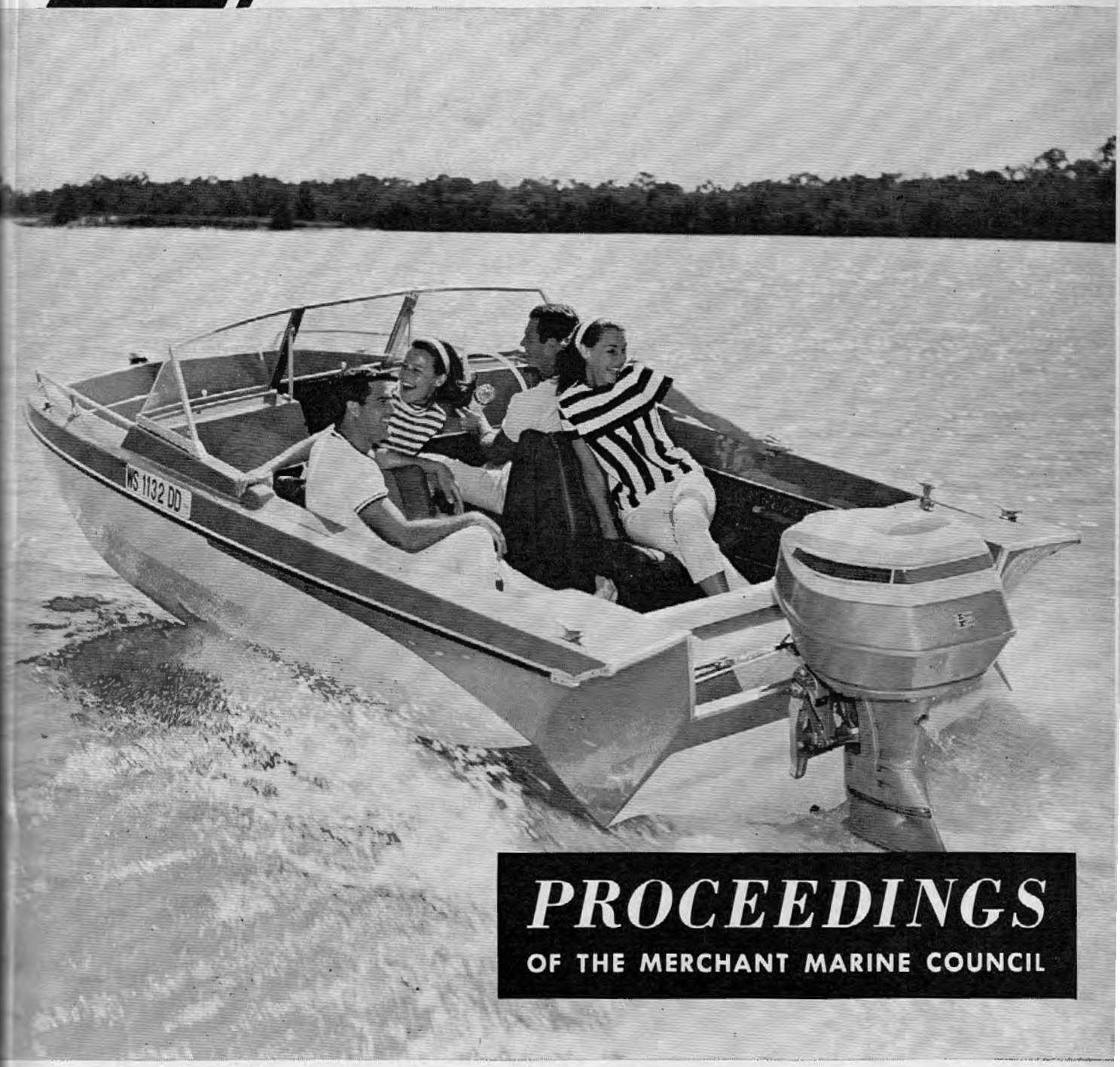
COAST GUARD



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

Vol. 26, No. 6 CG-129 June 1969

IN THIS ISSUE . . .

Identifying Product Hazards . . .

U.S. Coast Guard Auxiliary . . .

Boating Accidents . . .

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

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COVERS

FRONT COVER: The beginning of summer means there's plenty of pleasure in store for the nation's boaters. This will be a common scene in the months ahead.

BACK COVER: To keep tragedy out of the picture, readers are reminded of boating's "Golden Rule." Safety First is a good motto for everyone—at all times.

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PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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IDENTIFYING PRODUCT HAZARDS, PAST, PRESENT, AND FUTURE

Mordaunt P. Redford

Director of Safety, Norfolk Shipbuilding & Drydock Co., Norfolk, Va.

From an address before the 1968 Marine Section, of the National Safety Congress and Exposition.

"FRANK ASSUME," leadman electrician, and "Joe Doubt," electrician 2/c, were assigned the job of solvent spray cleaning the electrical panel board and four 100 kva generators in the engineroom aboard the M/V *Decor—Penn*. This engineroom, like most machinery spaces aboard ship, is a maze of pipes, wiring, ducting, beams, posts, gratings, pumps, motors, and panel boards located on the bottom deck. An area aboard any vessel that is relatively safe for ooly the physically fit, and where access to and from the outside, especially when work is being done, leaves much to be desired.

The assignment, of course, requires the setting up for the job that would start two hours after the yard's regular quitting time. The reason for this delay was to avoid having other crafts or crew members working in the area exposed to the solvent vapor.

For those who may not be familiar with such operations, spraying with solvents is a fast method of cleaning which is done by using compressed air atomizing a degreasing solvent, or blend of solvents, on equipment to be cleaned. It is perhaps the best known method for cleaning motors in place and intact. Of one thing we are certain; the solvents, or blend of solvents, used for such operations are all toxic.

Frank, with the assistance of Joe, went about the task of ordering the necessary equipment, consisting of hose, brushes, rags, spray gun, temporary lights, and solvent. This solvent was a new stock item known by trade name as "Nohaz 4"; advertised, sold, and labeled as a safe degreasing solvent, nonflammable, and practically nontoxic; to be used with normal ventilation; flash point above 125° F. This solvent cleans fast, efficiently, and safely, and is 20 times safer than carbon tetrachloride.

Our plants were no different from many other ship repair yards. We had had our experience with carbon-tet, and were looking for the Utopian solvent, too. This was it! Or was it?

Frank had made no arrangements for ventilation or personal protective equipment, because he had previously been in this engineroom and felt that the yard safety recommendations, as applied to this job, were too stringent for the use of this safe solvent. Re-examining the work area, his decision was to open the engineroom skylight which, on this vessel, was about 30 feet from the floor plating. This should create a natural draft and give sufficient ventilation for removing any fumes or vapors. With such good ventilation, only the cartridge type respirator would be necessary. There was no need for the more cumbersome air-line respirator or mechanical exhaust fans. With *everything* taken care of, Frank and Joe started to their respective homes around noon—with permission, of course, as they would return at 6 p.m. and work the cleaning job until finished.

Returning to the plant about 30 minutes ahead of Frank, Joe told the guard at the gate where they would be working. He also mentioned that they

would not be able to open the skylight as much as had been previously planned, because it was now beginning to rain.

A few minutes past 6 p.m. the two men started the job, wearing cartridge respirators and with the skylight only slightly raised, because of the continuing rain. However, they did have normal ventilation. Joe was busy spraying the panel board, while Frank went about removing the covers and inspection plates from the generators for easier cleaning.

Good time was being made, Joe told us later, so much so that he and Frank took a few smokes in a far corner where the fumes didn't smell too bad. It was also decided that the respirators were not needed any longer. An hour passed, and Frank was now in the process of going over the generators, cleaning some hard-to-reach crevices. Joe was wiping up the dirty solvent drippings behind the major control panel. The four motors proved to be a lot dirtier than they had first appeared.

Shortly thereafter, Joe stepped from behind the panel and, feeling a little sluggish himself, saw Frank's unconscious form draped over a half-inch pipe rail. This waist-high rail was around each generator to prevent a person from falling in the motor foundation well.

"Have you ever tried to pull, tug, slide, or jostle a motionless body around on an oily engineroom floor, desperately trying to reach an opening, any opening, to get a breath of fresh air?" Joe asked, as he was helped along toward the ambulance that would also carry Frank to the hospital.

Joe Doubt may have been, as his name implies, a little doubtful about how things would go that night, which was probably his reason for telling the guard at the gate where he and Frank would be working. This bit of information, passed on to the yard patrol guard, was responsible for his discovering their plight and calling additional help.

Mordaunt P. Redford is a graduate of William & Mary—V.P.I. Extension (Norfolk Division). He served the Norfolk Shipbuilding & Drydock Corp. in the capacity of Safety Supervisor from 1947 to 1965 and has held his present position since 1966. Mr. Redford serves on safety committees of the following organizations: National Fire Protection Association, Shipbuilders Council of America, Virginia Manufacturers Association, and Virginia Society for Prevention of Blindness. He is also a member of the National Safety Council, Virginia Safety Association, and Atlantic Shipyard Safety Exchange.

Frank Assume was on the critical list for 12 days, and Joe Doubt was not able to work for 2 weeks. It was a miracle Frank lived, according to Dr. Luck, our company physician.

There is nothing especially new about how this accident occurred. Then why, after more than 2 decades of numerous reports of such unfortunate experiences, in addition to literally hundreds of excellent papers and talks, along with management's efforts, do such things continue to happen?

It seemed obvious that Frank, through the suggestive power of the wording on a label, assumed the solvent was safe and, therefore, almost lost his life. Labeling on many hazardous liquids, including coatings, thinners, and solvents, certainly led one to believe that they were safe. Advertisements, data sheets, pamphlets, and other advertising media in some instances over-emphasized a product's safety, thereby causing erroneous and dangerous conclusions to be drawn. For example:

1. Those that specifically stated that the material is nonflammable and immediately followed this statement by giving the flashpoint and fire point of the material. Even if a law did not require the labeling of materials with flashpoints above 125° F. as flammable, it certainly would not approve the use of a nonflammable label.

2. "Safe when used with normal ventilation." What is normal ventilation? Normal means regular, usual, or natural; such ventilation in an engineroom or any other enclosed area is not at all adequate for spraying toxic solvents and paints.

3. Solvent 8691—Cleaner 4323. No labels, just numbers. Can you imagine sending an unconscious victim of over-exposure to the clinic or hospital with information saying, "Bill was working in an atmosphere of 8691"?

4. "Flash point −100° or + 100° F."

5. Flashpoint of total formulation rather than the flashpoint of the solvent with the highest vapor pressure.

6. Lastly, a change in formulation because customer "A" wanted his coating No. 711 to dry faster. The batch was run off. Another chemical was added, increasing the hazard. Customer "B" calls, and also wants some more No. 711; what he receives is the left over batch from customer "A". No change was made in the label. Was this safety?

Some statements and claims made were technically true; unfortunately, however, thousands using such materials were not technical people and had to depend on the manufacturer, distributor, and salesman for their safety.

The safety of a product was not our concern. What we needed to know, and still do, is—what are its dangers? Safety cannot be compared. Those who failed to survive such illnesses were not 20 times less dead.

In many instances, lack of informa-

tion caused safety precautions to be taken that were not always necessary. Such precautions as rescheduling hot work, spray cleaning, and painting on an overtime basis while no one else was in the area ran up job costs, but management kept safety paramount.

As these problems of hazard identification grew from the middle forties and continued to grow, corrective action was of utmost need. In August 1958 representatives of the Atlantic Shipyard Safety Exchange met with the late Leland Sanford, who was at that time President of the Shipbuilders Council of America, to discuss these problems. As a result the National Paint, Varnish & Lacquer Association met several times with the Atlantic Shipyard Safety Exchange through 1960. The most significant thing to come out of these meetings was a proposed hazards data sheet agreed on by the members of the Exchange as containing sufficient information necessary to comply with the law. Copies were submitted to the NPVLA, with a request that its members furnish the yards the information asked for.

Results were not actually favorable. Some paint manufacturers did not want to give names of chemicals in their products, on the premise that to divulge their trade secrets would cause encroachment on their products. The paint association had previously asked its members to use precautionary labels. Labels that were being used on products were vague and of little value. Some manufacturers did not even use labels.

Early in 1966, the U.S. Bureau of Labor Standards advised that new regulations regarding control of health and safety hazards in shipyards were contemplated, stating that no chemical product such as a solvent or preservative material shall be used until the employer ascertains the potential fire and toxic hazards which might be encountered in the handling, application, or utilization of these materials.

In May 1966 at a joint meeting of paint manufacturers, shipyard safety men, and other interested persons, a Marine Coordinating Committee, composed of interested maritime personnel, met in New York City. A safety engineer, an industrial health physicist, and a marine representative of the National Fire Protection Association, were appointed to a safety subcommittee to discuss plans for control of hazards in the application of marine coatings. In September the BLS issued a preliminary draft of proposed amendments to all interested parties. In December, at a meeting of the Shipbuilders Council Safety Committee, BLS announced that 1 year would be allowed for the shipbuilders and marine coatings industry to develop a method of providing required information to the shipyard personnel. Otherwise, the BLS would take a more active role in implementation of the proposed regulation.

In February 1967 the Safety Subcommittee reported by letter to the Chairman of the NPVLA Marine Finishes Manufacturers Committee. This letter outlined steps indicated above and a proposal for implementing, together with an outline illustrating the type of information needed by the safety engineer or other designated representatives of the shipyards. No additional manual was considered necessary in view of existing publications dealing with hazardous substances.

In May 1967 the Marine Coordinating Committee met in New York. The full committee was briefed on the Safety Subcommittee report. Several days later, the Department of Labor issued proposed amendments to *Safety and Health Regulations for Ship Repairing, Shipbuilding and Shipbreaking,* requesting comments. In October 1967 the final amendments were issued. Eight days later the NPVLA staff members met at the Department of Labor with Bureau of Labor Standards representatives to discuss proposed amendments to section 1502.57, relative to safety rules for use of marine coatings in shipyards. BLS had met previously with Shipbuilders Council Safety Committee. BLS provided samples of the proposed standard labeling form and proposed hazardous material data sheet. NPVLA's position was that separate sheets for each hazardous or flammable chemical with degree of hazard and cautionary statement would be voluminous and impractical if related to each product.

A Department of Labor Maritime Safety Representative reviewed the background on these proposed amendments and expressed gratitude at the recent developments achieved by efforts of the Marine Coordinating Committee. He pointed out that the proposed amendments would be published in the Federal Register in the next few weeks and that the proposal would include the specific items of information to be provided voluntarily as agreed by the coatings and solvent manufacturers.

The Committee approved a recommendation that the proposed *Data Sheet* be included in the Federal Register. The Labor Department representative replied that he would take this into consideration, but that normally such detail was not included. He added that, in any event, a statement would be made to show clearly that the information would be provided on "a standard form approved by the Department of Labor." This past week, in New York, the Marine Coordinating Committee met for 1 day during the NPVLA Annual Conference. The voiced differences of opinion by all segments of the industry on the proposed data sheet that was previously agreed upon has drawn another 30-day extension of time from the Department of Labor. To date, about all the shipyards are certain of in this matter is the maritime law that tells us "before using any chemical product, the shipyard

shall know the potential fire and toxic hazards."

Is there any recourse? There is none. Someone has mentioned asking the Department of Labor for a waiver.

Should we have a law that on the first day of its enactment you have to ask for permission to break it? We have been told by manufacturer's representatives that coatings, solvents, and other chemical compounds will become more and more complex and hazardous in the future. If this is so, will the shipyards have to continue to operate in the gray area of safety where product hazards are a concern?

During the interim between present and future I submit these thoughts for consideration. First, to our suppliers:

1. Avoid generalizing on a product's safety. This is dangerous, because the job hazard may be specific.

2. Advise the yards of the behavior of the total formulation of the product. This can be more important than knowing the solvents.

3. Inform your sales engineers, job inspectors, and other representatives calling on the yards, of the Federal Maritime Safety Law 1501.57 and the data sheet prior to their coming in the shipyards.

Secondly, to shipyard safety engineers:

1. Request your management to have purchasing direct all coatings and solvents sales personnel to your office for new products hazard evaluation before purchase.

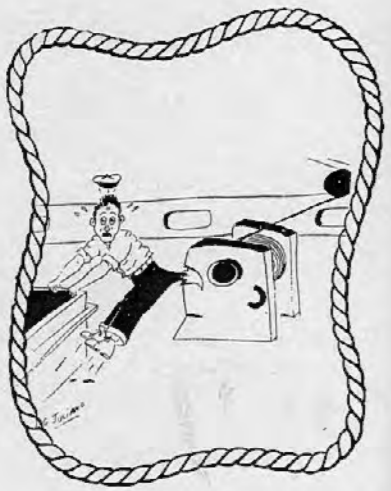
2. Have listed a direct means of communication with the manufacturers' chemists. This can solve many problems.

3. If you must resort to maximum safety protection for employees on a job, or have work rescheduled or done on overtime basis due to poor response on hazards information from manufacturer or supplier, let your production manager know this was the reason.

There is an answer to this problem. My hopes are that it will be cooperation, not legislation. ‡

"The Grinders"

No, this is not the title of the latest television program. Unfortunately it describes the experiences of a few unfortunate individuals who have come in physical contact with moving machinery.



Recently the topping lift on a jumbo boom had to be slushed. The boom was dropped to its lowest point and as the wire was slowly reeled onto the drum of the winch, a man stood on a side bracing plate leaning over the drum slushing it with a hand rag. The side of the drum had external radial web reenforcing plates and as the man's toes gradually edged in, one of these webs came around and sliced them off against the plate on which he was standing.

In another almost similar incident, a man was standing on top of the lifeboat fall drum casing pouring grease onto the boat fall as it was slowly heaved in. Unfortunately his foot slipped on some grease and when he pushed out his hand to catch himself, it caught between the bull gear and pinion gear. Only an alert man on the control stopped the winch in time to avoid his being tangled in the winch drum.

Another individual was not so fortunate, as he stepped over a winch runner that was leading from the heel block under the winch drum, he was pulled into the drum when the tail of his jacket fouled the runner. For several seconds nothing appeared to be wrong, and then the deck man noticed a foot and leg on the deck by the winch. This was the only identifiable piece of what had been a human being seconds before. A muster of the men working the ship had to be taken to find out who it had been.

There have been numerous cases of men trying to heave in mooring lines alone—letting the windlass rotate, taking the line to the drum and heaving with no one at the controls. One finger caught in the line and the man is gradually wrapped around the drum. Almost like being crushed by a boa constrictor.

In another case, a carpenter trying to line up a windlass by himself to adjust the locking lugs reached through the bull gear spokes to shut it off. He missed the control, was pulled in and his head crushed like an eggshell!

An oiler, tightening the back nut on a steam reciprocating feed-pump packing gland had his head close to the piston rod when the eccentric rod bale came up under his chin crushing his head against the cylinder housing.

These accidents are not pleasant to think about, much less write about, and we are not trying to ruin anybody's appetite. We are trying to prevent a repetition of this needless waste and suffering. Again we repeat age old warnings, "Be careful around moving machinery", "Watch your footing", "Don't put your hands in a position where you can get caught", and "Don't wear loose sloppy clothing".

Machines are unforgiving—there is no second chance! ‡

Robert H. Smith, U.S.P. & I. Agency.

AMENDMENTS TO REGULATIONS

Title 46 Change

SUBCHAPTER C—UNINSPECTED VESSELS

PART 24—GENERAL PROVISIONS

PART 25—REQUIREMENTS

Motorboat Definition; Rules of the Road Authority; and Fire Extinguishing Equipment

The Commandant, U.S. Coast Guard has ruled that any vessel of not more than 65 feet in length, permanently or temporarily equipped with propelling machinery, is a vessel "propelled by machinery" within the meaning of the Act of April 25, 1940, as amended (46 U.S.C. 526–526u). This document clarifies the definition of "Motorboat" contained in 46 CFR 24.10–17(a) to assure an interpretation consistent with the foregoing ruling.

The authority for 46 CFR 25.05–10 *Vessels operating on waters governed by the Inland, Great Lakes, or Western Rivers Rules of the Road* is primarily based upon the Inland, Great Lakes, and Western Rivers Rules of the Road provisions contained in title 33, United States Code. Accordingly, this document effects a change in the authority note to include the appropriate authority from title 33, United States Code.

Effective January 1, 1965, 46 CFR 162.028–3 was amended to require that all dry chemical stored pressure type portable fire extinguishers manufactured after that date be fitted with a pressure gauge or device to provide visual indication of the range of pressure in the chamber (29 F.R. 12725–12726). Although not included in the codified language, a waiver of this new requirement was granted to extinguishers manufactured prior to January 1, 1965, provided certain maintenance and inspection requirements were met. To end confusion resulting from noncodification of the foregoing waiver, this document restates and amplifies the waiver conditions in the form of an amendment to Subchapter C of Title 46 of the Code of Federal Regulations.

Since the amendments effected by this document are interpretative rules or rules of agency procedure or practice, public rule making procedures thereon are unnecessary. The specific amendments are as follows:

Subpart 24.10—Definition of Terms Used in This Subchapter

1. The first three sentences of § 24.10–17(a) are amended to read as follows:

§ 24.10–17 Motorboat.

(a) This term means any vessel indicated in column 6 of Table 24.05–1(a), 65 feet in length or less which is equipped with propulsion machinery (including steam). The length shall be measured from end to end over the deck excluding sheer. This term includes a boat temporarily or permanently equipped with a detachable motor, since such a boat is also subject to the Act of April 25, 1940, as amended (46 U.S.C. 526–526u), and the regulations promulgated thereunder. * * *

* * * * *

(Sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 526p)

2. The authority note following the table of contents in Part 25 is amended to read as follows:

AUTHORITY: The provisions of this Part 25 issued under sec. 2, 30 Stat. 102, as amended, sec. 3, 28 Stat. 649, as amended, R.S. 4233A, as amended, R.S. 4405, as amended, R.S. 4462, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 937; 33 U.S.C. 157, 243, 353, 46 U.S.C. 375, 416, 526p, 49 U.S.C. 1655(b); 49 CFR 1.4 (a) and (g), except as otherwise noted.

Subpart 25.30—Fire Extinguishing Equipment

3. Section 25.30–10 is amended by adding the following new paragraphs:

§ 25.30–10 Hand portable fire extinguishers and semiportable fire extinguishing systems.

* * * * *

(g) The use of dry chemical, stored pressure, fire extinguishers not fitted with pressure gauges or indicating devices, manufactured prior to January 1, 1965, may be permitted on motorboats and other vessels so long as such extinguishers are maintained in good and serviceable condition. The following maintenance and inspections are required for such extinguishers:

(1) When the date on the inspection record tag on the extinguisher shows that 6 months have elapsed since last weight check ashore, then such extinguisher is no longer accepted as meeting required maintenance conditions until reweighed ashore and found to be in a serviceable condition and within required weight conditions.

(2) If the weight of the container is ¼ ounce less than that stamped on container, it shall be serviced.

(3) If the outer seal or seals (which indicate tampering or use when broken) are not intact, the boarding officer or marine inspector

will inspect such extinguisher to see that the frangible disc in neck of the container is intact; and if such disc is not intact, the container shall be serviced.

(4) If there is evidence of damage, use, or leakage, such as dry chemical powder observed in the nozzle or elsewhere on the extinguisher, the container shall be replaced with a new one and the extinguisher properly serviced or the extinguisher replaced with another approved extinguisher.

(h) The dry chemical, stored pressure, fire extinguishers without pressure gauges or indicating devices manufactured after January 1, 1965, shall not be labeled with the marine type label described in § 162.028–4 of this title nor shall such extinguishers manufactured after January 1, 1965, be carried on board motorboats or other vessels as required equipment.

4. *Effective date.* These amendments shall become effective on the date of their publication in the Federal Register.

(Federal Register of March 27, 1969.)

15 Useful Coast Guard Publications

The following list of Coast Guard publications concerning boating is available for your information. Free publications listed are available through most Coast Guard districts and marine inspection offices as well as the Commandant (CAS–2) U.S. Coast Guard, Washington, D.C. 20591. Cost publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 or from his authorized sales agents located in our principal seaports.

CG–169	Rules of the Road, International-Inland	Free
CG–172	Rules of the Road, Great Lakes	Free
CG–184	Rules of the Road, Western Rivers	Free
CC–190	Equipment Lists (Listing of approved equipment)	Free
CG–193	Aids to Marine Navigation of the United States	Free
CG–258	Rules and Regulations for uninspected vessels	Free
CG–267	Rules and Regulations for the Numbering of Undocumented Vessels & Reporting of Boating Accidents	Free
CG–158	List of Lights and Other Marine Aids, Atlantic Coast	$3.50
CG–159	List of Lights and Other Marine Aids, Great Lakes, U.S., And Canada	$1.75
CG–160	List of Lights and Other Marine Aids, Atlantic and Gulf Coasts	$3.00
CG–161	List of Lights and Other Marine Aids, Miss. River System	$1.75
CG–162	List of Lights and Other Marine Aids, Pacific Coast	$2.25
CG–290	Pleasure Craft	Free
CG–323	Rules and Regulations for Small Passenger Vessels	Free
CG–340	Recreational Boating Guide	$0.45 ¢

Circular

NVIC 0–69

The annual listing of navigation and vessel inspection circulars in force, and cancellation of others has been made in Navigation and Vessel Inspection Circular 0–69.

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

ACCEPTABLE HYDRAULIC COMPONENTS

Nonductile hydraulic components which have passed high impact shock tests. Unless otherwise noted, the material is cast iron.

Manufacturer	Valve type	Identity	Maximum allowable pressure (p.s.i.)
Double A Products Co., Manchester, Mich. 98158.	Hydraulic	WW3–175	2,000
Do	do	QUA2–185	2,000
Do	do	QD–195	3,000
Do	do	D4–185	3,000
Do	do	AA3–175	3,000
Do	do	D–06–10A1	3,000

Approved Equipment

Commandant Issues Equipment Approvals; Terminates Others

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

Those interested in these approvals should consult the Federal Registers of March 15, 27, and April 4, 12, 19, 25, 26, and 29, 1969, 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 Sunday, Monday, and days following holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Subscription rate is $1.50 per month or $15 per year, payable in advance. Individual copies may be purchased so long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue but will be 15 cents unless otherwise noted in the table of changes below. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1969 are now available from the Superintendent of Documents, price: $3.75.

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

CHANGES PUBLISHED DURING MARCH 1969

The following have been modified by Federal Registers:

CG–190, Federal Registers, March 15 and 27, 1969.

CG–258, Federal Register, March 27, 1969.

CHANGES PUBLISHED DURING APRIL 1969

CG–190, Federal Registers, April 4, 12, 19, 25, 26, and 29, 1969.

349–584—69——2

Special Supplement

MOTORBOAT SAFETY

THE U.S. COAST GUARD AUXILIARY CELEBRATES ITS 30TH ANNIVERSARY

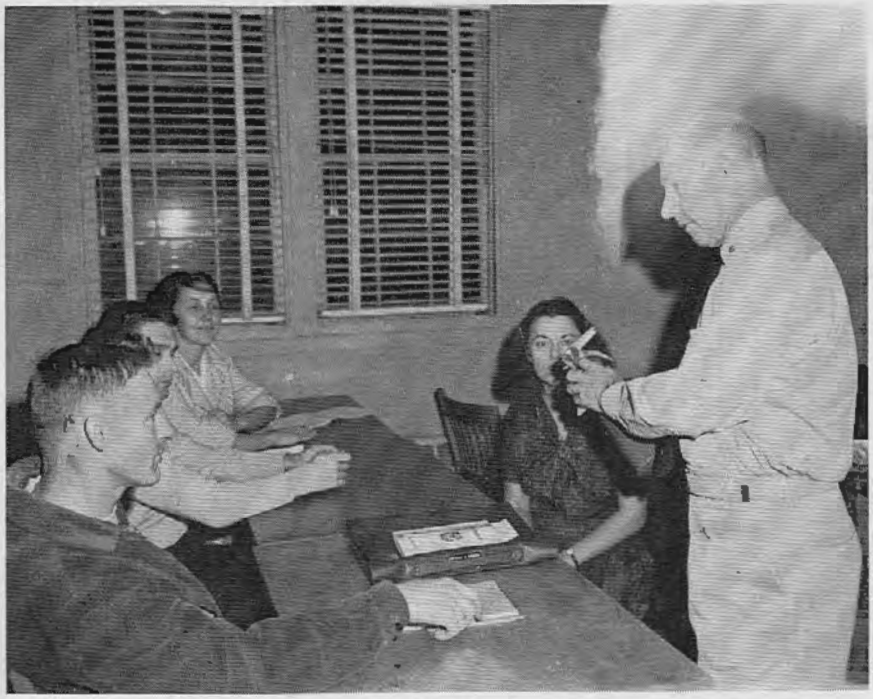
At one time or another during the 1969 boating season, you will probably come in contact with the activities of a unique boating organization—The U.S. Coast Guard Auxiliary. Auxiliary members will be busy this year, as they have been for the last 30 years, promoting boating safety in almost every waterside community in the country.

THE COAST GUARD AUXILIARY dates back to 1939, though the concept of the organization had been proposed long before. After World War I, recreational boating began to steadily increase, so much so that by the end of the thirties it emerged as one of the most popular sports in the nation. Unfortunately, this rise in popularity was paralleled by a corresponding jump in boating accidents and fatalities. The Coast Guard had found itself in an uncomfortable position. On one hand it was required by law to enforce Federal requirements but on the other, the service was hampered in its mission by inadequate numbers of vessels and personnel. With the job steadily pulling ahead of the Coast Guard year by year, the atmosphere was right for a new approach, and it was not long in coming.

A group of prominent yachtsmen proposed the formation of an organization composed of owners of motorboats and yachts voluntarily affiliated with the Coast Guard. This boating group could assist the Coast Guard in the promotion of safety at sea by becoming proficient in all phases of seamanship and navigation, and by encouraging other boatmen to follow their example.

The plan won the wholehearted support of the Commandant of the Coast Guard, Adm. R. R. Waesche, and on June 23, 1939, Congress established the Auxiliary under the name of the Coast Guard Reserve. Thus today's Auxiliary became, and still is, the only boating organization in the country specifically authorized and established by Congress.

During the second World War, Auxiliary members distinguished themselves on the home front. A new and fully military reserve was established by Congress in February 1941, and the old reserve was renamed the Coast Guard Auxiliary. Auxiliarists and Temporary Reservists did their share in defense of the country by performing beach patrols, harbor



A vital part of safety education is learning emergency procedures. Here a fire extinguisher is demonstrated as part of a Coast Guard Auxiliary safe-boating lesson.

patrols, hurricane watches, search and rescue missions, and port security activities. Their efforts freed regular Coastguardsmen from routine stateside duties and allowed them to become an integral part of the naval forces fighting overseas.

Following the war, the Auxiliary reverted to its peace-time missions and gradually developed its wide range of programs that are so well known today. Each activity was based on the responsibilities explicitly set forth by Congress: ". . . to assist the Coast Guard:

> To promote safety and effect rescues on and over the high seas and on the navigable waters;
>
> To promote efficiency in the operation of motorboats and yachts;
>
> To foster a wider knowledge of, and better compliance with, the laws, rules, and regulations governing the operation of motorboats and yachts; and
>
> To facilitate the other operations of the Coast Guard.

Thus, the duties of the Auxiliary actually are reduced into two basic channels: instructing the public in safe boating and assisting the Coast Guard in operational matters.

EDUCATING FELLOW BOATMEN

Undoubtedly, the greatest service of the Coast Guard Auxiliary is its public education program. Last year more than 180,000 boatmen all over the country benefited from this instruction. Though it is nearly impossible to pinpoint the amount of good the education program is doing in terms of lives saved and accidents averted, boatmen are convinced that the Auxiliary's training activities have a positive effect on making boating safe.

There are three different courses to choose from, each designed to meet the needs of a particular segment of the boating population.

The Outboard Motorboat Handling Course is intended to present the novice outboarder with the basic knowledge required for the safe operation of his boat. It is a one-lesson course and lasts approximately 2 to 3 hours. The classes vary in size from a few to hundreds at one time. The subjects presented by the Auxiliary instructors in this course cover the spectrum of boating activities—boat construction and terminology, lifesaving devices, overloading, legal requirements, seamanship, rules of the road, fueling, aids to navigation, recommended equipment, and boat handling.

The Safe Boating Course is more valuable than the one-lesson course in that it covers more ground and yet is still short in duration. It is presented in three lessons, generally 1 day a week over a 3-week period. Auxiliarists rely on this course for beach and summer resort areas where vacationers operate boats for a relatively short period of time.

The Basic Seamanship Course is the mainstay of the Auxiliary's public education program. It is geared especially to those boatowners who have little or no experience in boating, although it is valuable as a refresher for the more experienced boaters. Basic Seamanship is an eight-lesson course given over an 8-week period with homework assignments and practical work in between. Subjects covered include boat construction, maneuvering, charts and compasses, marlinspike seamanship, aids to navigation, rules of the road, legal responsibilities, and safe operation.

All three public education courses are taught only by qualified Coast Guard Auxiliary instructors. These

men and women have had years of experience on the water and are well acquainted with the subjects they are teaching. Each has completed a special course of training and practice teaching to prepare himself for his assignment. If you should elect to take an Auxiliary course, you are assured of receiving quality instruction.

SAFE BOATING CHECKS

Another major education program of the Coast Guard Auxiliary is the courtesy examination of motorboats. Next to the boating course, the Courtesy Motorboat Examination (CME) is the best known trademark of the Auxiliary. Courtesy examinations are provided as a free public service for the benefit of boatowners and are performed only by specific request. It is, in effect, a private practical education program involving a valuable exchange of boating safety information.

Courtesy Motorboat Examinations are conducted by specially designated members of the Auxiliary who, like instructors, have completed a period of intensive training and testing. Auxiliarists who complete this training are considered to be among the most knowledgeable of boatmen. Each courtesy examiner is fnlly aware of the intricacies of state and federal law as they pertain to recreational boats. They know exactly what types of equipment belong on each class of boat and also have other recommendations they consider essential for truly safe boating.

Boatmen who pass the CME are given a decal—the Seal of Safety—which is displayed on their boats. This decal is an indication that the boat not only meets federal regulations, but also goes far beyond in safety standards and required equipment. Because of the obvious value of the CME, boats displaying the decal normally will not be boarded by the regular Coast Guard or most State enforcement officials unless an apparent violation in operation or equipment is noted.

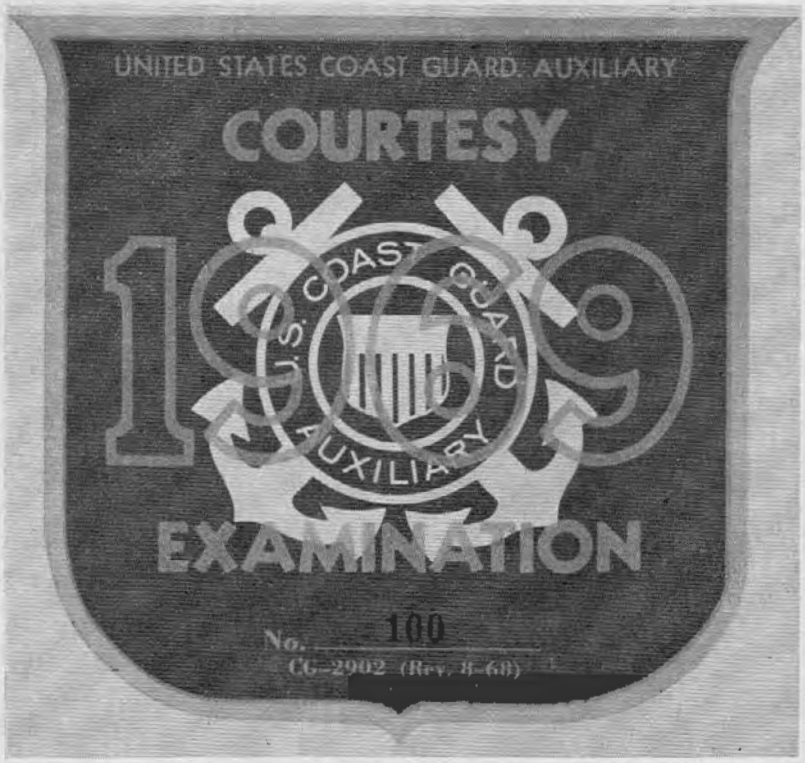
SAVING LIVES

Although receiving less publicity than they deserve, the Coast Guard Auxiliary's operational activities help thousands of recreational boaters each year who are in trouble. Auxiliarists cooperate with the Coast Guard and State boating officials to augment their forces for search and rescue missions, safety patrols, and regatta patrols. Members take pride in the fact that the Auxiliary is the only boating organization in the United States that provides these services on a regular, scheduled basis.

The success of the Auxiliary's operational efforts are evidenced by last year's statistics: 128 lives saved, 4,540 regatta patrols conducted, and 7,234 boats assisted. Hundreds of Auxiliary members have received citations from the Coast Guard for their heroism in rescue work, while thousands of others have earned the gratitude of countless boatmen they have saved or assisted.

PROJECT AIM

Coast Guard Auxiliary units throughout the country sponsor a 4-day visit to the Coast Guard Academy for a selected number of high school students. Called the Academy Introduction Mission, or Project AIM, this program was initiated in 1955 to acquaint qualified young men with the Academy and the opportunity for a career in the Coast Guard. Normally, each Auxiliary division selects a student who has the potential for qualifying as a cadet from a physical, mental, and moral viewpoint. The



After a courtesy examination by the Coast Guard Auxiliary, the boatowner is entitled to display this decal.

Auxiliary pays his way to and from the Academy and promotes local publicity. Auxiliarists devote much time and money to this worthwhile project with candidates coming from as far away as Alaska. Last year 143 young men participated in the program.

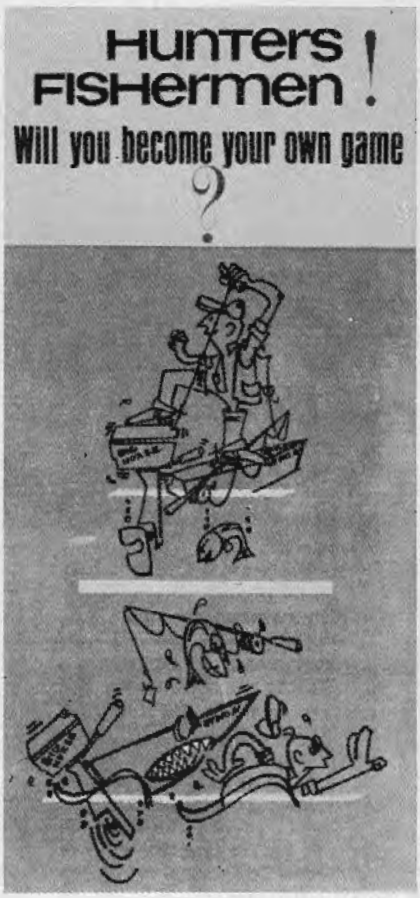
JOINING THE AUXILIARY

The Auxiliary is eager to accept new members. Although the rolls total over 25,000 at this time, a newly announced goal projects an increase to 100,000 members. Both men and women may apply for membership. You must be at least 17 years old, a U.S. citizen, and own at least a 25 percent interest in a motorboat, yacht, aircraft, or radio station. The ownership requirement may be waived if you have special qualifications making you a desirable addition to the Auxiliary.

Individuals accepted for membership in the Auxiliary undergo an initial Basic Qualification Course. They learn elements of seamanship, piloting, weather, communications, Auxiliary history and organization, as well as many other subjects. When they have successfully passed this course, they graduate from a conditional member status to regular membership. This entitles them to participate in all of the programs of the Auxiliary, such as Courtesy Examination, Operations, Instruction, and Public Education.

Perhaps the most attractive program available to regular members is that of advanced membership training. Every basically qualified Auxiliarist has the opportunity to advance his nautical training in one of seven fields of operational specialty—Seamanship, Navigation, Patrol Procedures, Search and Rescue, Administration, Weather, and Communications. The advanced courses in each of these areas go far beyond those usually offered by other groups, giving Auxiliarists a chance to become true experts in the field of their choosing. Those who become proficient in all seven subjects are elevated to Operational Membership (AUXOP), the highest achievement in the Auxiliary.

Remember, the Auxiliary is a voluntary, nonmilitary organization. Though there is an authorized uniform, it is optional for each member. The organization's close affiliation with the Coast Guard remains strictly civil in nature and does not in any way constitute inactive or active military service.



Take a Safe-Boating Lesson From the Coast Guard Auxiliary

If you should have any questions about any of the programs of the Auxiliary, or are interested in joining the organization, contact the nearest flotilla in your area or write the Director of Auxiliary in any of the following locations:

Director of Auxiliary
First Coast Guard District
J. F. Kennedy Federal Bldg.
Government Center
Boston, Mass. 02203

Director of Auxiliary
Second Coast Guard District
Federal Building
1520 Market Street
St. Louis, Mo. 63103

Director of Auxiliary
Third Coast Guard District (NA)
Governors Island
New York, N.Y. 10004

Director of Auxiliary
Third Coast Guard District (SA)
Coast Guard Base Gloucester
King and Cumberland Streets
Gloucester, N.J. 08030

Director of Auxiliary
Fifth Coast Guard District
431 Crawford Street
Portsmouth, Va. 23705

Director of Auxiliary
Seventh Coast Guard District
51 SW. First Avenue
Miami, Fla. 33130

Director of Auxiliary
Eighth Coast Guard District
Custom House
New Orleans, La. 70130

Director of Auxiliary
Ninth Coast Guard District
New Federal Building
1240 East Ninth Street, Rm. 2021
Cleveland, Ohio 44199

Director of Auxiliary
11th Coast Guard District
Heartwell Bldg.
19 Pine Avenue
Long Beach, Calif. 90802

Director of Auxiliary
12th Coast Guard District
630 Sansome Street
San Francisco, Calif. 94126

Director of Auxiliary
13th Coast Guard District
618 Second Avenue
Seattle, Wash. 98104

Director of Auxiliary
14th Coast Guard District
677 Ala Moana Boulevard
Honolulu, Hawaii 96813

Director of Auxiliary
17th Coast Guard District
Post Office Box 3–5000
Juneau, Alaska 99801 ⚓

BOATING ACCIDENTS[1]

The grim aftermath of a collision. The speedboat went out of control and rammed the moored houseboat. A man standing on the stern of the floating home was killed instantly when he was thrown 9 feet through the house.

There were 4,195 boating accidents reported for calendar year 1968 involving some 5,427 vessels. 1,092 of these vessels were involved in 1,062 boating accidents which resulted in 1,342 fatalities. 1,150 vessels were involved in 879 accidents resulting in 1,284 personal injuries. And, 3,185 vessels were involved in 2,254 accidents accounting for $6,631,600 in property damage.

LOSS OF LIFE

Vessel capsizings have consistently accounted for more of the lives lost in boating accidents each year than any other type of casualty. The great majority of capsizings are attributed to some fault of the operator in his handling of the vessel. Chief among these faults are improper loading or overloading of the boat; ignoring weather warnings, and proceeding under unfavorable weather conditions; and operating in waters which exceed the limits of the craft and/or the operator's training or experience. Falls overboard and vessel sinkings were the second and third major types of casualties resulting in boating fatalities.

PERSONAL INJURIES

About half of the vessels reported in accidents were involved in collisions. These collisions accounted for

[1] This article is excerpted from *Boating Statistics 1968* (CG–357). Interested parties may obtain copies of the complete report by writing to Commandant (BBA) U.S. Coast Guard, Washington, D.C. 20591.

most of the personal injuries. The principal cause of a vessel colliding with another vessel or with a fixed object was the failure of the operator to maintain a forward lookout. The increasing popularity of water skiing has contributed to this safety problem. Fires and explosions resulted in the second largest number of personal injuries.

PROPERTY DAMAGE

Fires and explosions continue to account for the greatest amount of property damage. Vessel collisions accounted for the second largest amount of property damage. More than 60 percent of the cases of fires and explosions, where the cause of the accident could be determined, were due to some fault of the operator such as improper maintenance of engine or equipment; disobedience of safe fueling practices, and lack of operating experience.

NUMBER OF PERSONS ON BOARD

This year we have compiled information on the number of persons on board the vessel when an accident occurred. The following table shows percentages of vessels involved in all accidents and in fatal accidents in terms of the number of persons on board.

The greatest number of vessels involved in all accidents, in particular fatal accidents, were those which had two persons on board. (*See table on top of page.*)

Persons on board	Vessels involved in all accidents	Vessels from which fatalities occurred
	Percent	*Percent*
0	8.6	.4
1	17.6	25.9
2	30.4	33.6
3	17.2	19.2
4	13.3	12.5
5	4.7	2.9
6	4.2	2.5
7	1.6	1.5
8 or more	2.4	1.5

LIFESAVING DEVICES

There were 1,203 drowning victims for 1968. 51.8 percent of them were known to have had lifesaving devices available. 84.3 percent of these victims did not use the available devices, or used them improperly. 27.2 percent of the drowning victims were known not to have had lifesaving devices available; and for 21.0 percent of the victims it is unknown whether or not a lifesaving device was available. No conclusive data are available concerning the number of persons who, by their use of a lifesaving device, prevented a boating "mishap" from becoming a reportable boating accident.

WEATHER AND WATER CONDITIONS

52.6 percent of the vessels involved in reported boating accidents were on nontidal waters; 35.7 percent were on tidal waters; 5.3 percent were on the Great Lakes; and 6.4 percent were on the oceans or the Gulf of Mexico.

It is interesting to analyze the weather and water conditions at the time the vessels became involved in accidents:

- In 65.2 percent of the cases the water was calm;
- In 85.1 percent of the cases the weather was clear;
- In 68.7 percent of the cases there was no wind or it was light;
- In 82.5 percent of the cases the visibility was good.

TIME, DAY OF THE WEEK, AND MONTH

According to our tabulations, more vessels, 21.5 percent, were involved in accidents between the hours of 2–4 p.m. than any other 2-hour time interval. However, slightly more fatalities occurred between 4–6 p.m., 17.2 percent, than between 2–4 p.m., 16.9 percent.

Most vessels, 30.9 percent, were involved in accidents on Sunday followed closely by Saturday with 25.9 percent. Most fatalities occurred on Saturday, 26.2 percent, while Sunday had a near equal 25.8 percent.

Most boating accidents occurred in the month of July, 23.4 percent of the vessels involved; fatalities were at their peak in 2 months, July with 14.8 percent and May with 14.4 percent.

YEAR BUILT

There were 3,277 vessels out of the 5,427 involved in accidents where the year built could be determined from the accident reports. A breakdown of these 3,277 vessels and the fatalities and injuries which resulted when they became involved in accidents is as follows:

Year range	Vessels	Fatalities	Injuries
1965 to 1968	1,466	251	352
1960 to 1964	950	141	243
1955 to 1959	520	56	125
1950 to 1954	102	15	28
1945 to 1949	99	11	20
1940 to 1944	37	2	5
Prior to 1940	103	7	18

‡

A DOZEN BASIC BOATING SAFETY RULES

The following commonsense safety suggestions could greatly reduce the boating accident rate if followed by all boatmen under appropriate circumstances.

1. Know your boat, what it can do and what it can't do, how it will handle in all kinds of weather. Knowing load capacity is very important. Capacity plates placed in conspicuous view of the operator serve as a reminder of the capacity limitations of the boat, thereby dissuading overloading. The boat should have positive buoyancy sufficient to support the passenger capacity when swamped or capsized. Don't overpower your boat.

2. Load your boat properly, making sure that the weight is properly distributed. On small craft, standing up, shifting weight, and sitting on the bow or gunwale can be very dangerous practices.

3. Leave a float plan with a friend or relative before you depart on a boating outing. This should include the following information: (*a*) Where you intend to cruise; (*b*) description of your boat; (*c*) communications equipment you have available; (*d*) list of people accompanying you; (*e*) estimated time of return, and (*f*) alternate plans in case of bad weather or an emergency.

4. Life vests or preservers should be worn by all occupants when boating conditions are hazardous, and by children and nonswimmers at all times. Besides all safety equipment required by law, some desirable extras should be carried—a good first aid kit, paddle or oars, distress flares, a pump or bailer, anchor and line, boat hooks, a transistor radio, drinking water, and extra fuel.

5. Keep a good lookout. Failure to do so is the cause of most collisions. There should be a second person aboard to act as a lookout when towing a skier.

Not only do collisions account for many injuries and deaths, they often cause devastating property damage as well.

6. Operate at safe speeds. Watch your wake. You are responsible for damage caused by it to other boats or waterfront facilities. Give swimmers, skiers, and divers a wide berth.

7. Know and obey State and Federal boating laws. Know the marine traffic laws, the "rules of the road", and obey them.

8. Respect the weather. Listen to marine forecasts, and heed weather warnings.

9. Be familiar with emergency signals and procedures, and familiarize your passengers with them. Conduct life preserver drills. In most cases when a boat capsizes, the occupants should stay with the boat. Even alleged good swimmers attempting to swim to safety have succumbed before reaching shore. Also, you could be more easily located by a search plane or boat. Using good judgment and avoiding panic would prevent or minimize the serious consequences of a boat accident.

10. Be defensive against causes of fires or explosions. Three steps are necessary to reduce the chance of flammable vapors collecting in your boat: (1) Observe all safety precautions in handling volatile fuels; (2) have a safe fuel system installation and maintain it; (3) have a good ventilation system to conduct fresh air into each fuel and engine compartment and to remove gases from the bilges to the open atmosphere.

11. Keep your boat neat and in prime operating condition. Check safety equipment and carry spare parts, and keep them dry and in good condition.

12. Don't operate a boat if intoxicated. ⚓

EIGHTEEN AUTHORIZED STATIONS, at the locations indicated above, provide continuous weather broadcasts. Other stations are being planned.

Weather Broadcasts

VHF–FM 162.55 is a technical term denoting a very-high-frequency (162.55 MegaHertz, MHz*) transmission in a 15–KHz-wide band on the dial of special FM radio receivers. But to many Americans, the term has come to mean weather information in detail given continuously direct from the Weather Bureau.

In times of normal weather the transmission is a great convenience, helpful to construction planners and farmers, civil engineers and *boaters,* parents and children, everyone who needs to know what's going to happen weatherwise. In time of emergency—when the weather may produce a tornado, or hurricane, or flood, or severe thunderstorm, or heavy snow—detailed continuous weather information becomes a saver of lives.

The system is called ESSA VHF Radio Weather, a new and expanding service developed by the Weather Bureau of the Environmental Science Services Administration (ESSA). ESSA VHF Radio Weather is part of the nationwide Natural Disaster Warning (NADWARN) system, designed to speed warnings to people in threatened areas.

ESSA VHF Radio Weather transmissions originate in key Weather Bureau forecast offices across the Nation, operating continuously 24 hours a day, with taped messages repeated every 5 to 7 minutes. Tapes are revised and updated periodically (usually every 2 or 3 hours) to include latest weather information. This operation transmits weather and radar summaries, temperatures, wind observations, visibility, sea and lake conditions, and detailed local and area forecasts, as well as certain tailored information for boating enthusiasts, swimmers, surfers, fishermen, farmers, campers, motorists—people who need a detailed weather picture.

But emphasis is on public safety. When severe weather warnings are in order, routine transmissions are interrupted and the transmission is devoted to emergency warning operations. This means that listeners in a tornado belt will be given the latest available information on tornado occurrences during a tornado watch or warning; that inhabitants of coastal regions can better gage the advance of a hurricane or storm surge; that those who live along the Nation's rivers will have more timely warning of floods; that those who are touched by the continent's terrible winter storms will be better prepared.

The present ESSA VHF Radio Weather System is only the first part of the NADWARN plan. As the program grows, it will become possible to activate remote, automatic receivers by a special radio signal. This will mean that schools, hospitals, churches, and other places of assembly, public utilities offices, emergency forces, and news media can be flashed as soon as the hazard begins to develop. Mariners and the boating public will derive obvious benefits from such a system. ⚓

Other Sources of Boating Information

There are many sources of boating information and education in addition to the Coast Guard and Coast Guard Auxiliary.

The U.S. Power Squadrons, a nationwide association of boatmen, conduct an extensive program of boating instruction. The local squadrons throughout the country offer a 12-lesson course in piloting, seamanship, and small boat handling to the public, while advanced courses are available for Power Squadron members. For starting dates and locations of classes in your community, contact the squadron commander in your area or write to USPS Headquarters, Post Office Box 510, Englewood, N.J. 07631.

Local chapters of the American National Red Cross offer educational programs in various phases of water safety. Included are 1-hour dry-land demonstrations of required and recommended equipment, as well as a small craft course.

Yacht and boating clubs present a variety of courses, while many private and public programs of adult education feature courses in small craft handling.

Over a quarter-million boatmen each year take part in some sort of formal education in things nautical. It's one of the best ways to learn more about this growing sport. ⚓

Q. The knot shown is called a:
(a) Bowline
(b) Fisherman's bend
(c) Carrick bend
(d) Clove hitch

A. (d) Clove hitch.

Q. The inner compass rose is offset from true directions by an amount known as:

(a) Variation
(b) Deviation
(c) Compass error
(d) None of the above

A. (a) Variation.

Q. If a vessel rolls slowly and sluggishly from side to side in a seaway, it is an indication that the vessel:

(a) Has excellent stability and is probably loaded correctly.
(b) Is not in danger of capsizing but is loaded down by the stern.
(c) Has a greater draft forward than aft.
(d) Has poor stability and may be incorrectly loaded.

A. (d) Has poor stability and may be incorrectly loaded.

Q. Which of the following is NOT a distress signal?

(a) Red flares or red rockets.
(b) Continuous sounding of fog signal.
(c) International Code Flags "November" and "Charlie."
(d) Basket hanging in the rigging.

A. (d) Basket hanging in the rigging.

Q. Before starting a gasoline engine on a motorboat, you should make sure:

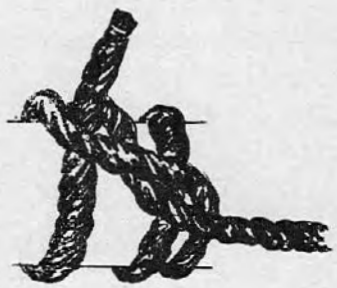
(a) That gasoline tank is full.
(b) That bilges, cabins, etc., are thoroughly ventilated until free of gasoline vapors.
(c) That you have fresh water on board.
(d) That each of the above is followed.

A. (b) That bilges, cabins, etc., are thoroughly ventilated until free of gasoline vapors.

Q. When two power-driven vessels are meeting end on, or nearly end on, so as to involve risk of collision:

(a) Each shall alter her course to port so that they may pass on the starboard side of each other.
(b) Each shall slow down.
(c) Each shall alter her course to starboard so that they may pass on the port side of each other.

Q. The knot shown is called a:
(a) French bowline
(b) Bowline on the bight
(c) Figure 8 knot
(d) Rolling hitch



A. (d) Rolling hitch.

Q. The knot shown is called a:
(a) Overhand knot
(b) Sheet bend
(c) Carrick bend
(d) Figure 8 knot

A. (d) Figure 8 knot.

(d) Each shall blow two blasts of the whistle.

A. (c) Each shall alter her course to starboard so that they may pass on the port side of each other.

Q. The radiotelephone call signal for distress is:

(a) pan
(b) mayday
(c) SOS
(d) urgent

A. (b) mayday.

Q. The roughest sea may be anticipated when:

(a) Wind and current are in same direction
(b) Wind and current are at right angles
(c) Wind and current are in opposite directions
(d) There is no current

A. (c) Wind and current are in opposite directions.

Q. The pivoting point of a vessel is usually located:

(a) At the bow
(b) At one third of the vessel's length from the bow
(c) At two thirds of the vessel's length from the bow
(d) At the stern

A. (b) At one third of the vessel's length from the bow.

Q. If the true course to be made good is 276° and the chart shows the variation to be 12° E. and the deviation for this heading is 4° W., the compass course to steer is:

(a) 264°
(b) 268°
(c) 284°
(d) 288°

A. (b) 268°

Q. When coming from seaward, which type of unlighted buoy marking the channel should be on your right hand side?

(a) Red, odd-numbered, nun
(b) Black, odd-numbered, can
(c) Red, even-numbered, nun
(d) Yellow, even-numbered, can

A. (c) Red, even-numbered, nun.

Q. Spaces containing batteries require good ventilation because:

(a) Ventilation avoids CO_2 buildup
(b) Ventilation supplies extra oxygen for the battery
(c) Ventilation avoids flammable gas accumulation
(d) Less water would be used

A. (c) Ventilation avoids flammable gas accumulation.

Q. Of the types of extinguishers listed, the one best suited for use on an electrical fire is:

(a) Soda acid
(b) Foam
(c) Water spray
(d) Carbon dioxide

A. (d) Carbon dioxide.

Q. The knot shown is called a:

(a) Figure 8 knot
(b) Overhand knot
(c) Granny knot
(d) Clove hitch

A. (b) Overhand knot.

What Would YOU Do?

You are driving along a coastal highway when suddenly you see a boat capsize near shore.

You turn off the highway and drive your automobile as close as you can to the mishap. Looking around your automobile desperately for something to assist the dunked sailor, you find nothing.

Do you just wait and hope for the best? Or do you try to swim to his aid?

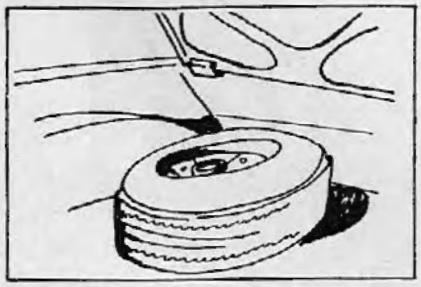
Bewildered?

The answer is so obvious that it's often overlooked.

First, anything that will float may be of assistance in emergencies. (An empty thermos jar, plastic or light weight picnic basket, etc.)

But often these items are not available. Then what?

The National Safety Council has



the answer: USE YOUR SPARE TIRE!

Your spare tire is readily available, is handled fairly easily, and, most important: IT FLOATS.

The tire, including the wheel, will support several people. A good idea along this line is to open your trunk and loosen the lugs on the spare while you swim or boat nearby . . . just in case. ⚓

NATIONAL SAFE BOATING WEEK 1969

By the President of the United States of America

A Proclamation

In a time of unprecedented opportunity for leisure-time activities, more and more Americans are discovering the benefits of boating. The ever-increasing traffic on the waterways has made it imperative that all boatmen observe the basic rules of boating safety.

Common sense and courtesy are the two foundations of boating safety. An overloaded boat, failure to heed weather warnings or the taking of other unnecessary risks can, and too often do, lead to boating tragedy. If each boatman takes simple precautions, understands the capabilities of his craft, and exercises ordinary good judgment, tragic losses can be avoided.

Recognizing the need for emphasis on boating safety, the Congress, by a joint resolution approved June 4, 1958 (72 Stat. 179) has requested that the President proclaim annually the week which includes July 4 as National Safe Boating Week.

NOW, THEREFORE, I, RICHARD NIXON, President of the United States of America, do hereby designate the week beginning June 29, 1969, as National Safe Boating Week.

I urge the public to take advantage of educational courses in boating safety, and all those who use our waterways for boating to exercise courtesy and apply safe boating practices.

I also invite the Governors of the states and the Commonwealth of Puerto Rico and appropriate officials of all other areas under the United States flag to provide for the observance of this week.

IN WITNESS WHEREOF, I have hereunto set my hand this third day of March, in the year of our Lord, nineteen hundred and sixty-nine, and of the Independence of the United States of America the one hundred and ninety-third.

RICHARD NIXON

SAFETY FIRST
boating's golden rule

OBSERVE THESE SAFETY RULES–

1 · Know your boat
2 · Don't overload
3 · Keep a good lookout
4 · Operate at safe speeds
5 · Respect the weather
6 · Take sufficient fuel
7 · Keep your boat in shape
8 · Carry necessary equipment
9 · Secure your boat properly
10 · Obey the law

- You are responsible for your wash and wake.
- Reckless operation is punishable by fine and imprisonment.
- Boats in your *"Danger Zone"* have right-of-way and should hold course and speed. Learn and exchange proper whistle signals to avoid misunderstanding.
- An overtaking boat is the burdened vessel.
- Sailboats have right-of-way except when overtaking. Pass them wide to leeward.
- Large vessels and tows are not quickly maneuverable. Keep clear—give them room.

Be courteous and careful at all times!

NATIONAL SAFE BOATING COMMITTEE

American Boat and Yacht Council, Inc.
The American National Red Cross
American Power Boat Association
American Water Ski Association
Boat Owners Council of America
Boy Scouts of America
National Association of Engine and Boat Mfrs., Inc.
National Association State Boating Law Administrators
National Boating Federation
National Fire Protection Association
National Safe Boating Association
National Safety Council
Outboard Boating Club of America
United States Army Corps of Engineers
United States Coast Guard
United States Coast Guard Auxiliary
United States Power Squadrons
Yacht Safety Bureau
Young Men's Christian Association

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