

PROCEEDINGS

OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

Ohio River Tragedy . . .

Towing Vessel Operator Licensing Regulations . . .

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COVERS

FRONT COVER: The newly built SS *President Madison* slides down the ways at her recent launching. She was built by Ingalls Shipbuilding Division of Litton Industries. *Ingalls Photo.*

BACK COVER: The message is made perfectly clear in this safety poster drawn by James T. Gerrity, Radio Officer aboard the S/S *Cantigny*, Cities Service Tankers. The poster was the first prize winner in the Marine Safety Poster Contest sponsored by the Marine Section of the National Safety Council. This poster and some 47 others depicting various aspects of safety in the marine industry are available for sale. Write for the catalogue to the Chairman of the Marine Section's Audio/Visual and Poster Committee in care of Ship's Operational Safety, Inc., 103 Huntington Road, Port Washington, N.Y. 11050.

PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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Page

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April 1973

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OHIO RIVER TRAGEDY

ON AUGUST 14, 1971, the 24-foot cabin cruiser OH 5421 MC was launched at Shady Lane Boat Harbor at mile 455.1 right bank of the Ohio River. Eleven persons were on the boat when it departed the harbor at about noon for a day of recreation on the river. The party consisted of the owner of the boat, his wife and three boys, a co-worker of the owner and his wife, and the wife and three children of another co-worker. This group of five adults and six children spent the afternoon picnicking and water skiing upriver. At about 6:00 p.m., the group loaded up their gear and started the trip back to the boat harbor.

On the return trip the two adult men and the owner's 11- and 15-year old sons took turns operating the boat. Since there was ample time before their planned arrival at the harbor, a speed of about 5 miles per hour was maintained. All of the boat's equipment was operating properly. The boat was stopped for a short period of time while plastic side curtains were rigged around the cockpit. As darkness fell, the navigation lights and the interior cabin lights were turned on. For a period of 30 to 45 minutes (until 5 to 10 minutes before expected arrival at the boat harbor) the owner's 11-year old son operated the boat. He navigated by frequently but intermittently switching the searchlight on and directing its beam toward the shore to estimate the distance from the Ohio banks and to sight other objects in the water. This searchlight was mounted on the cabin top, just forward of the boat

controls and windshield, and was situated slightly below the eye level of the person operating the boat. The navigation lights on the boat consisted of a red and green combination light on the bow, an all around white light amidships above the windshield, and an all around white light on the after starboard corner. Several lights were lit in the cabin area, and light from these shone through the windows of the cabin, forward.

Some five to 10 minutes before he expected to dock his boat, the owner left the lighted cabin area and took over the controls. He continued to navigate the boat in the manner that those before him had, using the searchlight to estimate his position relative to the bank. He instructed his 11-year old son to go forward and his 15-year old son to stay aft to prepare the lines for mooring. At this time the 11-year old went forward; the owner, his 15-year old, the other man, and a 12-year old girl were in the cockpit. The three ladies were in the cabin, and the two younger children were moving from place to place about the boat.

Shortly after the 11-year old arrived on the fore deck, and while he arranged the mooring line on the deck, he saw barges directly ahead, very close, and bearing down on the boat. He saw no lights. He immediately ran back along the starboard side of the boat toward the cockpit, shouting, "Barge!" As he arrived at the edge of the house, he tripped over the chain rail and fell into the cockpit. The 12-year old girl, still seated in the stern of the cockpit, saw the owner

turn the boat's wheel to the left; and at that moment she saw the barge approaching from the right side of the boat. The owner's wife, seated in the cabin, had periodically gotten up to look out of the cabin window to observe various points along the bank. Her first indication of danger was the sight of the brown bow of a barge as it crashed into the cabin through the starboard side of the boat. Only the 15-year old, who looked up after hearing his brother's shout, had noticed a light, which he described as a dim red one, at the forward end of the barges.

The impact of the collision drove the small craft under the barge, where it bumped along, disintegrating as it went, finally emerging from under the starboard side of the tow with which it had collided. The 11- and 15-year old boys jumped from the boat just at impact; the owner's wife and the 12-year old girl were thrown clear of the wreckage while under the water. All were bumped along under one or more of the barges until surfacing on the starboard side of the tow.

It was August 12 when the M.V. *James L. Hamilton*, pushing a tow of twenty-three barges, departed the Dade Park Fleeting area located four miles above Evansville, Ind. on the Ohio River. The vessel was bound upriver to deliver and to pick up barges at several locations on the river, both below and above Cincinnati. On the passage to Cincinnati, some delay due to fog was encountered, and a malfunction of the two-mile scale on the radar was experienced. Otherwise, the trip was without significant incident.

At about 8:00 p.m. on August 14, the vessel and its tow had passed through the six bridges crossing the Ohio River at Cincinnati and was proceeding upriver with its engines at full ahead, making a speed of about 6 miles per hour. The captain was in the pilothouse on watch, and was controlling the movement and direction of the vessel. The tow at this time consisted of fifteen barges made up three abreast and five in tandem, and measured 105 feet across and approximately 1,000 feet in length. The tow and towing vessel made up to about 1,125 feet in overall length. The *Hamilton* was faced up and secured to the last barge in the center string. All barges were loaded, with the exception of tank barge *FMC 103* which was in light condition, located in the lead position in the starboard string of barges. The freeboard of *FMC 103* was estimated at 10 feet, while that for the other barges was about 4 feet.

Shortly after 9:00 p.m., the *Hamilton* was contacted on the radio by the operator of a small boat in the vicinity, and was advised that the starboard navigation light at the head of the tow was extinguished. Several deckhands were sent forward, and, upon examination of the light, they found a short in the wiring within the lantern casing. While the men were working on the light, the captain placed the beam of his searchlight in the area of the forward starboard corner of the tow to illuminate that area while the green light was extinguished. At about 9:30, the captain verified that the defect was repaired and the light restored to normal operation by directing his men to physically lift each lantern and turn it about so that it could be seen from the pilothouse.

The *Hamilton* was now displaying the required red and green port and starboard side lights and the two vertically placed amber stern lights. At the head of the tow, the navigation lights consisted of portable red and green side lights placed on deck

at the outboard corners of the lead corner barges, each located about one foot from the sides of the barge and about one and a half feet back from the forward edge of the headlog and lashed to a timberhead with line. An amber light was placed on deck and lashed to a cavel on the center of the lead barge about three feet from the forward end of the barge. The lights were housed in factory-made standard navigation type portable lanterns, the side lights shaped to show the prescribed arc. They were not fitted with screens. Proper placement of the lights in their respective locations depended upon the judgement of the seaman assigned to the task, as there were no guides nor permanent benchmarks on the barges to insure accuracy of placement. The power for the navigation lights on the barges was 110 volt alternating current provided through a series of 200-foot electrical cords; these terminated in a portable multiple receptacle into which each navigation light cord was plugged. All three lights at the head of the tow were fitted with

100-watt bulbs and were powered from the *Hamilton's* electric distribution board.

Shortly before 9:30, radio contact was made with the *M. V. La Salle*, and, at the request of the captain of that vessel, arrangements were made for the *La Salle* to join the *Hamilton's* tow as far as Carntown Ky. The benefits of this arrangement would be mutual: both vessels would make a faster passage and the *La Salle* would steer better and would make the passage with decks dry. (When carrying its full load of fuel and water and running without tow as it was now, the *La Salle* tended to run with foredecks awash at speeds above slow ahead.) The *Hamilton* was slowed for a few minutes to allow the *La Salle* to catch up; she was slowed again as the *La Salle* joined the tow, making up to the starboard after barge, leaving a gap of approximately 3 feet between the two towboats. The captain of the *La Salle* then placed his rudder amidships, his engines on full ahead, and, at the request of the *Hamilton's* captain, secured his port



Although the pleasure boat was struck on the starboard, greater damage was done to its port side as the boat was pushed over and tumbled beneath the barges.

side light. He left his vessel and went to the pilothouse of the *Hamilton*, leaving his head deckhand on watch in the pilothouse of the *La Salle*. The *La Salle* displayed her starboard green sidelight and her two after amber sternlights.

The *La Salle's* joining the tow increased the speed to about eight miles per hour, with the captain of the *Hamilton* controlling the tow from his vessel, which remained made up to the barges as it had been before.

Positions on the Ohio River are generally given by mileage points which originate at Pittsburgh. Near mile 461 where the *La Salle* joined the tow, the channel makes a slow bend to the left and then to the right over a distance of about 9 miles upriver, generally running closer to the Ohio side than to the Kentucky side.

Upon nearing mile 455, the captain of the *Hamilton* noticed the lights of an approaching pleasure boat about $\frac{1}{3}$ mile ahead. At first, the captain was uncertain whether the pleasure boat and the tow would clear each other in a port-to-port passage. However, when he saw the boat change course to starboard, he concluded that the boat would clear the tow by about 75 feet to port. He did not attempt to check the approaching boat on the *Hamilton's* radar which was set on the 1-mile scale. He estimated the boat's speed to be about 15 miles per hour.

When the pleasure boat was about 200 feet from the lead barges, the captain saw it make a sharp left turn and cut across the front of the tow. The silhouette of the boat at that point was visible against a background of white lights at a powerplant 2 miles away on the north shore of the river. The *Hamilton's* rudders were put hard to port as the boat disappeared in front of the high-riding empty starboard lead barge. The captain of the *Hamilton* switched on his carbon-arc searchlight, blew the danger signal on his whistle, and rang the general alarm.

A geyser of water signalled the collision, the pleasure boat striking the

The Vessels Involved

The *James L. Hamilton* is a 138.1-foot, 527 gross ton towing vessel. She is diesel powered, built of steel in 1962, and is uninspected by the Coast Guard. Vessels of her type are not required to be Coast Guard inspected.

The *La Salle* is a 108.7-foot, 331 gross ton towing vessel operated by the same company that operated the *Hamilton*. She was built in 1962 and is also of steel construction. She is powered by an 1,800 horsepower diesel engine. The *La Salle*, like the *Hamilton* was neither Coast Guard inspected nor required to be.

The *FMC 103* is a Coast Guard inspected, unmanned tank barge of 676 gross tons and 195 feet in length. It has a steel hull, and is 35 feet in breadth.

The OH 5421 MC was a 24-foot, Chris Craft Cavalier, cabin cruiser built in 1964 of plywood construction. She was powered by a 185 horsepower, single screw gasoline engine.

rake of tank barge *FMC 103* inboard of the port corner. The captain of the *Hamilton* immediately backed his engines full astern in an effort to swing his stern to port and thus permit the small boat to surface along the starboard side of the barges rather than to pass under the full length of the tow. The captain of the *La Salle* ordered that vessel's engines stopped. He did not reverse his engines, fearing that his vessel's unguarded propellers would endanger persons from the small craft who might have passed under the length of the tow. Two large pieces of wreckage and considerable flotsam were seen to emerge from under the starboard side of the second barge in the starboard string of barges.

The captain of the *La Salle* crossed over to his vessel on his way to the starboard side of the starboard string of barges, pausing momentarily to instruct the crew of his vessel to follow him with lifejackets and liferings.

The *Hamilton's* pilot relieved his captain of the controls of that vessel within minutes of the collision, and the captain also ran to the after starboard barge followed by several members of his crew who were awakened by the head deckhand and by the sound of the general alarm bells. The captain of the *La Salle* had gone about fifty feet forward on the

barge when he saw a young girl close aboard in the water. He passed a lifering from the man behind him to the girl in the water, then went another few feet forward and passed a second lifering to a young boy, shouting to both of the children to hold to the liferings. At this point he saw the wreckage of the small boat float by.

The *Hamilton's* captain arrived on the barge in time to see the liferings passed to the survivors. He thought the boy, later identified as the 11-year old from the OH 5421 MC, seemed unable to hold the lifering due to injuries. He jumped into the river, grabbed the boy, and held him afloat until they both were pulled aboard the *La Salle* by its crew. The combination of headway of the tow and the river current caused the wreckage and the survivors to drift aft of the tow. The young girl had managed to hold the lifering, and was pulled to safety by one of several small boats attracted to the area by the *Hamilton's* whistle signals and lights.

Many people along the bank saw the tow passing upriver. A group of members of the U. S. Coast Guard Auxiliary attending a rendezvous on the Kentucky bank of the river about a quarter mile below the collision area watched the tow pass just minutes before the collision. A number of this group recognized the tow as such,

noticing that its lights were then burning brightly. They were attracted to the scene of the collision by the whistle signals, the lights, and by the stopping of the tow. They and other nearby recreational boaters immediately began a search of the area in conjunction with the *La Salle* which had separated from the tow for the purpose of beginning search and rescue efforts. Small boaters were able to recover the 12-year old girl, the 15-year old son of OH 5421 MC's owner, and the owner's wife.

All four survivors were brought to the Shady Lane Boat Harbor where they were transferred to ambulances and taken to local hospitals for examination. The three younger survivors sustained only minor abrasions, while the owner's wife had to be hospitalized.

The search for survivors continued through the night. One body was recovered and the debris and wreckage of the boat were located. A thorough search among the barges yielded no results. The following morning the tow was completely disassembled and searched, but again with negative results. Finally, extensive dragging and diving efforts by local volunteer fire department and life squad members resulted in the finding of the bodies of the six remaining deceased over the next two days. The toll of the collision—seven dead, one hospitalized.

The captain of the *Hamilton* had completed 20 round trips on the Ohio River in that capacity. He was not licensed by the Coast Guard, nor was he required to be; however he was the holder of a Merchant Mariner's Document endorsed for ordinary seaman, wiper, tankerman grade A and lower grades and LFG products. He had never pursued a course of study of piloting, navigation, or radar operations.

The captain of the *La Salle* had a similar background, except that his Merchant Mariner's Document was endorsed for tankerman, grade A and all lower grades, and he had completed only seven round trips on the Ohio River as a captain.

The owner was the only person on the OH 5421 MC who had any significant experience on the water. He had gained what experience he had on weekends during three summers as the owner of three different small boats over the past 15 years. He had purchased the OH 5421 MC that spring and had operated that vessel on about 12 weekends since he had bought it—mostly during daylight hours. He had not enrolled in any course of study of navigation or handling of small water craft.

Stowed in various places about the cabin cruiser OH 5421 MC were six buoyant seat cushions, four buoyant vests and one ski vest. All of these personal flotation devices were approved or were similar to types of devices for which Coast Guard approvals had been issued. In addition, two ski belts and three inflatable air mattresses—types for which no approvals have been issued—were aboard. Despite the availability of these devices, none of the people on the boat wore flotation devices while underway.

The Coast Guard Formal Board of Investigation concluded that the casualty was caused by the failure of the owner/operator of the motorboat OH 5421 MC to keep a proper lookout, resulting in the failure to observe the tow of the *James L. Hamilton* in time to take necessary action to avoid the collision. The Board also concluded that the owner's assumption of control of the boat immediately after leaving the lighted cabin and without allowing sufficient time for his eyes to adjust for proper night vision, his use of the searchlight mounted directly in front of him, the possible presence of persons on the bow obstructing his vision were probable factors which contributed to his failure to see the oncoming tow. In addition, the Board was able to make the following conclusions:

1. The owner demonstrated poor judgment in permitting his boat to be operated for a long period of time by an inexperienced 11-year old child, unsupervised, or at best par-

tially supervised by an inexperienced adult, at night and on a part of the river where other pleasure craft and large commercial tows were likely to be encountered.

2. The evidence indicated that, by adhering to its original intended course, close to the Ohio bank, the boat might have passed clear of the tow.

3. The casualty may have been prevented or its effects mitigated if the owner, as the most experienced boatman on board, had personally controlled and navigated the boat after dark; if there had been a proper lookout or some person on board OH 5421 MC designated to watch for other craft from a position outside the cockpit area; if the persons on board the boat had been wearing personal flotation devices; if the owner had availed himself of courses of instruction in boating safety sponsored by local boating organizations; or if the captain of the *Hamilton* had blown a whistle signal to initiate passing agreement as required by the Western Rivers Rules of the Road (Rule 18(b)).

In 1967, the Commander, Second Coast Guard District, in cooperation with several towing and barge companies, conducted an experiment in the upper Mississippi River in which the steady amber light required at the head of the tow was replaced with a flashing amber light. In 1970 this experiment was extended to the Ohio River. There was testimony before the Board from persons who had seen tows displaying the flashing amber lights that such lights served to draw attention to the tow and provide definite early notice of the tow's presence. The Board could not determine what effect such a flashing amber light would have had in this case, but they inferred from the evidence that requiring a flashing in lieu of the steady amber light might have merit.

The Marine Board of Investigation found evidence of contributory violation of the Western Rivers Rules of the Road on the part of the captain

of the *Hamilton* in the following particulars:

1. Failure, as the ascending vessel, to sound a proposal for passage (Rule 18(b)).

2. Failure to immediately signify doubt as to the intentions of OH 5421 MC by sounding the danger signal (Rule 24(a)).

3. Failure to maintain a proper lookout (Rule 26).

4. Failure to provide screens for the side lights of the lead barges in the tow (Rule 3).

5. Failure to carry the three tow head lights at approximately the same height above the surface of the water (Rule 7(b), and 33 C.F.R. § 95.29 (f)). While the Board could not determine the precise effect of this violation on the casualty, it noted that the standard operating practice on the Western Rivers is to locate tow head lights on the decks of the forward barges in a tow regardless of possible variations in freeboard or the height of the lights above the surface of the water.

The Board noted, but considered non-contributory the possible violations of the same Rules by the *La Solle* in her failure to display central range lights when operating without a tow prior to joining the tow of the *Hamilton*, and in her failure to display her red port light while pushing another vessel ahead.

Further, the Board found evidence of violation of the Western Rivers Rules on the part of the cabin cruiser in her failure to maintain a proper lookout (Rule 26); her failure to sound a danger signal followed by a passing signal when the vessels were within one-half mile of each other (Rule 18(b)); and her failure to operate in a manner so as not to hamper the safe passage of the larger vessel with tow that was ascending the river (Rule 23(a)).

The Board considered meritorious the actions of the captain of the *Hamilton* in jumping into the water and bringing the 11-year old boy to safety and the efforts of those pleasure boatmen who participated in the rescues

of the other 3 survivors and in the search for others.

The Marine Board of Investigation recommended that the Coast Guard study the existing navigation lights required on vessels and tows operating on the Western Rivers of the United States looking toward implementation of early radical changes in the existing lights. Consideration of the use of the flashing amber light at the heads of tows was specifically recommended. Since the Board's report, the Coast Guard has held administrative rulemaking proceedings and has promulgated CGD 72-188 in the Federal Register of July 7, 1972 which, effective September 1, 1972 amends 33 C.F.R. § 95.29 to require a flashing amber light at the extreme forward ends of tows on the Western Rivers.

The Board also recommended that the Coast Guard continue to support the enactment of Federal Legislation to require that the persons in charge of navigation watches on towing vessels shall be licensed for such service by the U.S. Coast Guard. Subsequent to the report, such legislation was enacted, and on March 2, 1973, the Coast Guard published implementing regulations under that legislation. Those regulations and the preamble thereto are reprinted on page 84 of this issue. The result of these enactments is that as of September 1, 1973, operators of most towing vessels will be required to be licensed by the Coast Guard.

The Board recommended, finally, that the Coast Guard consider action which would require the installation of an alarm, appropriate device, or other means which would serve to warn the pilot or operator of the towing vessel of any malfunction or failure of the required navigation lights on the tow or on the towboat, that the Coast Guard continue to sponsor public education program on boating safety through Coast Guard units, the Coast Guard Auxiliary, and other boating organizations with particular emphasis on reaching pleasure boatmen who are not members of orga-

nized boating groups, and that consideration be given to licensing of pleasure boatmen as a means of fostering a viable public education program.

The Commandant's Action concerning the Board's recommendations indicated that the Coast Guard is presently studying the potential need to require licensing of pleasure boatmen as a means of improving boating safety, and that the Coast Guard will continue to sponsor its education programs in the boating safety area. However, the Commandant's Action indicated that the recommendation regarding alarm devices in case of malfunction of navigation lights was neither practical nor necessary within the present "state of the art." Indicator circuits or "gadgets" running through jumpers over 1,000 feet of barges are highly susceptible to damage, are unreliable and are less efficient as a check than the present practice of direct periodic observation.

The National Transportation Safety Board (NTSB), in accordance with its statutory responsibility to determine the cause or probable cause of the casualty and to make recommendations, reached the following conclusions:

1. Before entering the side-light-obscured zone ahead of the tow, the cabin-cruiser operator and the other boat occupants either failed to see or failed to recognize the approaching tow in the darkness. The lighting inside the cabin probably reduced their night vision.

2. After the boat entered the side-light-obscured zone and the oncoming tow was discovered, the corners of the tow could not be seen and the orientation could not be determined. Unable to see the closest escape route, the operator turned left instead of right.

3. The towboat operator was incorrect in his belief that the cabin cruiser would pass clear by 75 feet, since the cabin cruiser was in the path of the tow before it made the sharp left turn.

4. The technique recommended in *Rules of the Road* for evaluating risk of collision by measuring the change in bearings of the other vessel is not

reliable for the operator of long tows when bearings are taken from towboats.

5. The low reliability of the navigation-light installation on the barges resulted in operating practices which prevented maintenance of the proper light alignment and allowed an increase in the areas of obscurity in front of the tow. High-risk situations develop rapidly in river traffic at night so that loss of navigation lights is unacceptable.

6. Coast Guard regulations did not account for the variable characteristics of barges, tows, and navigation lights in such a way as to assure that navigation lights meet the requirements of the *Rules of the Road*.

7. The cabin-cruiser operator did not have adequate training and experience to cope with the ocean-type interpretive navigation light system. Tow lighting based on optimizing an operator's ability to see and recognize other vessels will make lack of training and experience less critical.

8. The usual procedures and life-saving equipment for minimizing loss of life in most boating accidents are ineffective for boat barge collisions.

9. The collision could have been avoided by an exchange of whistle signals. However, the unknown relationship between Rule 23A and other rules of the road creates uncertainty as to the specific actions required of each vessel.

Based upon those conclusions, the NTSB determined that the probable cause of this collision "was the failure or the inability of the operator of the cabin cruiser to see and recognize the tow until the collision was imminent and the failure of the captain of the *Hamilton* to establish the whistle-signal communications with the cabin cruiser necessary for safe passage. Contributing to the accident were:

1. The towboat operator's reliance upon an excessively distant observation point to determine the boat's closest point of approach.

2. Obscuration of side-light visibility in an area of significant size in front of the tow, due to the lateral distance between side lights. This obscuration contributed to the disorientation of the cabin-cruiser operator, which, in turn, contributed to his choice of the wrong escape route.

3. A probable increase in the area of this side-light-obscured zone beyond that permitted by the rules, due to the resetting of these lights after they had been checked without any accurate alignment guides.

4. Lack of a visible outline of the barges to aid the operator of the cabin cruiser in identifying the tow, in determining its distance from his

boat, and in selecting the shortest escape route.

5. The uncertainty of the captain of the *HAMILTON* as to the precedence of the various rules of the road. The requirement that boats under 65 feet in length "shall not hamper" vessels with tows apparently contributed to the captain's decision not to initiate any whistle signals when the vessels closed to within 1/2 mile.

6. The absence of any authoritative interpretations of actions required under the "shall not hamper" rule, which apparently permitted a hazardous interpretation.

The NTSB recommended that:

1. The Coast Guard develop and require use of illumination techniques for barges that will make them readily visible and recognizable when pushed ahead of towboats. As a minimum requirement such a system would outline the boundaries of the tow.

2. The Coast Guard include a cautionary note in the *Rules of the Road; Western Rivers* stating that even when bearings of an approaching vessel are changing, there can be a risk of collision with a long tow ahead of the towboat making the observations.

3. The Coast Guard require suitable side-light alignment and securing devices on the front of barge tows to



This was the result when a 24-foot cabin cruiser collided with one of the lead barges in the tow of the *M/V James L. Hamilton* on the Ohio River. The nighttime collision left seven persons dead and one hospitalized. Three other passengers escaped serious injury.

insure that such light will comply with the alignment required by the Rules of the Road.

4. The Coast Guard upgrade the reliability of the navigation lights on barge tows by requiring that the circuits for these lights be automatically monitored to give an alarm in case of light failure, and by requiring redundant lights.

5. The Coast Guard clarify the effect on responsibilities for initiation of whistle signals in *Rules of the Road*, of the requirement that easily

maneuverable vessels less than 65 feet shall not hamper large vessels or vessels with tows, and develop and publish authoritative interpretations of actions required in other frequently encountered operating situations in which the "shall not hamper" rule interacts with other rules.

The tragic deaths of seven persons in this casualty on the Ohio River only serve to emphasize the need for exceptional vigilance at night on congested waters and for strict ad-

herence to the rules by which such collisions are to be avoided. †

NOTE.—The above article is based upon the Marine Casualty Report of the incident, comprised of the U.S. Coast Guard Marine Board of Investigation Report and Commandant's Action and the action by National Transportation Safety Board released March 14, 1973. Copies of the full Marine Casualty Report may be obtained by writing U.S. Coast Guard (GMVI-3/83) 400 Seventh Street SW., Washington, D.C. 20590.

maritime sidelights

COMPLIANCE WITH TRAFFIC SEPARATION SCHEMES

At the VIIth Session of the Assembly of the Intergovernmental Maritime Consultative Organization (IMCO), October 1971, that organization adopted a recommendation that Chapter V, Regulation 8, of the International Convention for the Safety of Life at Sea, 1960 be amended.

Several paragraphs of that resolution dealt specifically with ships' routing. Those paragraphs are quoted below:

a. The practice of following, particularly in converging areas, routes adopted for the purpose of separation of traffic including avoidance of passage through areas designated as areas to be avoided by ships or certain classes of ships, or for the purpose of avoiding unsafe conditions, has contributed to the safety of navigation and is recommended for use by all ships concerned.

* * * * *

d. Contracting governments will use their influence to secure the appropri-

ate use of adopted routes and will do everything in their power to insure adherence to the measures adopted by the Organization in connection with routing of ships.

e. Where the Organization has adopted traffic separation schemes which specify one way traffic lanes ships using these lanes shall proceed in the specified direction of traffic flow. Ships crossing the lane shall do so as far as practicable at right angles.

Paragraphs b, c, and f of the resolution are not quoted above, as they do not speak to the issue at hand.

The United States voted in favor of the resolution at the IMCO Assembly. If this amendment is adopted by two-thirds of the contracting governments it will then come into force internationally and become a part of the SOLAS '60 Convention as amended.

All mariners are urged to keep themselves apprised of development and implementation of such schemes as they are introduced on a world-

wide basis and to use them to the fullest possible extent. Navigating a United States flag vessel against the established direction of movement within a designated traffic separation scheme (i.e. wrong way travel) may constitute an act of misconduct within the definition in Title 46, Code of Federal Regulations, Part 137. Suspension or revocation proceedings under the provisions of Revised Statute 4450 may be instituted for violations of that provision of the Code of Federal Regulations.

The following sources contain information on Traffic Separation Schemes:

1. Booklet, "Ships Routing and Traffic Separation Schemes" available for \$4.92 from IMCO, 101-104 Picadilly, London W1V 0AE.

2. Charts of the areas involved.

3. Notice to Mariners No. 1 (annually).

4. Article on reverse of U.S. Naval Oceanographic Pilot Chart of the North Atlantic Ocean, February 1971.

5. New schemes are published in Local Notice to Mariners for the appropriate area and in Notice to Mariners, well in advance of implementation. †

TOWBOAT OPERATOR LICENSING REGULATIONS

TITLE 46—SHIPPING

Chapter I—Coast Guard,

Department of Transportation

SUBCHAPTER B—MERCHANT MARINE OFFICERS AND SEAMEN

[CGD 72-132R]

LICENSES FOR OPERATION OF UNINSPECTED TOWING VESSELS

The purpose of the amendments in this document is to add to Chapter I of Title 46, Code of Federal Regulations, rules governing the issuance of licenses for the operation of uninspected towing vessels that implement the Towing Vessel Operator Licensing Act (Public Law 92-339, R.S. 4427, as amended, 46 U.S.C. 405(b) (July 7, 1972)).

In the August 11, 1972, issue of the *FEDERAL REGISTER* (37 FR 16374), the Coast Guard proposed regulations governing the issuance of licenses for the operation of uninspected towing vessels to implement the Towing Vessel Operator Licensing Act. The Coast Guard held public hearings on September 13, 1972, in Seattle, Wash.; on September 20, 1972, in New York, N.Y.; on September 26, 1972, in New Orleans, La.; and on September 27, 1972, in St. Louis, Mo. In addition, the date for submission of written comments was extended three times at the request of interested persons who required more time to fully document their views. There was, therefore, a total of 153 days in which interested persons could submit written comments on the proposal.

The Towing Vessel Operator Licensing Act requires uninspected tow-

ing vessels to be under the direction and control of a person licensed by the Coast Guard, while underway. Also, it defines "towing vessel" as a commercial vessel which is 26 feet or more in length engaged in or intended to engage in the service of towing. The Act does not apply to towing vessels of less than 200 gross tons engaged in or preparing or intended to immediately engage in a service to the offshore oil and mineral exploitation industry, including construction for such industry where the vessels involved would have as their ultimate destination or last point of departure offshore oil and mineral exploitation sites or equipment.

The regulations proposed by the Coast Guard to implement the Act, as applied to those persons presently operating towboats, would require that—

a. The individual had already been satisfactorily employed on towing vessels;

b. An applicant meet physical standards similar to those required for presently licensed personnel;

c. An applicant be subject to the suspension or revocation of his license on the same grounds of incompetence, negligence, misconduct, or physical incapacity applied to all other licensed personnel; and

d. An applicant pass an examination on the applicable rules of the road, thereby demonstrating knowledge of the following:

1. Steering and sailing rules;
2. Identification lights for all vessels;
3. Day marks and signals for special operations;

4. Whistle passing and warning signals;

5. Safe operations in limited visibility;

6. Aids to navigation for pipelines and floating plants;

7. Warning signals for transferring dangerous cargoes; and

8. Laws and regulations pertaining to all of the foregoing.

The Coast Guard believes that the introduction of qualifications and standards into an operation where nothing is presently required will significantly reduce casualties attributable to personnel error.

It is also the intention of the Coast Guard to introduce a safeguard which will quickly illuminate any inadequacy of the final regulations. A program will be written to provide an input to the computerized casualty information and analysis files that will accumulate, identify, and store any reference to a towboat casualty involving personnel error. In particular, the system will focus attention on any incidents accountable to the operator's unfamiliarity with a specific locale or area. In this way, the rules now being promulgated will be continually evaluated to insure that the intent of the statute is being met.

Written and oral comments were received from more than 150 organizations and individuals representing management, labor, Government agencies, training institutions, and the general public. More comments endorsed the proposal than opposed it.

Commenters objecting to the proposed regulations argued that the rules would prove inadequate because

the requirements were not stringent enough. It was suggested that an individual licensed under the new regulations should be restricted to operating within an area which he could, from memory, draw detailed charts and diagrams reflecting physical features, safe courses, and navigable channels. Several labor organizations, representing already licensed officers, objected to the proposed name of "operator" and voiced concern that the issuance of licenses for service over broad geographic areas would not produce sufficiently qualified personnel. In general, these commenters advocated extending the existing master/mate and pilot license structure to the uninspected towboats.

The Coast Guard recognizes the appeal of applying the master/mate and pilot concept but considers it to be in direct contravention with congressional intent to create a new authority for licensing. Discussions by the Coast Guard with various organizations representing the towing vessel industry during the development of the regulations indicated the impracticality of extending the current structure. The Coast Guard approached the problem by recognizing the fact that there are many individuals in the industry with limited education and limited formal training who have been productively employed and have gained extensive experience.

Accordingly, it is not the Coast Guard's intention to impose upon these individuals, and upon the towing industry as a whole, the relatively more severe requirements of the traditional master/pilot system which many applicants would have difficulty meeting in a timely fashion.

These regulations reflect only slight modifications from the preliminary proposals which were presented at congressional hearings on the subject. House Report No. 92-125, 92d Congress (1971), referring to the text of the same proposals, stated in part that "the Committee endorses the concept reflected in the draft regulations submitted as meeting the in-

tent of the Committee to insure the proper qualification of an individual seeking a license as required by this bill."

In response to the comments received, certain changes have been made to the proposed regulations. What follows is a summary of the comments recorded, the sections to which they were directed, and an explanation of the Coast Guard's response.

Section 10.16-5. The proposed § 10.16-61 has been renumbered § 10.16-5, and a new paragraph has been added to the section which identifies the licenses issued.

The designations of operator and second class operator were favored by a large percentage of affected individuals, and are included in the language of the congressional committee reports. However, views were submitted that these terms reflected a break with custom and that towboat skippers would be demeaned, thereby. Also, the introduction of such terms would complicate existing and future collective bargaining agreements.

It is the Coast Guard's view that the term "operator" admirably suits the circumstances and serves additionally to protect the status and prestige of the traditional master. Subpart 10.16 places appropriate and reasonable requirements upon the uninitiated and allows their entry into the regulated arena with minimal qualifications for a special license. Considered as a preliminary step or intermediate approach, it is a particularly suitable approach for those individuals who will be eligible for a license under the "grandfather clause," § 10.16-71.

Furthermore, the path is open for the newly licensed "operator" to accept the challenge of the higher grade and after a given time make application and sit for the superior licenses, if he so desires.

Apart from any of the foregoing, if the master/pilot concept was adopted as requested by some commenters, it would automatically invoke more severe qualifying standards and criteria

to the detriment of the entire program. Nevertheless, there is nothing to prevent the more experienced or qualified candidate from sitting immediately for any of the existing master/mate or pilot licenses, bypassing the "operator" step altogether.

The question was raised as to whether the proposed "operator" would be authorized to serve on any or all uninspected towboats, regardless of size or route. The answer to that question is a qualified yes. He may serve except under those circumstances where an existing statute requires a licensed master to serve. A case in point is the Officers Competency Certificates Act (53 Stat. 1049; 46 U.S.C. 224a), which requires, among other things, that any vessel of 200 gross tons or over operating on the high seas must have licensed masters, mates, and engineers. This provision has been incorporated for clarification into § 10.16-5.

In response to the many inquiries received concerning the validity of licenses previously issued, the Coast Guard intends to endorse licenses as follows:

a. The holder of a license as master/mate (except as mate of inland steam or motor vessels) or pilot may serve as the operator of an uninspected towing vessel within the scope and limitations endorsed on his license (§ 10.16-5(d)). In addition, the holder of such a license may make application for and receive an endorsement as operator of uninspected towing vessels upon the broad geographic area which includes the limitations of his original license. Such endorsement will be given without further physical or written examination. As an example, the holder of a first class pilot's license between Memphis and St. Louis would receive an endorsement as operator of uninspected towing vessels upon the western rivers.

b. The holder of a license as inland mate, provided he met the service requirement of 1 year as person in charge of a towing vessel, would be required to complete the appropriate

Rules of the Road examination prior to the issuance of an endorsement.

c. The holders of licenses as ocean operator, inland operator, or motorboat operator would qualify in the same manner as inland mates.

Section 10.16-11. The significance of this section is that it designates the geographic area of the licenses to be issued: Inland waters, Great Lakes, western rivers, oceans, oceans not more than 200 miles offshore, or a limited local area designated by the Coast Guard. Section (b) (2) of the Act requires a person to be licensed "to operate in the particular geographic area." The interpretation of this wording appears in the Senate Report (Commerce Committee) 92-926, 92d Congress (1972), which states that the geographic area is intended to coincide with areas of applicability of the differing sets of nautical rules of the road. For example, inland rules, Great Lakes rules, and so on. It was also the Committee's intent that the license to be issued should be as broad in area as practicable.

It was at this concept that the earlier mentioned comments of "inadequate" were mainly directed. On the western rivers, for instance, it was held that applicants should be restricted to areas over which they could document extensive service and of which they could successfully draw chart sketches showing distances, aids to navigation, courses, and other important features of the route.

Although, as stated above, this thinking represents the extreme point of view, i.e., full pilotage and existing licensing requirements, the Coast Guard believes that several lesser requirements can be made which will effectively strengthen the regulations. First, where the proposal was silent as to the acquiring and identification of service, a requirement has been added to §§ 10.16-23 and 10.16-25 so that a license will be restricted to the appropriate geographical waters upon which the applicant is experienced. Second, any additional endorsement on that license will be contingent

upon the showing of experience on other geographic areas as well. In other words, an individual, initially licensed for western rivers, based on service thereupon, must sail on inland waters before becoming eligible for the additional endorsement. As a means of acquiring this experience, an applicant who passes an appropriate examination may have his operator's license endorsed as second class operator for the requested route which permits him to sail on inland waters provided an operator who is properly licensed is aboard. When the necessary experience is attained, the license may be upgraded to operator for both western rivers and inland waters without further examination.

Third, in response to the comment that the proposal was inadequate by not identifying the type or nature of experience that would be acceptable, the regulation now requires that duties or training in the wheelhouse must be included.

Another comment on this section suggested that the oceans (not more than 200 miles offshore) be increased to oceans (no more than 500 miles offshore). This view was based on the accurate range of electronic navigation equipment as well as the fact that in a few areas such operations had been conducted successfully by personnel who would perhaps find it difficult to pass an examination in celestial navigation as proposed for routes in excess of 200 miles offshore. The Coast Guard did not make the suggested change because, although the benefits and effectiveness of electronic navigation are recognized, there is no requirement to outfit a vessel with electronic navigation equipment. Even when a vessel has this equipment, fault or failure is not uncommon. Complete reliance on electronic aids instead of celestial navigation from great distances offshore is not in the best interests of safety.

Another comment on this section recommended that endorsement for inland waters be extended, in certain instances, to include portions of

waters where the International Rules of the Road apply. There is insufficient justification for such deviation from the well defined and established lines of demarcation between the various sets of the Rules of the Road. To provide for certain exceptions would only confuse the issue while to hold to the proposed dividing lines between the broad geographic areas should not cause undue hardship on those affected. Since the present routes of the commenters include both inland waters and oceans, they are already knowledgeable in both sets of the Rules of the Road.

Another comment on this section recommended that the licenses issued should be limited by gross tonnage or other suitable criteria, as well as by geographical area. Such additional restrictions for vessels with offshore routes are not considered necessary since licenses issued under this new subpart are only valid for those vessels of less than 200 gross tons that are not subject to 46 U.S.C. 224a. For operations on the western rivers, Great Lakes, and inland waters, gross tonnage, by itself, is not a satisfactory criteria for towing vessels as it is not an accurate indication of their overall capability to move a tow. After careful consideration of all aspects of the problem including the comments received, the licenses issued under this subpart will be limited only to geographic area and type of vessel.

Finally, in response to comments that the proposed geographic areas might prove too broad in scope, the Coast Guard points out that an applicant may request a more limited route or an Officer in Charge may limit a license commensurate with the experience of the applicant. In such cases, the Officer in Charge, Marine Inspection, will administer an examination he considers appropriate for the limited license to be issued.

Section 10.16-21. Concerning this section, the comments had to do with the need for clarification of intent with respect to literacy, physical, and experience eligibilities. Some commenters stated that the regulations

were inconsistent by requiring a reading ability under this section while acknowledging the possible need for oral examination under the proposed § 10.16-21. This would not be the case. By way of background, Congressional intent is clearly reflected in Senate Report No. 92-926 which states, "Finally, it is intended that the examination given may, under appropriate circumstances, be oral rather than written, in order to accommodate individuals, particularly those who will have been serving as towboat operators prior to the effective date of the licensing regulations, who, for any reason may request an oral, in lieu of a written examination." It has been the Coast Guard's experience that an oral exam is appropriate when an applicant with limited reading and writing ability is hard pressed to cope with the formal, essay style examinations presently administered. It is believed that the newer, objective style, multiple choice type examinations being prepared will, together with growing educational opportunities, gradually reduce the need for oral examination. Related to the foregoing, it was also pointed out that in some areas even being required to speak English would present a problem. This is recognized, but it is believed that the minimal fluency called for in the proposed examination will enable the earnest candidate to qualify. This minimal requirement would also satisfy the new vessel bridge-to-bridge radio-telephone regulations added to 33 CFR Part 26 (37 FR 12719) which prohibits the use or maintenance of a listening watch on such equipment unless the English language is spoken.

Comments concerning paragraph (d) of § 10.16-21 pointed out that the requirement for "2 other reputable persons" as personal references would allow character references without being a professional recommendation. The Coast Guard agrees that the broadly worded proposal would permit this interpretation and has clarified the wording to restrict such

references to persons with whom the applicant has worked.

Comments concerning paragraph (e) pointed out that the proposed requirement for a physical examination at a public health facility except "in exceptional cases and at great inconvenience" would result in hardship and expense for applicants since public health facilities are not available where a majority of the applicants live. The Coast Guard determined that the objection to the proposal was valid and a change has been made which will permit the required physical examination to be conducted by licensed physician other than a medical officer of the Public Health Service.

In agreement with various environmental groups for the protection of the marine environment, a new paragraph (g) has been added. This requires that every applicant to be licensed under the provisions of § 10.16-71 certify that he understands the contents of the Coast Guard publication "Oil Pollution Control for Tankermen," which is furnished by the Officer in Charge, Marine Inspection. This requirement is intended as an educational measure to promote greater awareness and responsibility to antipollution efforts.

Section 10.16-23. Some views expressed concern or uncertainty regarding the nature and amount of experience proposed for a second class operator's license. In response to such comment, two changes have been introduced for clarification. First, the on deck experience requirements have been extended to include duties of training in the wheelhouse. Second, where the location of experience gained was unspecified in the proposal, the regulation now includes a requirement for at least 3 months' service on each geographic area for which application is made.

The basic requirement for 18 months' deck experience, rather than 36 months as suggested, has not been changed. The Coast Guard believes that this license is intended to serve

as an entry rating into the industry, and need not reflect the same length of service as the "Operator" license.

Section 10.16-25. A number of basic changes were made in this section. These were generally responsive to that sentiment which criticized the proposals as being inadequate. The same changes made to § 10.16-23 were made herein. Also, the conversion of a second class to operator was clarified in a new paragraph (b).

A suggestion was made that training be considered as a substitute for sea service. Should this training ever be offered, the Coast Guard will evaluate it on an equivalency basis.

Section 10.16-31. Under this section, an oral examination in lieu of a written examination is allowed. Such examination will be practical, not theoretical.

Answers to questions by commenters are as follows:

a. On waters where a magnetic compass is not utilized (i.e., western rivers) questions on its use will not be included in the examination.

b. Under the laws and regulations examination (paragraph (a)(10)), all necessary publications will be available for use by the applicant during the examination. His ability to properly use such regulations for reference will be stressed rather than memorization of details. Since a license as operator will not automatically qualify the holder as a tankerman, questions on Subchapters D (Parts 30-40) and O (Part 151), of Title 46, Code of Federal Regulations, will be confined mainly to manning, information cards, and the regulations that must be observed on board a vessel transporting hazardous cargoes such as the safety procedures requirements and the reporting of casualties. The examination will not include questions on transfer operations, cargo venting, and piping, and similar questions which would be required in a tanker-man's examination.

c. Pollution prevention and control questions (paragraph (a)(11))

will be based largely on recently published Coast Guard regulations, particularly those pertaining to the reporting of spills, and to good operating procedures. As authoritative reference books become available, including the Coast Guard Tankerman's Manual, CG-174, which is presently under revisions, the examination will be expanded and updated.

d. The word "navigation" in paragraph (b) has been clarified by adding the word "celestial" and indicating the problems an applicant is expected to solve.

e. To eliminate as much as possible the subjective differences in examination procedures from port to port, the examinations will be prepared and distributed from a central location. They are in the multiple choice format to insure objectivity and to require as little of the applicant's time as possible to complete. In an effort to develop practical, job-oriented examinations, discussions have been held with representatives of training institutions, labor groups, and management concerning the content of the examinations. Their comments will be reflected in detailed examination specifications which, together with sample questions and a reference bibliography, will be published in a specimen examination booklet.

f. Radar, in the sense of a qualified radar observer, is not included as an examination subject. Fundamental questions on operation and use of radar may be contained in the examination "Operation and use of navigational instruments and accessories" (paragraph (a)(3)).

g. Paragraph (d) is hereby withdrawn because the use of multiple choice examinations has made this requirement impractical.

Section 10.16-51. The prohibition against renewing the second-class operator's license was questioned by commenters. The professional and full-time operator will never have occasion to renew a second-class operator's license since he will qualify for

an operator's license by acquiring the necessary 3 years' service or reaching the age of 21. Only a casual part-time operator might conceivably request renewal of a second-class operator's license due to failure to obtain a total of 3 years' service during the 5 years his license is valid. This provision against renewal tends to insure that holders of valid licenses are, in fact, active operators with fairly recent experience. It also provides the man who leaves the industry for a few years with a means of once again obtaining a second-class operator's license provided he meets all qualifications for an original license, including examination. For these reasons, no change was made to this section.

Section 10.16-71. This section contains the "Grandfather clause" permitting those individuals with present or past experience operating towboats to qualify under lesser requirements.

It remains essentially unchanged, except for adding an eligibility provision for experienced shoreside personnel who can document continuous service in the industry. This corrects an oversight in the notice of proposed rule making which was pointed out by commenters.

Section 10.16-81. A comment pointed out that there were no provisions for requiring an operator or second-class operator to have the license on his person to evidence being licensed under law. This section was added to correct the oversight.

A number of comments were received which did not relate directly to the content of the proposed regulations but which sought further clarification of the language of the Act in general. Illustrative of these were questions with respect to the 12-hour work clause and the exclusion of vessels servicing the mineral and oil exploitation industry. Answers and interpretations have been and will continue to be given on such matters on an individual basis, without regard to the termination date for comments.

In continuing the Coast Guard policy of developing practical, objective,

and job-oriented examinations, participation from industry has been welcomed during the development of the examinations that are required by the regulations.

The notice of proposed rule making of August 11, 1972, indicated that parts other than Part 10 would be amended to reflect the adoption of the towboat licensing requirements. This document includes amendments to 46 CFR Parts 26 and 157.

In consideration of the foregoing, Chapter I of Title 46, Code of Federal Regulations, is amended as follows:

1. By amending Part 10 by adding a new Subpart 10.16 to follow Subpart 10.15 and to read as follows:

PART 10—LICENSING OF OFFICERS AND MOTORBOAT OPERATORS AND REGISTRATION OF STAFF OFFICERS

Subpart 10.16—Licenses for Operation of Uninspected Towing Vessels

Sec.	
10.16-1	Purpose.
10.16-3	Definitions.
10.16-5	Privileges and limitations.
10.16-11	Application and issue.
10.16-21	Eligibility requirements: General.
10.16-23	Eligibility requirements: Second-class operator.
10.16-25	Eligibility requirements: Operator of towing vessels.
10.16-31	Knowledge requirements.
10.16-41	Applicability of other regulations.
10.16-51	Renewing limited and second-class licenses.
10.16-71	Exception to requirements for license as operator.
10.16-81	Possession of license while underway.

AUTHORITY: R.S. 4427 as amended, 46 U.S.C. 405(b); 46 CFR 1.46(o)(3), except as otherwise noted.

§ 10.16-1 Purpose.

This subpart prescribes the requirements for issuing the licenses for the operation of uninspected towing vessels as required in 46 U.S.C. 405 (b) and describes the licenses that authorize the operation of uninspected towing vessels.

§ 10.16-3 Definitions.

As used in this subpart:

(a) "Inland Waters" means waters

on which the rules to prevent collisions in 33 U.S.C. 151-232 apply.

(b) "Western Rivers" means waters on which the rules to prevent collisions in 33 U.S.C. 301-356 apply.

(c) "Great Lakes" means waters on which the rules to prevent collisions in 33 U.S.C. 241-295 apply.

(d) "Oceans" means waters on which the international rules to prevent collisions in 33 U.S.C. 1051-1094 apply.

(e) "Original license" means the first license issued to any person under this subpart.

§ 10.16-5 Privileges and limitations.

(a) A license issued under this subpart—

(1) Is issued as—

(i) Operator of uninspected towing vessels; or

(ii) Second-class operator of uninspected towing vessels; and

(2) Does not authorize service aboard towing vessels of 200 gross tons or more navigating on the high seas, which are registered, enrolled and licensed, or licensed under the laws of the United States, whether permanently, temporarily, or provisionally.

(R.S. 4438a, as amended; 46 U.S.C. 224a)

(b) Except as required in paragraph (c) of this section, the holder of a license issued under this subpart may operate uninspected towing vessels to which 46 U.S.C. 405(b) applies within the geographical areas and limitation endorsed on the license.

(c) The holder of a license as second-class operator of uninspected towing vessels may not operate a vessel unless a holder of a license as operator of uninspected towing vessels, or master, mate (except mate of inland steam or motor vessels), or pilot is on board that vessel.

(d) The holder of a license as master, mate (except mate of inland steam or motor vessels), or pilot issued under this part may operate uninspected towing vessels to which 46 U.S.C. 405(b) applies within the scope and limitations endorsed on the license.

§ 10.16-11 Application and issue.

(a) An application for a license under this subpart is made on Form CG-866.

(b) An applicant who meets the requirements in this subpart is entitled to a license as operator of uninspected towing vessels endorsed for operation on one or more of the following geographic areas:

(1) Inland waters.

(2) Western rivers.

(3) Great lakes.

(4) Oceans.

(5) Oceans not more than 200 miles offshore.

(6) A limited local area designated by the Officer in Charge, Marine Inspection.

(c) Each applicant for an original license under this subpart must include his fingerprints with the application unless he holds a license issued by the Coast Guard.

§ 10.16-21 Eligibility requirements: General.

To be eligible for an original license issued under this subpart, a person must—

(a) Meet the citizenship requirements in § 10.02-5(c) of this part;

(b) Be able to speak the English language;

(c) Be able to read and understand the Rules of the Road, aids to navigation publications, emergency equipment instructions, and machinery instructions applicable to operations for which his license is endorsed;

(d) Meet the character check and personal reference requirements in § 10.02-5(i) except that the three written endorsements required in § 10.02-5(i)(1) may be from a recent marine employer or its authorized representative if at least one such endorsement is from the master, operator, or person in charge of a vessel on which the applicant has been employed but those persons licensed under the provisions of § 10.16-71 need not have worked directly for or with the master, operator, or person in charge of a vessel who provides such endorsement;

(e) Meet the physical examination requirements in § 10.02-5(e) (1), (2), (3), (6), and (7) except that the required physical examination may be given by a licensed physician who records the results of the examination and identifies the applicant on Form CG-954 which is furnished to the applicant by the Officer in Charge, Marine Inspection;

(f) Meet the experience requirements in § 10.02-5(g); and

(g) If licensed under § 10.16-71, certify that he understands the contents of the Coast Guard publication "Oil Pollution Control for Tankermen" which is furnished by the Officer in Charge, Marine Inspection.

§ 10.16-23 Eligibility requirements: Second-class operator.

To be eligible for a license as second-class operator of uninspected towing vessels, a person must—

(a) Be at least 19 years of age; and

(b) Have at least 18 months' service on deck on a towing vessel that includes—

(1) Training or duty in the wheelhouse; and

(2) Three months' service in each particular geographic area for which endorsement for the license is made.

§ 10.16-25 Eligibility requirements: Operator of towing vessels.

(a) To be eligible for a license as operator of uninspected towing vessels, a person must—

(1) Be at least 21 years of age; and

(2) Have at least—

(i) Three years' service including at least 2 years on deck of a vessel of 26 feet or over in length, 1 year on deck of a towing vessel that includes training or duty in the wheelhouse, and 3 months' service in each particular geographic area for which application for the license is made;

(ii) Three years' service on towing vessels including at least 1 year service on deck that includes training or duty in the wheelhouse and at least 3 months' service in each particular geographic area for which application for the license is made; or

(iii) For a license that is endorsed for a limited local area designated by an Officer in Charge, Marine Inspection, have at least 18 months service on deck on a towing vessel within the local area to which the license is limited.

(b) The holder of a license as second class operator of uninspected towing vessels who is 21 years old and possesses the total service required in paragraph (a) (2) (i) or (a) (2) (ii) of this section is eligible for a license as operator without the examination required in § 10.16-31.

(c) The holder of a license as operator of uninspected towing vessels may have that license endorsed as second class operator for a geographic area on which he has no operating experience if the examination required in § 10.16-31 is passed. When 3 months' experience on that geographic area is obtained, the second class restriction may be removed after the holder applies to the Officer in Charge, Marine Inspection.

§ 10.16-31 Knowledge requirements.

(a) An applicant for each license issued under this part must pass a written examination on practical problems, unless an oral examination transcribed by the examiner is determined to be necessary by the Officer in Charge, Marine Inspection, on the following subjects:

(1) Rules of the Road in the particular geographic area for which the license is to be endorsed.

(2) Practical use of the magnetic compass except for western rivers.

(3) Operation and use of navigation instruments and accessories.

(4) Emergency signals.

(5) Practical use of charts in navigation except as provided in paragraph (c) of this section.

(6) Aids to navigation except as provided in paragraph (c) of this section.

(7) Life saving and simple first aid.

(8) Firefighting equipment and procedures and fire prevention.

(9) Boatmanship for western rivers and limited area designated by the

Officer in Charge, Marine Inspection and seamanship for all other areas designated in § 10.16-11 (b).

(10) Regulations and laws applicable to the operation of a towing vessel, including the regulations in Subchapters C, D, and O of this chapter.

(11) Pollution prevention and control.

(b) An applicant for a license that is endorsed for more than 200 miles offshore must—

(1) Hold a first aid certificate issued by the U.S. Public Health Service; and

(2) Pass an examination in celestial navigation, including problems in—

(i) Latitude by Polaris;

(ii) Latitude by meridian altitude;

(iii) Longitude by observation of the sun; and

(iv) Compass error by observation of the sun.

(c) An applicant for a license that is endorsed for a limited area designated by an Officer in Charge, Marine Inspection, must pass an examination in practical use of charts in navigation and aids to navigation only for the area to which the license is limited.

§ 10.16-41 Applicability of other regulations.

The following regulations apply to each applicant for and holder of a license under this subpart:

(a) The regulations on the issuance of a license in § 10.02-1.

(b) The regulations on the right to appeal decisions of the Officer in Charge, Marine Inspection, in § 10.02-33.

(c) Except as provided otherwise in § 10.16-51 the regulations on the renewal of a license in § 10.02-9 except paragraphs (e) (3), (4), (5), and (6) of this section.

(d) The regulations on the reporting of a lost license and the obtaining of a duplicate in § 10.02-23.

(e) The regulations on the parting with a license in § 10.02-25.

(f) Licenses issued under this subpart are subject to suspension and revocation on the same grounds and under the same procedures as provided for officers' licenses.

(g) The regulations on the lifting of limitations on a license in § 10.02-15.

§ 10.16-51 Renewing limited and second-class licenses.

(a) A license as a second-class operator of uninspected towing vessels is not renewable, but another license may be issued to the holder of an expired license if he meets the requirements for original issuance of a second-class license and passes another examination under § 10.16-31.

(b) A license endorsed for a limited local area designated by the Officer in Charge, Marine Inspection, is not renewed unless the holder meets the service requirements in § 10.16-25 (a) (2) (i) or (a) (2) (ii).

§ 10.16-71 Exception to requirements for license as operator.

The following requirements do not apply to any person who applies for a license as operator of towing vessels before June 1, 1974, and who has had at least 1 year of service as an operator of any towing vessel within the 36 months immediately preceding the date of application, except that employment in a position related to management or maintenance of a towing vessel is not counted in computing the 36 months:

(a) The experience requirements in § 10.16-25(a).

(b) The knowledge requirements in § 10.16-31(a), except that he must pass an examination on the Rules of the Road for the area in which his license authorizes operations, and applicants for ocean routes in excess of 200 miles offshore must comply with the requirements in § 10.16-31(b).

(c) The color vision requirements in § 10.02-5(e) if the license is limited to operations between sunrise and sunset.

(d) The vision requirements in § 10.02-5(e) for an applicant who has sight in only one eye, if his visual

acuity is at least 20/100 uncorrected and 20/20 corrected.

§ 10.16-81 Possession of license while underway.

The holder of a license issued under this subpart shall have his license in his possession and available for examination by a boarding or investigating Coast Guard officer while the vessel is underway.

PART 26—OPERATIONS

2. By amending § 26.25-1 by adding a new paragraph (c) to follow paragraph (b) and to read as follows:

§ 26.25-1 Licensed personnel.

* * * * *

(c) An uninspected towing vessel, as defined in section (b)(1) of R.S. 4427, as amended (86 Stat. 423; 46 U.S.C. 405(b)) shall, while underway, be under the actual direction and control of a person licensed by the Coast Guard. For details of these provisions, see 46 U.S.C. 405(b) and the implementing regulations contained in Subparts 10.16, 157.01, 157.10, and 157.30 of this chapter.

PART 157—MANNING REQUIREMENTS

3. By amending § 157.01-10 by adding a second sentence in paragraph (c)(1) to read as follows:

§ 157.01-10 Authority for regulations.

* * * * *

(c) Manning of uninspected vessels. (1) * * * In addition, the authority for regulations regarding operators of uninspected towing vessels, is contained in R.S. 4427, as amended (86 Stat. 423, 46 U.S.C. 405(b)).

* * * * *

4. By amending Subpart 157.10 by adding two new sections, §§ 157.10-83 and 157.10-85, to follow § 157.10-80 and to read as follows:

§ 157.10-83 Operator of uninspected towing vessel.

The term "operator of uninspected towing vessels" means any person who is the holder of a valid license as operator of uninspected towing vessels issued by the Coast Guard attesting to his competency and who may serve in such capacity within the restriction placed on such license.

§ 157.10-85 Second-class operator of uninspected towing vessels.

The term "Second-class operator of uninspected towing vessels" means any person who is the holder of a valid license as second-class operator of uninspected towing vessels issued by the Coast Guard attesting to his competency and who may operate such a towing vessel only when the

holder of a valid license authorizing service as an operator of uninspected towing vessels is aboard.

5. By amending Subpart 157.30 by adding a new § 157.30-45 to follow § 157.30-40 and to read as follows:

§ 157.30-45 Uninspected towing vessels operator's license.

(a) An uninspected towing vessel, as defined in R.S. 4427, as amended (86 Stat. 423; 46 U.S.C. 405(b)), shall, while underway, be under the actual direction and control of a person licensed by the Coast Guard as an operator of uninspected towing vessels.

(b) An uninspected towing vessel may, while underway, be under the actual direction and control of a person licensed by the Coast Guard as a Second-class operator of uninspected towing vessels, if the holder of a license as operator of uninspected vessels is also aboard.

(R.S. 4427, as amended; 46 U.S.C. 405(b); 49 CFR 1.46(a)(3))

Dated: February 26, 1973.

Effective date. These amendments shall become effective on September 1, 1973.

C. R. BENDER,
*Admiral, U.S. Coast Guard
Commandant.*

(Federal Register of March 2, 1973)

Extra Sensory Powers Can Prevent Collisions

Traffic safety campaigns have long employed the slogan, "Watch out for the other guy!" to emphasize the importance of alertness in preventing accidents. Mistaken assumptions of the other driver's intentions coupled with the practice of not allowing enough room for evasive action have been leading causes of serious and sometimes fatal collisions.

That those two common errors are not confined to automobile safety was demonstrated in November, 1971, as two vessels collided in the vicinity of the pilot boat outside San Francisco harbor. The two vessels were planning to disembark their pilots after leaving the harbor late in the afternoon of November 18, and as the lead vessel, a container ship bound north along the coast, turned out of the main ship channel and slowed to discharge the pilot, the following vessel overtook her. The "fender bender" that resulted caused both ships to return for repairs.

Unlike automobile drivers who can rely only on their visual and intuitive senses to gauge the intentions of other drivers, the pilots involved had access to "extra" senses—radar, radiotelephones, and whistles—to ensure that there would be no mistaken assumptions. These mechanical "senses" were not fully utilized that day, however, and though the price paid for the errors was not measured in human lives, the delayed schedules and the cost of repairs to both vessels should teach us to use every available device to keep us alert for the unexpected.

TEACH MEN SAFETY

No one is too old to learn. No one is incapable of teaching what he knows to a beginner. Safety must be taught and retaught—learned and relearned. Each one can understand that the first premise of safety is survival. We are capable of surviving when we know the means of survival. All men who have sailed on ships realize that there are duties and functions to be performed that they have learned by instruction and experience. These men must then be reminded to teach new men on the jobs what is required of them.

In learning, there are rules to accept: instruction, retention, and uppermost, assimilation of ideas and learning. However, all people in the learning must be motivated in the job they perform.

The shipboard Safety Committee must, through training and inspiration, develop a safety attitude in the men. To accomplish this, there must be an easy communication between each other because safety concerns everyone. The program is for everyone's benefit, so each one must carry part of the burden to teach the entry ratings or new men.

DIRECTIVES AND TRAINING PROGRAMS CAN BE FORMULATED AT SAFETY COMMITTEE MEETINGS AND POSTED WITH THE MINUTES OF THESE MEETINGS FOR GUIDANCE OF THE MEN.

POINTERS IN TEACHING

1. Create a good safety environment by requiring all hands not to take chances—EVER!!!

2. Demand spic and span house-keeping; a clean ship is good seamanship.

3. Dress for the job; rubber-soled shoes have no place on shipboard and should be discouraged—they are forbidden to be worn in machinery spaces. (If necessary, give a lesson in proper dress when the watch turns to.)

4. Pick your best teachers, those with the most patience and skill, to train the men.

5. Use DRILL periods advantageously:

(a) After securing the boats, demonstrate the various safety features such as the icebox locked-in alarm. Where alarms are fitted they should be audible in the nearby public spaces. (Many an old-time cook has battered his way through a wooden icebox door with a side of beef.)

(b) The rocket line carrying apparatus is for "emergency use only"; however, the crew should know how to assemble the gear so show all hands what the gear is like and its function.

(c) Engineering officers have emergency machinery and remote control stations that require periodic tests—teach your men the proper operation of all emergency controls and their location.

BEGINNERS: Training the new man in the rudiments of seamanship is an all-hands job; without much help he soon will learn to handle a line and make a proper knot—BUT he must be taught to stand clear of men working aloft, to wear protective safety equipment, to hold onto ladder handrails, to climb a jacob's ladder, to read and obey caution labels, and to ask when he doesn't know. He must be given the why for everything even though he doesn't

ask; don't be fooled if he says "yes" to your every command. Watch him! For men must prove themselves to be seamen.

BEGINNERS: Teach—teach—teach them over and over again.

BEGINNERS are "Entry Ratings" and must begin someplace; remember, we all must learn.

BEGINNERS should not be assigned to a job alone in remote parts of the vessel—constant supervision is the safe way.

BEGINNERS: All men must work together—the "I can do it alone attitude" as a show of strength must be discouraged to prevent accidents. ‡

PRACTICE SAFETY AND GOD WILL HOLD YOU IN THE PALM OF HIS HAND.

—*Delta Line Safety News*

AMENDMENTS TO REGULATIONS

Approved Equipment Commandant Issues Equipment Approvals; Terminates Others

U.S. Coast Guard approved 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 and terminations should consult the Federal Registers of February 6 and 26, 1973, for detailed itemization and identification.

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 \$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 October 1, 1972 are now available from the Superintendent of Documents price: \$5.75

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 (4-1-72). F.R. 7-21-72.
115	Marine Engineering Regulations (7-1-70) F.R. 12-30-70, 3-25-72, 7-18-72.
123	Rules and Regulations for Tank Vessels (5-1-69) F.R. 10-29-69, 2-25-70, 6-17-70, 10-31-70, 12-30-70, 3-8-72, 3-9-72, 6-14-72, 7-18-72, 10-4-72, 10-14-72, 12-21-72.
129	Proceedings of the Marine Safety Council (Monthly).
169	Rules of the Road—International—Inland (8-1-72). F.R. 9-12-72.
172	Rules of the Road—Great Lakes (7-1-72). F.R. 10-6-72, 11-4-72, 1-16-73, 1-19-73.
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 (2-1-71) F.R. 10-1-71.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
184	Rules of the Road—Western Rivers (8-1-72). F.R. 9-12-72.
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.
191	Rules and Regulations for Licensing and Certification of Merchant Marine Personnel (6-1-72). F.R. 12-21-72.
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.
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 (3-1-72). F.R. 11-3-72.
249	Marine Safety Council Public Hearing Agenda (Annually).
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.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (8-1-69). F.R. 10-29-69, 2-25-70, 4-22-70, 4-30-70, 6-17-70, 10-31-70, 12-30-70, 9-30-71, 3-9-72, 7-18-72, 10-4-72, 10-14-72, 12-21-72.
258	Rules and Regulations for Uninspected Vessels (5-1-70). F.R. 1-8-73.
259	Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72, 8-16-72.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69.
268	Rules and Regulations for Manning of Vessels (10-1-71). F.R. 1-13-72.
293	Miscellaneous Electrical Equipment List (9-3-68).
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) (12-1-71). F.R. 3-8-72, 3-25-72, 6-24-72, 7-18-72, 12-8-72, 12-21-72, 1-8-73.
329	Fire Fighting Manual for Tank Vessels (7-1-68).
439	Bridge-to-Bridge Radiotelephone Communications (12-1-72).

CHANGES PUBLISHED DURING FEBRUARY 1973

The following have been modified by Federal Registers:

CG-190, Federal Registers of February 6, and 26, 1973.

Warn **'SPARKY'** when
painting near
insulators



or the results
might be shocking

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