## **PROCEEDINGS** OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

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Licensing Exams

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#### FRONT COVER

This photograph, taken the day after the casualty that claimed 10 lives, shows both the minor damage incurred by the *African Neptune* and the bridge she struck.

#### BACK COVER

The twisted wreckage of the Sidney Lanier Bridge luoms out of darkness. Rescue efforts by the *African Neptune* (background) and other vessels were launched within minutes after the collision. PROCEEDINGS

#### OF THE

#### MARINE SAFETY COUNCIL

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Admiral O. W. Siler, USCG Commandant

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#### The Marine Safety Council of The United States Coast Guard

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# 13 Minutes

The passage of the Sidney Lanier Bridge in Brunswick, Ga., is evaluated as a "tough maneuver" by the men who pilot it. A ship coming out of the narrow tidal river which joins the Brunswick River just above the bridge has a very short run in which it must align itself with the span's 250-foot opening. Ships with a large turning radius must begin turning before reaching the main channel. and few are able to straighten out before reaching the "point of no return." Many ships carry left rudder or will still be swinging slowly left as they pass through the lift span opening. In such a situation there is neither time nor room for error.

At 9:36 p.m. on November 7, 1972, the SS African Neptune cast off after completing loading operations at the State Docks on Oglethorpe Bay. Actually a narrow tidal river, Oglethorpe Bay flows downstream to join the Turtle River below the State Docks. There the two rivers become the Brunswick River, which the Sidney Lanier Bridge crosses about 400 yards seaward of the junction.

On the bridge of the African Neptune that night were two State licensed pilots and the Master of the vessel. The senior pilot conned the vessel while docking and in close proximity of its assigned berth. Under those circumstances, the branch pilot remained on the bridge but did not give maneuvering orders. All three men held Coast Guard licenses.

At about 9:37 the docking pilot maneuvered the *African Neptune* laterally a short distance into the

channel using both a tug and the ship's engines. As the vessel began to make headway, the pilot decided to release the tug and maneuver the vessel clear of the dock and around several barges moored downstream using only the ship's rudder and engines. Two minutes later the engines were ordered "FULL AHEAD," and the rudder put "HARD RIGHT." Soon afterward the tug cast off. The ship gained speed as the right rudder caused the bow to swing right and away from the barges. The vessel drew close abeam of the barges, the helm was shifted from hard right to hard left. At about 9:41 the pilot ordered, "SLOW AHEAD" as the African Neptune's stern passed the barges.

The Master and docking pilot were on the port wing of the bridge during most of the undocking maneuver. Dissatisfied with the way the helmsman applied the pilot's orders, the Master ordered the mate of the watch to have the helmsman relieved. The word was passed for the other 8–12 Able Seaman to relieve the helmsman.

From the period that the vessel was abeam of its former berth at the State Docks to the time that the African Neptune's stern passed the moored barges, the ship had traveled about 1,000 feet. Its head was being directed to swing slowly to the right. At that point, the African Neptune was situated in the channel about midway between the center and the east side. After considering the ship's position and progress down the channel, the docking pilot decided that he would remain in control of the maneuvering of the vessel until it passed the Sidney Lanier Bridge.

At about 9:43, the African Neptune radioed the Sidney Lanier Bridge operator of the vessel's intention to pass under the lift span. When the operator observed the vessel proceeding down the channel, he initiated procedures to lift the span. He noted that he could see all the barriers. warning lights, and other protective devices working properly. At that time the shore line on both sides of the bridge was visible. After the warning gates had closed, traffic on the span was halted and cars approaching the gates began to stop behind them. Having lifted the span, the operator noted that as the span reached the top, the red lights which mark the center of the opening, one marking the upstream and one marking the downstream approach to the bridge, had properly switched to green. He was satisfied that the bridge was ready for the vessel's passage.

At about 9:43, the pilot ordered the engine, "HALF AHEAD." Moments later he ordered the helm, "LEFT, 10°," to start his left turn towards the lift span passage of the bridge. By this time the African Neptune had moved to the right side of the channel, but then commenced a slow swing to the left. After noting the vessel swinging to the left, the pilot ordered, "RUDDER AMIDSHIPS."

The relief of the helm took place at approximately this time. The departing helmsman uttered an obscenity which was directed generally towards the Master and pilot. Both men denied hearing the remark and the pilot stated that he was unaware that the helm had been relieved. Shortly after the rudder amidships order the pilot ordered the rudder, "RIGHT, 10°," to check the growing swing to the left. Seconds later he ordered, "RUDDER AMIDSHIPS."

At about 9:44 the pilot again ordered the rudder, "LEFT,  $10^{\circ}$ ." (See fig. 1, point A) Each of the orders was audible in the pilot house. Each order was repeated by the helmsman as it was given, and each repeat was heard by personnel in the pilot house. Orders to the engine were similarly repeated by the mate on watch.

After continuing the left swing towards the bridge passage for about 3 minutes, the *African Neptune* had reached the point in her approach that the pilot considered the "point of no return". The ship was now committed to attempt the passage of the bridge.

At about 9:46 the pilot ordered the engines, "FULL AHEAD" to improve rudder response. About this time, he also ordered the rudder, "LEFT, 20°," which the helmsman audibly repeated. The master had stationed himself on the starboard wing of the bridge to watch the vessel's passage by the south lift tower of the Sidney Lanier Bridge. Both pilots were looking ahead through an open pilot house window to the left of the vessel's centerline. The mate, who was at his usual position on the starboard side of the pilot house, repeated the "FULL AHEAD" engine order and entered the order in the deck bell book at 9:45+.

A short time after the pilot gave the left 20° rudder order, the mate routinely checked the rudder angle indicator and observed the indicator about right 10° and moving further to the right. The mate immediately approached the helmsman, tapped him on the arm and indicated by twirling his finger in a counter-clock-



#### FIGURE 1

This illustration, taken from the National Transportation Safety Board's Action on the casualty, depicts the path of the African Neptune. The rudder order at Point A (near the beginning of the vessel's track) occurred at 9:44 p.m.

wise direction to turn the wheel to the left. The helmsman accepted this as an order and began to turo the wheel to the left. At about this time, both pilots noted the vessel's head hestitate in its swing to the left. They stepped back from the pilot house windows to check the rudder angle indicator on the forward bulkhead. When the docking pilot saw it was reading about right 20°, he immediately ordered the rudder, "HARD LEFT," and the engine, "FULL ASTERN," at about 9:47. The branch pilot looked at the indicator and watched it swing past right 20° and toward right 25°. The Master, also noting that the vessel's swing to the left had hesitated, immediately proceeded into the pilot house. The helmsman had started turning the wheel to the left by the time the pilot ordered the rudder, "HARD LEFT."

To notify the engineroom of the emergency nature of the FULL ASTERN engine order, the Master "jingled" the engine order telegraph several times, by repositioning the telegraph from FULL ASTERN to AHEAD to FULL ASTERN again. At about the same time that he jingled the FULL ASTERN bells, the starboard anchor was dropped. About three shots or 45 fathoms of anchor chain went out the hawse pipe before the brake was applied. With the ship making headway, the chain continued to pay out, finally fetching up with about seven shots out of the hawse pipe.

The African Neptune's engines responded to the FULL ASTERN bell almost immediately. At about the same time, the docking pilot commenced sounding the ship's steam whistle in short rapid blasts. At about 9:48 the branch pilot ordered, "HARD RIGHT." By that time, the African Neptune had slowed its forward progress to no more than 1 or 2 knots. Thirteen minutes after the ship had cast off from its mooring on Oglethorpe Bay, the African Neptune slammed into a steel structural member of the Sidney Lanier Bridge about 250 feet south of the southernmost lift span tower. Three sections of the bridge collapsed on impact, plunging the 10 vehicles that were stopped on the span into the river's 30-foot depths.

Rescue operations began immediately after impact. The branch pilot joined the ship's crewmembers in the African Neptune's lifeboat which was launched within minutes after the collision. The bridge operator iminediately telephoned the Brunswick Police Department for assistance. The tug that had helped the African Neptune away from the dock responded to the distress call along with various other harbor craft. Coast Guard patrol boats and helicopters, Civil Defense units, the Georgia Highway Patrol, the Brunswick Rescue Squad, and private citizens participated in the search and rescue efforts.

Ten of the 24 people on the bridge that night drowned when their cars plunmeted into the river. At least three ran to safety when they realized that the collision was imminent. Several persons managed to cling to the damaged structure, and the remainder were rescued by the African Neptune's lifeboat or other harbor craft. Search operations continued through November 8, but failed to locate any additional survivors. The last body was recovered from a submerged vehicle 5 days after the casualty.

The Port of Brunswick was closed to shipping overnight. With the assistance of two tugs, the African Neptune proceeded to the Lanier Berth in Brunswick to effect temporary repairs. The vessel then proceeded to Savannah, Ga., on November 8, 1972, to discharge cargo and complete permanent repairs to the minor damage she had sustained.

A Coast Guard Marine Board of Investigation convened to determine the cause of the casualty concluded that the helmsman's error in applying right rudder to a "left rudder" order was the primary cause of the collision. The lapse in time between the incorrect application of rudder and the time it was detected was also noted as a contributing cause. An additional contributing factor was the substantial speed required to maintain steerageway. This caused the *African Neptune* to pass the "point of no return" at a considerable distance from the bridge opening. The fact that the vessel had to approach the bridge in a continuous left turn maneuver was also viewed as contributing to the collision.

The Board found evidence of negligence in the helmsman's actions. No fault was found with the rudder and engine orders given by the pilot, nor was the third mate deemed remiss in his duties for not supervising the helm more closely. At the time of the incorrect rudder application the third mate was entering an engine order in the bell book.

The Commandant's Action concurred with the Board's recommendation that the traffic control gates on the Sidney Lanier Bridge be relocated to prevent a similar occurrence. The National Transportation Safety Board also recommended that the Federal Highway Administration establish policies and standards to protect vehicles on bridges that might collapse if struck by a marine vessel. This recommendation



These two perspectives of the Sidney Lanier Bridge in Brunswick, Ga., show both the navigational complexities involved in a safe transit of the lift span and the height from which the vehicles plummeted as the bridge collapsed. Vessels heading out to sea from Oglethorpe Bay (channel, upper left in left hand photograph) have very little time in which to line up with the bridge opening. Ten vehicles which had stopped on the span to await the African Neptune's passage were plunged into the river's thirty-foot depths.



The African Neptune suffered only minor damage as a result of the casualty. After effecting temporary repairs in the Port of Brunswick the day following the casualty, she sailed for Savannah, Ga. Note the highway sign at the extreme right of the right-hand photograph.

has been adopted in a Policy and Procedure Memorandum.

The Board of Pilotage Commissioners was provided a copy of the report with the recommendation that they adopt measures that would require large vessels to line up on the Sidney Lanier Bridge before passing a point of no return during outbound passage.

The Commandant's Action also concurred with the Board's recommendation that further investigation under Suspension and Revocation Proceedings be initiated in regard to the helmsman's part in the casualty.

In their investigation of the casualty, the National Transportation Safety Board (NTSB) noted that there were *two* errors made by the helmsman in responding to rudder orders. A study of the course recorder chart from the African Neptune revealed that prior to the "LEFT 20" that the helmsman reversed, he had applied right rudder to a "LEFT 10" order. For 27 seconds prior to the error that was eventually noticed by the third mate, the ship was being steered on a collision course with the hridge.

The NTSB noted in their report that the wheelhouse arrangement prevented the effective monitoring of the helm which may have reduced chance for such an error. The steering wheel on the African Neptune was a small black wheel that was nearly obscured by the helmsman. From most locations in the dark wheelhouse, it was very difficult to see which way the wheel was being turned or what rudder angle was being set. Though the rudder order indicator was mounted on the steering stand, it was recessed and could not he read except from very close to the stand. Because the third mate was required to operate the engine order telegraph and maintain the bell book, he could not continuously monitor the helmsman. Thus, at a critical time, no one in the wheelhouse-the Master, pilot or the third mate-was monitoring the input to the steering control frequently enough to prevent an accident.

In addition, the NTSB noted that presailing conferences should be held prior to maneuvering through high risk areas. A general review of ship characteristics, particular danger areas, and alternative maneuvers may provide the margin of safety needed to prevent similar occurrences.

At the conclusion of their report the NTSB recommended that:

- 1. The Coast Guard require that ocean-going vessels be alined with any channel bridge opening before the vessels reach a point equal to the ship's stopping distance from the bridge.
- 2. The Coast Guard require that every master of an ocean-going vessel inform himself of the pilot's plan to maneuver his ship in or out of a harbor and that the master determine, with the pilot's assistance, the critical aspects of the maneuver, including the pilot's plan for emergencies. The master should then be required to instruct his crew to insure that high-risk tasks receive priority.
- 3. The Coast Guard expedite the issuance of regulations requiring that all ocean-going vessels be provided with stopping distances and turning radii for

(Continued on page 201.)

## A Status Report on the Merchant Marine Licensing Examination Program

By Capt. J. V. Caffrey, U.S. Coast Guard, Chief, Merchant Vessel Personnel Division, Office of Merchant Marine Safety, U.S. Coast Guard Headquarters

Early in 1974 the Coast Guard introduced a new type of license examination for Second and Third Mates and Second and Third Assistant Engineers. Many years of study and research have resulted in the revised examinations, which respond to a number of obvious needs.

The superseded examinations had been criticized because they did not reflect new developments in equipment, modern day practices, and current rules and regulations. Merely updating these examinations by replacement of archaic questions would not have insured a fair and uniform sampling of an applicant's knowledge. The subjective style of the procedure was open to criticism in view of today's demand for uniformity, objectivity, and efficiency. Moreover, a fully answered essay type examination was taking some applicants (particularly in the higher grades) as long as 2 weeks to complete.

With the advent and prevalence of the objective, standardized multiplechoice test, it seemed apparent that this was the preferred path. At the request of and in cooperation with the many facets of the maritime community, an entire revision was undertaken. By improving both the examinations and the training for them, it was hoped that the successful candidate would be better prepared to cope with the rapid advances in maritime technology and operations. The corresponding examinations for Master, Chief Mate, Chief and First Assistant Engineer are also under revision, with an estimated date of completion around mid-1975. Examination time, in general, will be reduced by one-half.

Consultants in the development of the specifications included, among others, American President Lines, The Brotherhood of Marine Officers, Cleveland-Cliffs Iron Co., Gulf Oil Corp., EXXON, Interlake Steamship Co., International Organization of Masters, Mates and Pilots, Lake Carriers Association, Marine Transport Lines, Marine Engineers Beneficial Association Districts I and II, Mobil Oil Corp., Oglebay Norton Co., Prudential-Grace Lines, U.S. Coast Guard, U.S. Maritime Administration, Military Sealift Command, United States Steel Corp., U.S. Merchant Marine Academy and all State maritime academies. The test items were written by licensed officers, active or retired, who work or worked for these or similar organizations.

The examinations are administered on a monthly basis at a specified time. Each portion has a specified time limit. Candidates who fail the examination either completely or partially are allowed to retake the portion they failed at the next regular-testing period. During the phasein period and until January 1, 1975, the candidate has the option to be re-examined with the superseded essay type examination if he fails in his first attempt with the new multiple-choice test.

Early results indicate that as of early June 1974, of approximately 1,000 candidates tested, 68 percent of Third Mate, 44 percent of Second Mate, 51 percent of Third Assistant Engineers (steam and motor), and 19 percent of Second Assistant Engineers (steam and motor) who took the multiple-choice examination attained a passing score and received their license. Taken as a group, approximately 50 percent of those tested with a multiple-choice examination attained a passing score. Another 25 percent of the total candidates have received licenses as a result of exercising the option of being retested with the essay type examination, making the pass-fail percentage comparable to that experienced in previous years. Table 1 contains the statistical breakdown on the passing rate for each examination administered.

Phasing-in permitted the examinations to be introduced without obstructing operations. Accompanying the phasing-in process, Coast Guard officers have been holding examination conferences with various persons and groups who are involved in preparing individuals for careers as licensed officers in the U.S. Merchant Marine. The tests were reviewed to determine if they actually reflect a representative sample of the knowledge required of an individual holding a merchant marine license. To determine the validity of the examinations, conferences were held with the staffs of the following schools: Maine Maritime Academy, Massachusetts Maritime Academy, State University of New York, Maritime College, Texas A. & M. University, Texas Maritime Academy, U.S. Merchant Marine Academy, Marine Institute of Technology and Graduate Studies (MMP), School of Marine Engineering (MEBA II), Calhoon School of Marine Engineering (MEBA I), Page Navigation School, New Orleans, La., American Marine School, New Orleans, La., Captain Van & Co., Port Arthur, Tex., California Maritime Academy, Laws School of Marine Engineering, and Crawford School of Navigation.

The majority of individuals attending these conferences arrived with seemingly predetermined opinions that the examinations were less than valid. At the completion of the conferences all of those attending, with one or two exceptions, voiced the general opinion that the examinations were not at all as poorly prepared and inappropriate as applicant feedback had indicated. This general opinion was arrived at after the conferees had reviewed specific items which the candidates had difficulty in responding to correctly. Upon review, the attendees could find no fault with most of the items and offered such comments as, "If they don't know this, they shouldn't have a license," or "This exam is a giveaway," and "This is a very practical job related examination."

Comments were also obtained from candidates just after they had taken the examination. The two primary comments of note received were the following: (1) There was nothing on the exam they had not expected. (2) There was nothing asked that a Second or Third Mate or Engineer should not be expected to know. The above comments should not be construed to mean that the examinations as constructed are perfect measuring instruments. Comments and criticism from staff members of the various academies and from candidates will continue to be solicited and accepted for examination improvement. The primary complaints to date and the Coast Guard responses are as follows:

1. *Complaint:* Some items are vague, poorly worded, or have more than one correct answer.

The Response: examinations undergo analysis on a monthly basis using standard item analysis methods. If the item statistics indicate the candidates are having trouble with specific items they are thoroughly reviewed by a research psychologist and Coast Guard officers. If it is determined that an item is not valid, all candidates are given credit for a correct answer and the item is either eliminated from all future forms of the examination or is modified so that it is valid. No candidate, therefore, is penalized for answering a non-valid item incorrectly.

2. Complaint: The Navigation section of the mates exam is too long. It should be shortened or the time allowed to complete it should be extended.

Response: Present plans are that this section will be reduced to 25 items instead of the present 30.

3. Complaint: Portions of the exam involve too much theory. For instance, items concerning vessel design and construction are not appropriate for a second or third assistant engineer.

Response: All inappropriate theory questions will be removed from the exam.

4. Complaint: There was strong opposition to the 1 and 2 format questions. For example:

Proceeding into a harbor from sea, buoys which are to be left on your right or starboard side are:

2. even numbered

C. Both 1 and 2 D. Neither 1 nor 2.

The correct answer is C since such buoys are both red and even numbered.

Response: Item statistics indicate that candidates generally score as well on this type of item as on others. However, the use of this format will be limited to those cases where a particular item of knowledge is to be tested and it is not possible to develop four acceptable distractors.

5. Complaint: Rules and regulations questions are spread throughout the examination. This means that candidates have to intermittently get up and walk to where the publications are located.

Response: To alleviate this situation, every effort will be made to group these questions in the latter portion of each module in which they are applicable so that the candidate only has to make one trip to the publications.

6. Complaint: Some illustrations are unclear.

Response: Unclear or poor illustrations are being replaced with superior illustrations whenever an exam module is revised.

7. Complaint: Mixing international and inland rules of the road in the Rules of the Road module is confusing.

Response: These items are now separated with the first 25 items being international rules and the second 25 items being inland rules.

8. Complaint: Applicants who fail are not informed of the specific areas within an exam module which they might study in order to have a better chance of passing the exam.

Response: Staff limitations prevent this from occurring on a regular basis. However, consideration is being given to computerizing this service in the future if the expenditure warrants it.

It is possible that deficiencies in the examinations have resulted in the failure of some marginal license candidates. This effect, because of the crediting for questionable items, must

<sup>1.</sup> Red

A. 1 only

B. 2 only

#### Table 1

#### License Examination Results—December 1973 Through June 1974

		Origin	al exams		1	Re-exam	3						
Source of candidates	Pass	Fail	Partial failure	Total	Pass	Fail	Total						
			DECK	OFFIC	ERS		1						
			Th	nird Mate									
Unsponsored MARACAD	5 71	29 33	16 111	50 215	14 89	10 50	24 139						
Total	76	62	127	265	103	60	163						
			Sec	ond Mate	2								
Unsponsored	27 3	37 3	29 4	93 10	· 12 3	13 1	25 4						
Total	30	40	33	103	15	14	29						
	ENGINEER OFFICERS Third Assistant—Steam												
Unsponsored MARACAD Other	5 69 19	43 78 17	7 85 6	55 232 42	7 54	7 33	14 87						
Total	93	138	98	329	61	40	101						
-			Third As	sistant—1	fotor								
Unsponsored MARACAD Other	0 82 19	22 76 11	4 74 7	26 232 37	3 57	4 34	7 91						
Total	101	109	85	295	60	38	98						
			Second A	ssistant—	Steam								
Unsponsored	13 2	57 12	21 12	91 26	11 0	22 0	33 0						
Total	15	69	33	117	11	22	33						
		<u>.</u>	Second As	ssistant—	Motor								
Unsponsored Other	1	24 1	3 0	28 1	1	0	1						
Total	1	25	3	29	1	0	1						

Note.-This table has been divided into sources as follows:

Unsponsored—Those persons making application individually at local Marine Inspection Offices and not sponsored by any particular organization.

MARACAD-Includes the U.S. Merchant Marine Academy and all State Maritime Academics.

Other-Those applicants from joint management labor training plans.

be considered minimal. In addition to unfamiliarity with this new type of examination and examination procedures, it is apparent that the following factors must share the responsibility for relatively high early failure rates on the new examinations:

(1) The various training institutions did not know exactly what to expect in this new exam, resulting in possible deficiencies in the course of instruction. For example, when the public was informed that rules and regulations would be an open book portion of the exam, some schools omitted rules and regulations from the course of instruction. The result was that when an applicant had to refer to the regulations he either could not find the proper publication or, he could not interpret it in the correct manner.

(2) It is recognized, and accepted, that a number of maritime training institutions have expanded their curriculum to include much non-license oriented material. Very possibly some shifting of emphasis and priority has resulted in a lesser (professionally) prepared candidate. This becomes fairly apparent when viewing comparative scores. Candidates from the more purely professionally oriented institutions have had greater initial success with the new examinations.

(3) A number of applicants have taken the exam for the sole purpose of taking a look at it. It is hard to believe that candidates who obtain scores of less than 20 or 30 percent seriously believe themselves to be qualified to sit for a license. A person with no maritime knowledge whatsoever can attain scores such as these.

(4) The old examination material and procedures had become so familiar through the years that there was a tendency to study specific questions and answers. Some candidates may have come to rely so heavily upon this preparation that they find it difficult to study alternate sources of information dealing with the overall subject as opposed to the questions and answer approach. Continued improvement in the examinations and adjustments on the part of schools and candidates to counteract these factors should increase the passing percentage. An improving trend is already apparent.

The construction of a valid licensing examination program is not an easy task. It requires the cooperation of all persons involved. This cooperation should result in valid professional licensing examinations which will ensure that only those candidates who are qualified will obtain their licenses. The merchant marine industry must be assured that all future licensed officers will be as highly qualified as those persons who are presently serving in the U.S. Merchant Marine. Future developments in the maritime industry, as well as research concerned with human error which is presently underway, may well dictate the need for including proficiency demonstrations as a prerequisite for certain licenses. The Coast Guard and MARAD will continue to rely heavily on the advice of industry in establishing standards for training and qualifying personnel.

## MERCHANT MARINE PERSONNEL STATISTICS

This year's report of Merchant Marine personnel statistics for the period July 1, 1973 through June 30, 1974, is marked by the addition of two new tables. Included for the first time in this traditional compilation are figures on the Coast Guard's newest licensing program, Operator of Uninspected Towing Vessels. The second addition to the aonual report is the separate statistical table for Staff Officers. This table also indicates for the first time the grade of Gertificate of Registry issued.

In addition to issuing licenses, documents and endorsements, the Coast Guard also takes action against licenses and/or merchant mariner's documents held by merchant seamen. This remedial action is initiated where there is substantive evidence of misconduct, negligence, inattention to duty, incompetence, or violation of statutes or regulations. In the fiscal year ending June 30, 1974, some 798 personnel investigations were deemed sufficiently serious to warrant a formal hearing before an Administrative Law Judge. The results of the hearings are furnished also. Those investigations which were not carried to a formal hearing were disposed of by voluntary surrender of documents, letters of warning, voluntary medical deposits of documents, or simply closed due to insufficient evideoce.

#### Merchant Marine Officer Licenses Issued Fiscal Year June 30, 1974

Grade	July through (19	September 73)	October throu (19)	gh December 73)	January thm (19	ough March 74)	April throa (19)	ugh June 74)
	Original	Renewal	Original	Renewal	Original	Renewal	Original	Renewal
Master					1			
Ocean	82	324	77	307	73	313	95	226
Coastwise	18	31	20	18	10	18	12	18
Great Lakes	1	6	0	13	21	94	7	18
B.S. & L	20	44	12	35	14	58	11	60
Rivers	17	59	8	31	13	44	10	60
Radio officer licenses issued	1	82	3	124	2	192	5	183
Chief Mate:	-							
Onegn	81	79	49	50	40	67	57	72
Consturise	1	5	-õ	3	0	1	i	1
Owent Lairee	â	ō	ň	ŭ	0	1	ñ	ō
B C & T	0	0	4	ň	ŏ	õ	ň	ň
Dig. & Deserver and the second second	0	0	0	ŏ	5	0	ő	ĩ
AIVERS.	0	-	0			~		-
2d Meter		00	92	85	42	85	32	112
Ucean	66	00	00	00	10	0	00	1.0
Coastwise	U U	U	1 1		0	Ŷ	*	1
3d Mate:	20	1.0	1 11		14	1/08	1677	110
Ocean	50	116	11	(**	14	100	141	\$10
Coastwise	0	0	0	0	U	1	0	1
Pilots:				10	20	00	10	10
Great Lakes.	17	8	12	19	69	104	40	19
B.S. & L	122	107	88	102	93	104	99	132
Rivers	92	180	84	10	107	110	104	131
Master: Uninspected vessels.	32	25	33	20	41	41	20	29
Mate: Uninspected vessels	20	3	21	4	20	ă da	31	11
Motorboat operators	722	862	548	642	886	1,157	1, 146	1, 599
Total	1,264	2, 018	1,001	1,610	1, 421	2, 494	1,850	2, 919

Original licenses issued: 5, 536.

Renewals issued: 9, 041.

Total deck licenses issued: 14,577.

		E	NGINEEK					
Grada	July through (197	September 3)	October throug (197	zh December 73)	January thre (19)	ough March 74)	April thro (19)	ugh June 74)
	Original	Renewal	Original	Renewal	Original	Renewal	Original	Renewal
STEAM	188	799	193	816	209	936	354	893
Chief engineer: Unlimited Limited	25 3	278 34	37 2	335 40	58 6	366 40	38	283 26
1st Assistant engineer: Unlimited Limited	21 1	112 6	30 2	103 9	70 5	133 17	49 3	81 11
2d Assistant engineer: Unlimited Limited	44 1	150 2	46 0	171 5	25 3	195 9	33 0	167 24
3d Assistant engineer: Unlimited Limited	93 0	215 2	74 2	151 2	42 0	172 4	225 2	296 5
MOTOR	139	481	108	438	81	480	278	506
Chief engineer: Unlimited Limited	18 28	58 87	16 20	70 66	11 24	54 90	25 19	38 75
1st Assistant engineer: Unlimited Limited	10 3	16 14	7 6	20 23	8 11	25 26	4	20 14
2d Assistant engineer: Unlimited Limited	9 2	30 1	12 2	28 7	6 0	23 15	8 1	28 6
3d Assistant engineer: Unlimited Limited	68 1	271	44 1	221 3	21 0	249 4	204 6	316 9
Chief engineer: Uninspected vessels	37	24	19	13	28	16	56	33
Assistant engineer: Uninspected vessels	4	7	16	3	16	5	26	1
Total	368	1, 311	336	1,270	334	1, 443	714	1, 433

#### Merchant Marine Officer Licenses Issued Fiscal Year Ending June 30, 1974 THE INFER

Original licenses issued: 1,752. Renewals issued: 5,457. Total engineer licenses issued: 7,209.

#### Towboat Operators Licenses Issued Fiscal Year Ending June 30, 1974

Opera	tor	2d cla	155	Endorsement
Candidates	Pass	Candidates	Pass	XXX
15, 638	9, 662	511	298	2, 575

Number of candidates: 16,149.

Number of licenses issued: 12,535.

Applicants licensed prior to 1 July 1973: 6,372. Total licenses issued to 1 July 1974: 18,907.

#### Merchant Seaman's Documents Issued Fiscal Year Ending June 30, 1974

July through September 197		1973	Octo	ber thro	ough D	ecemb	er 197 <b>3</b>	January through March 197					April through June 1974							
Type of document	Atlantic coast	Gulf coast	Pacific coast	Great Lakes region	Total	Atlantic coast	Gulf coast	Pacific coast	Great Lakes region	Total	Atlantic coast	Gulf coast	Pacific coast	Great Lakes region	Total	Atlantic const	Gulf coast	Pacific coast	Great Lakes region	Total
MMD'S AB—Any Waters, unlimited AB—Any Waters, 12 months AB—Great Lakes, 18 months AB—Other. Lifeboatman. Electrician Oiler Fireman-Watertender. Other QMED ratings Tankerman. Entry and steward.	984 44 45 4 14 62 12 42 81 150 85 885	975 51 19 4 24 38 3 12 7 7 6 223 890	665 68 21 14 14 74 8 39 23 58 15 696	900 23 87 6 3 75 0 17 40 5 109 813	3, 524 186 172 28 55 249 23 110 101 289 432 3, 284	988 47 32 5 9 82 13 42 47 163 100 782	854 53 23 6 47 77 0 8 8 70 182 739	$\begin{array}{c} 625\\ 36\\ 22\\ 11\\ 10\\ 46\\ 14\\ 34\\ 19\\ 58\\ 14\\ 650\\ \end{array}$	712 8 49 8 0 44 2 16 32 3 110 652	$\begin{array}{c} \textbf{3, 179} \\ \textbf{144} \\ \textbf{126} \\ \textbf{30} \\ \textbf{66} \\ \textbf{219} \\ \textbf{29} \\ \textbf{100} \\ \textbf{106} \\ \textbf{294} \\ \textbf{408} \\ \textbf{2, 823} \end{array}$	$1,253 \\ 44 \\ 35 \\ 2 \\ 14 \\ 52 \\ 10 \\ 49 \\ 52 \\ 125 \\ 135 \\ 880$	$1,006 \\ 31 \\ 39 \\ 5 \\ 47 \\ 80 \\ 3 \\ 12 \\ 11 \\ 77 \\ 155 \\ 890$	456 32 17 10 15 42 7 33 18 56 31 470	641 27 22 3 0 33 1 18 27 4 118 498	3, 356 134 113 20 76 207 21 112 108 262 439 2, 747	1, 793 196 38 0 35 278 20 40 35 262 86 1, 312	1,010 27 55 2 73 85 8 15 8 15 6 77 197 790	493 26 14 7 15 49 15 40 17 50 28 525	1,014 16 24 13 1 14 7 27 31 9 139 926	$\begin{array}{r} 4,310\\ 265\\ 131\\ 22\\ 124\\ 426\\ 50\\ 122\\ 89\\ 398\\ 450\\ 3,553\end{array}$
Total	2,358	2,322	1,695	2,078	8,453	2, 280	2,067	1, 539	1,636	7, 522	2,660	2,356	1, 187	1,392	7, 595	4,095	2,345	1,279	2,221	9,940

Total merchant seaman's documents issued: 33,510.

#### Staff Officer Licenses Issued Fiscal Year Ending June 30, 1974

	July	July through September 1973 O				Octob	er thro	ngh D	ecembe	ber 1973 January through Mar					1974	Ар	April through June 1974				
Stuff officer	Atlantic coast	Gulf coast	Pacific coast	Great Lakes region	Total	Atlantic coast	Gulf coast	Pacific const	Great Lakes region	Total	Atlantic coast	Gulf coast	Pacific const	Great Lakes region	Total	Atlantic coast	Gulf coast	Pacific coast	Great Lakes region	Total	
Chief purser- Purser- Senior assistant purser- Junior assistant purser- Surgeon- Professional nurse-	3 0 0 1 0	0 0 0 1 0 0	3 2 0 11 2 0	0 1 0 0 0	6 3 0 13 2 0	1 0 0 0 0 0	0 1 0 0 0 0	2 1 0 4 1 1	0 0 1 0 0	3 2 0 5 1	5 0 0 1 0 0	0 0 0 0 0	3 2 0 5 1	0 0 0 0 0	8 2 0 6 1 1	3 0 1 2 0	000000000000000000000000000000000000000	2 0 8 0 0	0 0 0 0 0	5 0 9 2 0	
Total	4	1	18	1	24	1	1	9	1	12	6	0	12	0	18	6	0	10	0	16	

Total staff officer documents issued: 70.

#### Hearings Before Administrative Law Judges

Action	Deck	Engine	Radio	Unlicensed	Other
Revoked	3	0	0	31	4
Suspended outright and probation	20	10	1	129	17
Suspended on probation	71 20	20	1	155 22	37 5
Dismissed after hearing	34	18	ī	74	19

Total: 798.

## Operational Guidance For Navigational Watchkeeping

In early 1970 an Intergovernmental Maritime Consultative Organization (IMCO) working group urged that action be taken to strengthen and improve standards of training and professional qualifications of mariners. That recommendation was prompted by the continuing alarming rise in maritime casualties and pollution.

Responding to the working group's report, the Maritime Safety Committee of IMCO established a new Subcommittee on Standards of Watchkeeping and Training in October 1971. The four meetings of this subcommittee since that time have resulted in several documents on the subject of personnel standards and qualifications. These documents were then submitted to the Maritime Safety Committee and finally to the IMCO Assembly for approval and distribution to member governments in the form of Recommendations.

One of the first documents distributed enumerated recommendations on basic principles and guidelines for maintaining a navigational watch. Annex (A) of that document, "Basic Principles to be Observed in Keeping a Navigational Watch," was reprinted in the September 1974 *Proceedings*. Reprinted below is the remainder of that IMCO document, "Operational Guidance for Officers in Charge of a Navigational Watch."

Materials contained in these and following documents, although only of an advisory nature, should be given full attention by interested members of the maritime community. The documents may comprise the working papers of an international conference on the subject, tentatively scheduled for 1977. All industry will be given ample opportunity to express their views on this important matter. Comments are welcome and may be addressed to Commandant (G-MVP/82), U.S. Coast Guard, Washington, D.C. 20590.

#### Annex B

### OPERATIONAL GUIDANCE FOR OFFICERS IN CHARGE OF A NAVIGATIONAL WATCH

#### Introduction

1. This document contains operational guidance of general application for officers in charge of a navigational watch, which masters are expected to supplement as appropriate. It is essential that officers of the watch appreciate that the efficient performance of their duties is necessary in the interest of safety of life and property at sea and the avoidance of pollution of the marine environment.

#### General

2. The officer of the watch is the master's representative and his primary responsibility at all times is the safe navigation of the vessel. He must at all times comply with the applicable regulations for preventing collisions at sea (see also paragraphs 23 and 24).

3. The officer of the watch should keep his watch on the bridge which he should in no circumstances leave until properly relieved. It is of especial importance that at all times the officer of the watch ensures that an efficient look-out is maintained. In a vessel with a separate chart room the officer of the watch may visit this, when essential, for a short period for the necessary performance of his navigational duties, but he should previously satisfy himself that it is safe to do so and ensure that an efficient look-out is maintained.

4. There may be circumstances in which the officer of the watch can safely be the sole look-out in daylight. However, this practice shall only be followed after the situation has been carefully assessed on each occasion and it has been established without doubt that it is safe to do so. Full account shall be taken of all relevant factors including but not limited to the state of weather, conditions of visibility, traffic density, proximity of navigational hazards and if navigating in or near a traffic separation scheme.

When the officer of the watch is acting as the sole lookout he must not hesitate to summon assistance to the bridge, and when for any reason he is unable to give his undivided attention to the look-out such assistance must be immediately available.

5. The officer of the watch should bear in mind that the engines are at his disposal and he should not hesitate to use them in case of need. However, timely notice of intended variations of engine speed should be given when possible. He should also keep prominently in mind the manoeuvring capabilities of his ship including its stopping distance.

6. The officer of the watch should also bear in mind that the sound signalling apparatus is at his disposal and he should not hesitate to use it in accordance with the applicable regulations for preventing collisions at sea.

7. The officer of the watch continues to be responsible for the safe navigation of the vessel despite the presence of the master on the bridge until the master informs him specifically that he has assumed responsibility and this is mutually understood.

#### Taking Over The Watch

8. The officer of the watch should not hand over the watch to the relieving officer if he has any reason to believe that the latter is apparently under any disability which would preclude him from carrying out his duties effectively. If in doubt, the officer of the watch should inform the master accordingly. The relieving officer of the watch should ensure that members of his watch are apparently fully capable of performing their duties and in particular the adjustment to night vision.

9. The relieving officer should not take over the watch until his vision is fully adjusted to the light conditions and he has personally satisfied himself regarding:

- (a) standing orders and other special instructions of the master relating to the navigation of the vessel;
- (b) the position, course, speed and draught of the vessel;
- (c) prevailing and predicted tides, currents, weather, visibility and the effect of these factors upon course and speed;
- (d) the navigational situation including but not limited to the following:
  - (i) the operational condition of all navigational and safety equipment being used or likely to be used during the watch;
  - (ii) errors of gyro and magnetic compasses;

- (iii) the presence and movement of vessels in sight or known to be in the vicinity;
- (iv) conditions and hazards likely to be encountered during his watch;
- (v) the possible effects of heel, trim, water density and squat on underkeel clearance.

10. If at the time the officer of the watch is to be relieved a manoeuvre or other action to avoid any hazard is taking place, the relief of the officer should be deferred until such action is completed.

#### Periodic Checks of Navigational Equipment

11. The officer of the watch should make regular checks to ensure that:

- (a) the helmsman or the automatic pilot is steering the correct course;
- (b) the standard compass error is established at least once a watch and when possible, after any major alteration of course. The standard and the gyro compasses should be frequently compared; repeaters should be synchronized with their master compass;
- (c) the automatic pilot is tested in the manual position at least once a watch:
- (d) the navigation and signal lights and other navigational equipment are functioning properly.

#### Automatic Pilot

12. Officers of the watch should bear in mind the need to station the helmsman and to put the steering into manual control in good time to allow any potentially hazardous situation to be dealt with in a safe manner. With a vessel under automatic steering it is highly dangerous to allow a situation to develop to the point where the officer of the watch is without assistance and has to hreak the continuity of the look-out in order to take emergency action. The change-over from automatic to manual steering and vice versa should be made by, or under the supervision of, a responsible officer.

#### **Electronic Navigational Aids**

13. The officer of the watch should be thoroughly familiar with the use of electronic navigational aids carried, including their capabilities and limitations.

#### Echo-Sounder

14. The echo-sounder is a valuable navigational aid and should be used whenever appropriate.

#### Navigational Records

15. A proper record of the movements and activities of the vessel should be kept during the watch.

#### Radar

16. The officer of the watch should use the radar when appropriate and whenever restricted visibility is encountered or expected and at all times in congested waters having due regard to its limitations.

17. Whenever radar is in use, the officer of the watch should select an appropriate range scale, observe the display carefully and plot effectively.

18. The officer of the watch should ensure that range scales employed are changed at sufficiently frequent intervals so that echoes are detected as early as possible and that small or poor echoes do not escape detection.

19. The officer of the watch should ensure that plotting or systematic analysis is commenced in ample time, remembering that sufficient time can be made available by reducing speed if necessary.

20. In clear weather, whenever possible, the officer of the watch should carry out radar practice.

#### Navigation In Coastal Waters

21. The largest scale chart on board, suitable for the area and corrected with the latest available information, should be used. Fixes should be taken at frequent intervals; whenever circumstances allow, fixing should be carried out by more than one method.

22. The officer of the watch should positively identify all relevant navigation marks.

#### Clear Weather

23. The officer of the watch should take frequent and accurate compass bearings of approaching vessels as a means of early detection of risk of collision; such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range. He should also take early and positive action in compliance with the applicable regulations for preventing collisions at sea and subsequently check that such action is having the desired effect.

#### **Restricted Visibility**

24. When restricted visibility is encountered or suspected, the first responsibility of the officer of the watch is to comply with the relevant rules of the applicable regulations for preventing collisions at sea, with particular regard to the sounding of fog signals, proceeding at a moderate <sup>1</sup> speed and he shall have the engines ready for immediate manoeuvres. In addition, he should:

- (a) inform the master (see paragraph 25);
- (b) post look-out(s) and helmsman and, in congested waters, revert to hand steering immediately;
- (c) exhibit navigation lights;
- (d) operate and use the radar.

It is important that the officer of the watch should have the manocuvring capabilities including the "stopping distance" of his own vessel prominently in mind.

#### Calling The Master

25. The officer of the watch should notify the master immediately under the following circumstances:

(a) if restricted visibility is encountered or suspected;

- (b) if the traffic conditions or the movements of other vessels are causing concern;
- (c) if difficulty is experienced in maintaining course;
- (d) on failure to sight land, a navigation mark or to obtain soundings by the expected time;
- (e) if land or a navigation mark is sighted or a change in soundings occurs unexpectedly;
- (f) on the breakdown of the engines, steering gear or any essential navigational equipment;
- (g) in heavy weather if in any doubt about the possibility of weather damage;
- (h) in any other emergency or situation in which he is in any doubt.

Despite the requirement to notify the master immediately in the foregoing circumstances, the officer of the watch should in addition not hesitate to take immediate action for the safety of the ship, where circumstances so require.

#### Navigation With Pilot Embarked

26. Despite the dutics and obligations of a pilot, his presence on board does not relieve the officer of the watch from his duties and obligations for the safety of the ship. He should co-operate closely with the pilot and maintain an accurate check on the vessel's positions and movements. If he is in any doubt as to the pilot's actions or intentions, he should seek clarification from the pilot and if doubt still exists he should notify the master immediately and take whatever action is necessary before the master arrives.

#### The Watchkeeping Personnel

27. The officer of the watch should give the watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe watch including an appropriate look-out.

#### Ship At Anchor

28. If the master considers it necessary a continuous

(Continued on page 201.)

<sup>&</sup>lt;sup>1</sup> The Regulations for Preventing Collisions at Sea, 1960, presently in force, using the words "moderate speed". The International Regulations for Preventing Collisions at Sea, 1972, expected to come into force in 1976, use the words "safe speed".

## MARINE SAFETY COUNCIL MEMBERSHIP

Robert Ira Price was born September 22, 1921, in New York City. He graduated from the U.S. Coast Guard Academy, New London, Conn., with a B.S. degree and a commission as Ensign on June 6, 1945. His first assignment was aboard the Destroyer Escort USS *Pettit* (DE-253) as Deck Watch Officer.

He was transferred in June 1946 to the Coast Guard iccbreaker Northwind where he served as First Lieutenant, Deck Watch Officer, and Navigator. During his 3 years aboard the Northwind he took part in missions to Greenland and Alaska, and participated in the Antarctic in "Operation High Jump", headed by Admiral Richard E. Byrd. Early in 1949 he was transferred to warmer waters as Assistant Engineer aboard the Cutter Tampa operating in the Gulf of Mexico. In December 1949 he was assigned to engineering duty in the North Atlantic aboard the cutter Unimak, serving on ocean station patrol and search and rescue missions.

In June 1950 he entered the Massachusetts Institute of Technology, Cambridge, Mass., graduating after completing a 3-year course with the professional degree of Naval Engineer. In 1953 he served as Assistant to the Planning and Estimating Officer, the Design Supervisor, and the Ship Repair Superintendent at the Coast Guard Yard, Gurtis Bay, Md.

In April 1954 he returned to sea duty, as Engineer Officer and later Executive Officer of the ocean station vessel *McCulloch*. In September 1955 he reported for duty in the Mcrchant Marine Technical Division, Office of Merchant Marine Safety, Headquarters, Washington, D.C., as Staff Engineer and Naval Architect in the Hull Plan Approval Section. In June 1958 he became Chief, Hull Arrangements Branch. In January 1959 he was assigned as Technical Secretary to the U.S. Delegation preparing and coordinating the U.S. position for the International Safety of Life at Sea Conference, which convened in London, England in May 1960.

From August 1960 to March 1962, he commanded the Cutter Nemesis on search and rescue missions out of St. Petersburg, Fla. In 1962 he returned to Headquarters as Chief of both the Hull Arrangements Branch and the Hull Scientific Branch. From June 1965 to August 1967 he served as Assistant Chief, Merchant Marine Technical Division. His next assignment was as Chief, Planning and Special Project Staff which he began as manager of two studies: "Underwater Search and Rescue with Regulatory Overtones for Submersibles", and "Growth in Mari-



time Activities Over the Next 10 Years".

Between 1962 and 1971, Rear Admiral Price served as a member, or chaired, a number of national committees and panels dealing with matters of maritime safety. He acted as U.S. representative for the State Department to many of the technical bodies of the Intergovernmental Maritime Consultative Organization (IMCO), a United Nations Agency.

He assumed duties as Captain-of-the-Port, Philadelphia, in August 1971. There he was charged with the specific duties of search and rescue, oil pollution prevention and investigation, pier inspection, cargo stowage approval, and ship arrival regulation for Delaware River and Bay.

In July 1973 he took up the post of Deputy Chief, Office of Marine Environment and Systems at Coast Guard Headquarters. He was promoted to Rear Admiral July 1, 1974. With his promotion he assumed the post of Chief, Office of Marine Environment and Systems.

Rear Admiral Price is a licensed Professional Engineer and member of the following professional organizations: Society of Naval Architects and Marine Engineers, American Society of Naval Engineers (past member of the council), Society of the Sigma Xi (Honorary Research), The American Boat and Yacht Council, and the Society of American Military Engineers (past President, Philadelphia Post). Rear Admiral Price was awarded the Legion of Merit in 1967 following the Yarmouth Castle disaster, for meritorious achievement in international negotiations to improve the international fire safety standards for passenger vessels. For his performance of duty as Captain-ofthe-Port, Philadelphia, he was awarded the Meritorious Service Medal. For contributions to international maritime safety and anti-pollution standards he was elected a Fellow of the Royal Institution of Naval Architects of London in 1972.

Rear Admiral Price's wife, the former Virginia Miller, is from Jefferson City, Tenn. Mrs. Price is a graduate of Carson-Newman College. They have two daughters, Mrs. Andrea Jean Stevens of Montgomery Village, Md. and Keven Virginia, a recent graduate of the University of Miami.

#### 13 MINUTES

(Continued from page 190.)

various speeds and loading conditions.

- The Coast Guard, in approving ship designs, require better visibility of the rudder order indicator and rudder angle indicator from all conning positions.
- The Maritime Administration, in developing an advanced "integrated conning system":
  - a. Display rudder order and rudder angle positions so as

to be visible from all conning positions.

- b. Provide an expanded scale on the course recorder for use during in-port maneuvering.
- c. Upgrade the quality of the audio-recorder and add a time reference trace.
- d. Provide automatic recording of propeller RPM and ship's speed.
- 6. The Coasts Guard, in processing applications for highway, railroad, or pipeline bridge construction, require a safety im-

pact study as well as the environmental impact study. Lift span bridges with narrow openings, supports in relatively deep water, and locations near curved channels should be considered relatively hazardous.

Note.—The above article is based on 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 of the National Transportation Safety Board released July 22, 1974. Copies of the complete Marine Casualty Report may be obtained by writing:

Commandant(G-MVI-3), U.S. Coast Guard, Washington, D.C. 20590.

#### NAVIGATIONAL WATCHKEEPING

(Continued from page 199.)

navigational watch should be maintained. In all circumstances, however, the officer of the watch should:

- (a) determine and plot the ship's position on the appropriate chart as soon as practicable and at sufficiently frequent intervals check when circumstances permit, by taking bearings of fixed navigational marks or readily identifiable shore objects, whether the ship is remaining securely at anchor;
- (b) ensure that an efficient look-out is maintained;
- (c) ensure that inspection rounds of the vessel are made periodically;
- (d) observe meteorological and tidal conditions and the state of the sea;

- (e) notify the master and undertake all necessary measures if the vessel drags the anchor;
- (f) ensure that the state of readiness of the main engines and other machinery is in accordance with the master's instructions;
- (g) if visibility deteriorates notify the master and comply with the applicable regulations for preventing collisions at sea;
- (h) ensure that the vessel exhibits the appropriate lights and shapes and that appropriate sound signals are made at all times;
- (i) take measures to protect the environment from pollution by the ship and comply with the applicable pollution regulations.

#### AMENDMENTS TO REGULATIONS

#### TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard . Department of Transportation

[CGD 17-74-IR]

#### PART 127-SECURITY ZONES

#### Establishment of Security Zone; Port Valdez, Valdez, Alaska

This amendment to the Coast Guard's Security Zone Regulations, establishes the waters adjacent to the mouth of Dayville Creek and inside Jackson Point as a security zone. This security zone is established to protect shipping and pleasure boaters from the effects of blasting for construction of the future Trans-Alaska Pipeline System Terminal.

This amendment is issued without publication of a notice of proposed rulemaking and this amendment is effective immediately because good cause exists and public procedures on this amendment are impracticable due to the necessity of proceeding in a timely fashion with the construction of the terminal facility during the available construction season.

In consideration of the foregoing, Part 127 of Title 33 of the Code of Federal Regulations is amended by adding § 127.1701, to read as follows:

#### § 127.1701 Port Valdez, Valdez, Alaska

The waters within the following boundary is a security zone: a line beginning at the tip of Jackson Point (61-05.4N. Latitude, 146-22.7W. Longitude); thence westerly to the tip of Saw Island (61-05.4N. Latitude, 146-24.2W. Longitude); thence southerly to the shore; thence easterly following the shoreline to the beginning point.

(46 Stat. 220, as amended, § 6(b), 80 Stat. 937 (50 U.S.C. § 191, 49 U.S.C. § 1655(b)); E.O. 10173, E.O. 10277, E.O. 10352, E.O. 11249; 3 CFR, 1949– 1953 Comp. 356, 778, 873, 3 CFR 1964– 1965 Comp. 349, 33 CFR Part 6, 49 CFR 1.46(b)) Effective date: This amendment becomes effective on June 21, 1974. (Federal Register of August 15, 1974.)

#### TITLE 46—SHIPPING

Chapter I—Coast Guard Department of Transportation SUBCHAPTER F—MARINE ENGINEERING

[CGD 73-248]

#### MARINE ENGINEERING

#### **Clarification Amendments**

The purpose of the amendments in this document is to make grammatical correction to and to clarify the intent of certain marine engineering regulations.

A notice of proposed rulemaking appeared in the December 11, 1973 issue of the Federal Register (38 FR 34122) that proposed the following corrections to Subchapter F of Title 46, Code of Federal Regulations:

1. Change in § 50.15-20(a) (11) the address of the Marine Department of Underwriter's Laboratorics, Inc. which has moved to Florida.

2. Complete the first sentence in § 50.25-35(a).

3. Add to the heading in § 56.50-1 the words "and modifies Table 126.1 in ANSI-B 31.1" to agree with the references in Table 56.01-5(a).

4. In Table 56.60–1, add the footnote designator "4" to the ASTM specifications A 53 and A 72, and change the reference in footnote 4 to read "§ 56.60–2(b)".

5. In Table 56.60-1(a), add verbs to the second and fourth sentences of footnote 14.

6. In Table 56.60-1(a), substitute the word "limitations" for the word "rating" in the third sentence of footnote 14 to agree with the text in UCN 3 in section VIII of the ASME Code.

7. In Table 56.60–2(a), strike the reference to § 105.2.1 of ANSI-B

31.1 in footnote 1 because it has not been adopted by the Coast Guard.

8. In Table 56.60-2(a), revoke footnote 6 because the alloy to which it refers was eliminated in the June 17, 1970 issue of the Federal Register (37 FR 9979).

9. Amend § 61.15-5(b) to expunge the unintended requirement that a pipe with a nominal size of 3 inches or less be subject to a hydrostatic test.

The following amendments for clarification of the regulations in Subchapter F were also proposed:

1. Indicate that the requirements in \$54.05-20 apply only to the materials described in \$54.25-10(b)(1).

2. Indicate in the introductory note of Table 56.60-1(a) that the materials listed apply to inside heat exchangers.

3 Reflect in the heading of § 56.60-1 that its provisions modify Table 126.1 of ANSI-B 31.

4. Combine and rewrite the first two sentences of  $\S$  56.60-2(a).

5. Add in § 56.60-2(b)(2) a cross-reference to § 56.10-5(b) because that section contains material limitations.

6. Indicate in the heading of § 56.60-5 that the requirement is concerned with carbide phase conversion.

In the January 15, 1974 issue of the Federal Register (39 FR 1861) corrections of printing errors in the proposal were published.

No comments were received on the proposed amendments. Accordingly, the proposal is hereby adopted subject to the corrections published on January 15, 1974. As adopted, the regulations are set forth below.

*Effective date.* These amendments are effective on August 26, 1974.

(The full text of these amendments was published in the Federal Register of August 26, 1974.)

#### 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.1 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. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated October 1, 1973 are now available from the Superintendent of Documents price: \$5.80.

#### CG No.

#### TITLE OF PUBLICATION

- Specimen Examination for Merchant Marine Deck Officers (Chief Mate and Master) (1-1-74). 101
- Specimen Examinations for Merchant Marine Deck Officers (2d and 3d mate) (10–1–73). 101-1
- Rules and Regulations for Military Explosives and Hazardous Munitions (4-1-72). F.R. 7-21-72, 12-1-72. 108
- Marine Engineering Regulations (6-1-73). F.R. 6-29-73, 3-8-74, 5-30-74, 6-25-74, 8-26-74. 115
- 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, 123 6-25-74.
- 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. 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. 172
- A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64). 174
- Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-73). 175
- Load Line Regulations (2-1-71). F.R. 10-1-71, 5-10-73, 7-10-74. 176
- Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63). 182
- 182-1 Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (10-1-73).
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The following have been modified by Federal Registers:

- CG-115, Federal Register of August 26, 1974.
- CG-239, Federal Register of August 15, 1974.

<sup>1</sup>Due to the paper shortage, certain publications may be temporarily out of stock. Titles 33 and 46, Code of Federal Regulations may be consulted for rules and regulations.

