72)	3–29–74		4–30–74	X			
New River, FL (CGD 74–114)	4–22–74		5–20–74	X			
Manatee River, FL (CGD 74–101)	4–22–74		5–20–74			3–10–75	4–14–75
Chicago River, IL (CGD 74–137)	6–3–74		7–16–74	X			
Columbia and Snake Rivers, WA (CGD 74–223)	9–20–74		10–22–74			2–4–75	3–7–75
Bayou Dularge, LA (CGD 74–234)	10–9–74		11–12–74	X			
Franklin Canal, LA (CGD 74–235)	10–9–74		11–12–74			3–10–75	4–14–75
AIWW, Hallandale, FL (CGD 74–257)	11–5–74		12 –5–74	X			
North Miami Beach, FL (CGD 75–013)	1–21–75		2–21–75	X			
Coney Island Creek, NY (CGD 74–300)	1–29–75		3–4–75	X			
Matanzas River, FL (CGD 75–024)	1–29–75		3–4–75	X			
Fox River, WI (CGD 75–035)	2–6–75		3–7–75	X			
Oklawaha River, FL (CGD 75–062)	3–27–75		4–29–75				
Mystic River, MA (CGD 75–053)	3–27–75		4–29–75				
West Palm Beach Canal, FL (CGD 75–070)	3–27–75		4–29–75				
HAZARDOUS MATERIALS							
Miscellaneous Dangerous Cargoes (CGD 72–182)	11–11–72	12–12–72	12–29–72	X			
Dangerous Cargo Regulations, miscellaneous (CGD 73–249)	1–16–74		3–4–74	X			
Sodium sulfide solution and sulfur dioxide (CGD 73–275)	7–16–74 Corrected 9–5–74		12–5–74	X			
Vinyl chloride (CGD 74–167)	7–23–74	8–15–74	9–6–74	X			
Vinyl chloride, supplementary notice (CGD 74–200)	9–19–74		11–4–74	X			
Unmanned barges carrying certain bulk dangerous cargoes (CGD 74–275)	1–15–75		2–28–75	X			
Unslaked lime in bulk (CGD 74–225)	1–29–75	2–25–75	3–17–75	X			
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Boundary Lines of Inland Waters (CGD 73–241)	4–8–74 corrected 5–8–74		5–26–74	X			

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	X			
Oil and hazardous substance liability (CGD 73–185)	12–4–74		1–16–75	X			
Mooring barges on the Mississippi (CGD 74–185)	2–4–75	2–19–75 New Orleans	3–17–75	X			
Security zone, New London Harbor, CT (CGD 74–188)	3–12–75		4–14–75				
Great Lakes radiotelephone exemption (CGD 74–304)	3–25–75	4–9–75 Cleveland	4–24–75				
MERCHANT MARINE SAFETY (GENERAL)							
Oceanographic vessels, fire main systems (CGFR 72–20)	2–4–72		3–19–72	X			
Emergency Position Indicating Radio Beacons (CGD 73–24)	3–5–73	4–18–73	4–30–73			3–18–74	3–1–75
Tank vessel electrical installation (CGD 74–118)	8–26–74		10–10–74	X			
Unmanned Platforms (CGD 73–177)	1–8–74 Corrected 1–29–74		2–25–74	X			
Bulk Dangerous Cargoes, Inspection of Barges (CGD 73–271)	3–11–74	4–15–74	4–30–74	X			
First Aid Certificates (CGD 73–272)	4–2–74		6–15–74	X			
CO_2 Fixed Fire Extinguishing Systems (CGD 74–100)	5–8–74		6–24–74			2–10–75	5–15–75
Carriage of Solid Hazardous Materials in Bulk (CGD 74–13)	5–15–74	7–16–74	8–31–74	X			
Tank vessels in domestic trade (CGD 74–32)	6–28–74 Corrected 7–23–74	7–23–74 Seattle 7–30–74 Wash. D.C.	8–19–74	X			
Welding and brazing; adoption of ASME Code (CGD 74–102)	9–26–74 Corrected 11–1–74		11–11–74	X			
Load line regulations, rail height adjustment (CGD 74–164)	10–4–74		11–15–74	X			
Construction and equipment of tank vessels (CGD 74–127)	Adv. Notice 9–5–74						
Great Lakes pilotage (CGD 74–233)	11–5–74	11–20–74	11–26–74	X			
Manning of nautical school ships (CGD 74–201)	1–21–75		3–6–75	X			
Licensing and certificating; apprentice mate endorsement (CGD 74–226); Comment period extended 3–7–75	1–23–75		4–9–75				

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.

Steering Gear continued from page 69.

the follow-up linkage to the differential controller failed. Undoubtedly, vibration of these units is a contributing cause of these casualties. Because of their proximity to the ship's screws, steering gear units are subjected to considerable vibration; thus there is substantial likelihood for this type of failure to occur unless proper remedial action is taken.

Responsible ships officers, Chief Engineers in particular, should make a thorough visual examination of the equipment in addition to making the normal presailing steering gear checks. In order for this to be meaningful, the person must know what he is looking for. If lessons are to be learned from these past casualties, connecting linkage must bear close scrutiny!

MERCHANT MARINE SAFETY PUBLICATIONS

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

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

CG No.	TITLE OF PUBLICATION
101	Specimen Examinations for Merchant Marine Deck Officers (Chief Mate and Master) (1–1–74).
101–1	Specimen Examinations for Merchant Marine Deck Officers (2d and 3d Mate) (10–1–73).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (4–1–72). F.R. 7–21–72, 12–1–72, 11–14–74.
115	Marine Engineering Regulations (6–1–73). F.R. 6–29–73, 3–8–74, 5–30–74, 6–25–74, 8–26–74.
123	Rules and Regulations for Tank Vessels (1–1–73). F.R. 8–24–73, 10–3–73, 10–24–73, 2–28–74, 3–18–74, 5–30–74, 6–25–74, 1–15–75, 2–10–75.
129	Proceedings of the Marine Safety Council (Monthly).
169	Rules of the Road—International—Inland (8–1–72). F.R. 9–12–72, 3–29–74, 6–3–74, 11–27–74.
172	Rules of the Road—Great Lakes (7–1–72). F.R. 10–6–72, 11–4–72, 1–16–73, 1–29–73, 5–8–73, 3–29–74, 6–3–74, 11–27–74.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3–2–64).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3–1–73).
176	Load Line Regulations (2–1–71). F.R. 10–1–71, 5–10–73, 7–10–74.
182	Specimen Examinations for Merchant Marine Engineer Licenses (1–1–74).
182–1	Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (10–1–73).
184	Rules of the Road—Western Rivers (8–1–72). F.R. 9–12–72, 5–8–73, 6–27–73, 6–28–73, 3–29–74, 6–3–74, 11–27–74.
190	Equipment List (8–1–72). F.R. 8–9–72, 8–11–72, 8–21–72, 9–14–72, 10–19–72, 11–8–72, 12–5–72, 1–15–73, 2–6–73, 2–26–73, 3–27–73, 4–3–73, 4–26–73, 6–1–73, 8–1–73, 10–5–73, 11–26–73, 1–17–74, 2–28–74, 3–25–74, 4–17–74, 7–2–74, 7–17–74, 9–5–74, 10–22–74, 11–27–74, 12–3–74, 12–30–74, 1–15–75, 1–21–75, 2–13–75, 2–10–75, 3–18–75, 3–19–75.
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, 3–27–75.
*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, 3–27–75.
*227	Laws Governing Marine Inspection (3–1–65).
239	Security of Vessels and Waterfront Facilities (5–1–74), 5–15–74, 5–24–74, 8–15–74, 9–5–74, 9–9–74, 12–3–74, 1–6–75, 1–29–75.
*256	Rules and Regulations for Passenger Vessels (5–1–69). F.R. 10–29–69, 2–25–70, 4–30–70, 6–17–70, 10–31–70, 12–30–70, 3–9–72, 7–18–72, 10–4–72, 10–14–72, 12–21–72, 4–10–73, 8–1–73, 10–24–73, 12–5–73, 3–18–74, 5–30–74, 6–25–74, 9–20–74, 1–15–75, 2–10–75.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (4–1–73). F.R. 6–28–73, 6–29–73, 8–1–73, 10–24–73, 3–18–74, 5–30–74, 6–25–74, 1–15–75, 2–10–75.
*258	Rules and Regulations for Uninspected Vessels (5–1–70). F.R. 1–8–73, 3–28–73, 1–25–74, 3–7–74.
*259	Electrical Engineering Regulations (6–1–71). F.R. 3–8–72, 3–9–72, 8–16–72, 8–24–73, 11–29–73.
266	Rules and Regulations for Bulk Grain Cargoes (5–1–68). F.R. 12–4–69.
268	Rules and Regulations for Manning of Vessels (12–1–73).
293	Miscellaneous Electrical Equipment List (7–2–73).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7–1–72). F.R. 7–8–72.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9–1–73). F.R. 1–25–74, 3–18–74, 9–20–74, 2–10–75.
329	Fire Fighting Manual for Tank Vessels (1–1–74).
439	Bridge-to-Bridge Radiotelephone Communications (12–1–72).
467	Specimen Examinations for Uninspected Towing Vessel Operators (10–1–74).

CHANGES PUBLISHED DURING MARCH 1975

The following have been modified by Federal Registers:

CG–191 & 200, Federal Register of March 27, 1975.

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


JASON