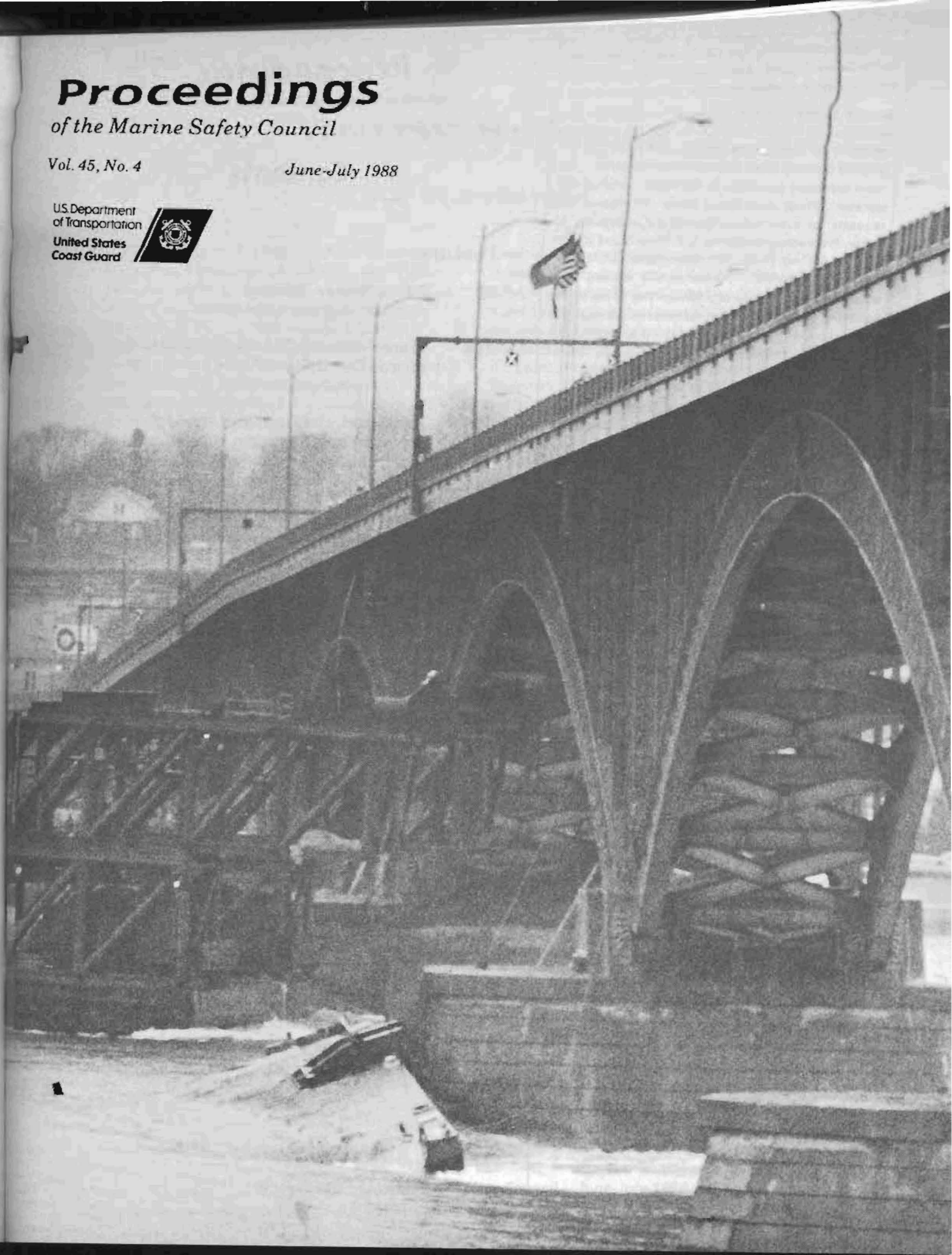
Proceedings

of the Marine Safety Council

Vol. 45, No. 4 *June-July 1988*

U.S. Department of Transportation
United States Coast Guard



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Coast Guard Marine Safety Office Buffalo (New York) enforces a safety zone during Operation Lift, the removal of Barge #45 from the Peace Bridge. (Photo courtesy of B. Burr Lewis, a former Coast Guardsman now with Gannett Rochester Newspapers, Rochester, NY)

White Water Towing

LCDR Christopher Walter

On August 7, 1986, the **Ruth B**, a small work boat, was pushing the **Barge 45** in Lake Erie past Buffalo, New York, enroute to the Erie Barge Canal with an eventual destination of Hopewell, Virginia. The voyage began in Saginaw, Michigan, where the **Ruth B** and the **Barge 45** were purchased. The new owner and sole operator of the **Ruth B** bypassed the Black Rock Canal which provides a safe passage around the rapids and swift currents at the headwaters of the Niagara River and entered the river instead. He lost control of the barge; it turned broadside to the river and struck the Peace Bridge, throwing two of three persons onboard into a vicious, 9- to 12-miles-per-hour current. The **Ruth B** broke away from the barge, capsized, and sank. The **Barge 45** was removed from the Peace Bridge after a 4-month salvage effort that cost the federal government $5.5 million (see *Proceedings of the Marine Safety Council*, July-August 1987, pp. 155-157 for a discussion of the casualty.)

Coast Guard Marine Safety Office (MSO) Buffalo recommended in its investigation that license suspension action be taken against the **Ruth B's** operator. Since the operator lived in Virginia, MSO Hampton Roads charged him with negligence for hitting the bridge and two counts of misconduct which were later dismissed by the Administrative Law Judge.

The Importance of the Case

This license suspension case was important to both the barge owner and the government for several reasons. First, the Department of Justice was planning to file a multimillion-dollar claim against the barge owner for the salvage costs. The hearing's outcome would affect the success of that claim.

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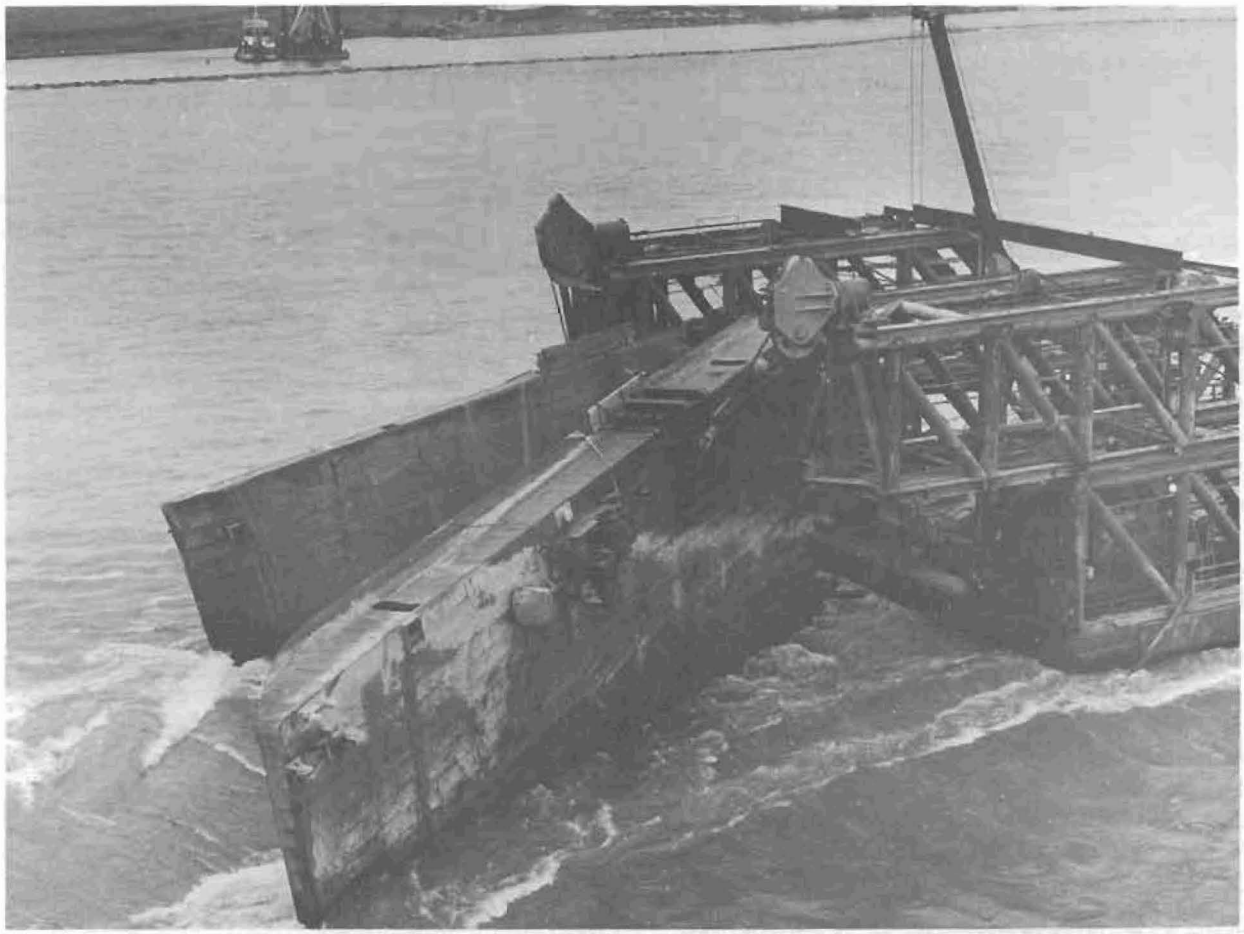
Second, the tug operator maintained that the federal government was at fault for publishing allegedly misleading information in the *Coast Pilot* and because the Coast Guard refused to provide data about current strength in the Niagara River when the tug operator asked for it. Third, a centuries-old case precedent in these hearings, that a grounding or allision (collision with a fixed object) raises a rebuttable presumption of negligence against the mariner, had just been upset by two National Transportation Safety Board (NTSB) rulings (see NTSB Orders No. EM-139 (Murphy) and EM-140 (Dougherty)), available from NTSB, 800 Independence Ave., SW, Washington, DC 20594.

Presumption of Negligence

A mariner is presumed, or considered, negligent when his vessel grounds or allides with a fixed object such as a pier, lock wall, or bridge. This presumption can be overcome, or rebutted, if the mariner shows that he was without fault or that the allision was caused by a third party or resulted from an inevitable accident or act of God, and that the mariner could have taken no reasonable action to prevent it. The presumption of negligence is based on the simple fact that the ground and fixed objects cannot move and cause a vessel to strike them, and that properly navigated vessels, in the normal course of business, do not strike fixed objects or run aground.

In Murphy, (p. 4), NTSB maintained that "a credible, non-fault explanation for a collision defeats the presumption and obligates the Coast Guard to go forward with evidence to counter the seaman's explanation or to show that he was nevertheless guilty of some specific act of negligence." In the Murphy case, the operator of a tug controlling a 175' x 1160' flotilla of barges in the Ohio River encountered forecasted fog conditions in an area where high river banks hampered radar use. He proceeded downriver *in zero visibility without a lookout* and struck two moored barges. Despite the foolhardy actions of



The lift barge carries its prize, the Barge 45, away from the Peace Bridge in the Niagara River. *(Photo courtesy U.S. Army Corps of Engineers, Buffalo District)*

this tug operator, NTSB granted his appeal from the Vice Commandant's decision (decision number 2419). NTSB's restrictive and novel interpretation of presumptions of negligence cast grave doubts on the outcome of the license suspension case against the **Ruth B's** operator.

Case Prosecution

Since sole reliance on the presumption of negligence would most likely result in the loss of the negligence charge, every facet of the tug operator's conduct was examined while preparing for the license suspension hearing. The evidence developed during the hearing had to go well beyond the mere proof that an allision had occurred so that the case did not hinge solely on the presumption of negligence which arises when a vessel allides with a bridge. This was done by showing what prudent mariners do under similar circumstances (use the Black Rock Canal instead of navigating that part of the Niagara River), by showing that the tug operator did not have the best chart of the area, and by showing that the *Coast Pilot* cautions large vessels to use the Black Rock Canal. In addition to witnesses' testimony, an extract of the *Coast Pilot* was entered into evidence to illustrate the difficulty of navigating the upper Niagara River, and a chart showing the river's rapids and shoals was also used to familiarize the Judge with all of the facts and circumstances that constituted negligence.

Seven exhibits were offered by the Investigating Officers and admitted into evidence. They included the **Ruth B's** state registration, the extract from the *Great Lakes Coast Pilot*, charts of the upper Niagara River and Buffalo Harbor, a videotape of the barge wrapped around the Peace Bridge, Ninth Coast Guard District instructions on providing navigational assistance, and information on licenses held by the **Ruth B's** crew.

Seven witnesses testified for the Coast Guard: the **Ruth B's** previous owner; Coast Guard personnel from MSO Buffalo, Group Buffalo, and Station Buffalo; the **Ruth B's** deckhand; and an Army Corps of Engineers official.

In his defense, the respondent called two tug operators and two Coast Guardsmen as witnesses. Skillful cross-examination of the respondent's witnesses also bolstered the Coast Guard's case. (Note: All available evidence should always be presented during the Coast Guard's case-in-chief since evidence developed by cross-examination won't be available if a *prima facie* case is not developed and the charge is dismissed.)

What Would a Prudent Mariner Do?

Coast Guard-sponsored witnesses supported the negligence charge by testifying that a prudent tug operator would not attempt to transit the upper Niagara River, especially while pushing a barge. For example, an eyewitness testified that this portion of the Niagara River is not used by large vessels:

Investigating Officer: Okay, now, did the presence of a barge and tug in that portion of the river strike you in any particular manner?
Witness: Initially, yes, it did. I have never seen anything that large trying to navigate through the current, especially with the two bridges there.

Another witness testified that two tug captains tried to warn the **Ruth B's** operator that he was standing into danger when he bypassed the Black Rock Canal:

Investigating Officer: After your transmissions with the **Ruth B** concerning the currents in the river, were there any other communications that you overheard carried on with the **Ruth B**?
Witness: Yes, there was. Apparently there were two other tug captains doing operations in the Buffalo Harbor, and they witnessed the tug **Ruth B** entering towards very shallow waters, there's a reef there, and he was out of the channel and they tried to hail him on channel 16 -- they didn't get any response but they were saying, "Hey, Cap, you're getting into some pretty shallow water over there, you know, you're out of the channel, you got to come back this way," but there was no response from the **Ruth B**.

A Corps of Engineers official testified about the navigability of the upper Niagara River:

Investigating Officer: Is that fourth span navigable by a tug and barge such as the **Ruth B** and **Barge 45**?
Witness: It's judgmental, I would probably have to say extremely difficult, but more than likely, no.

The respondent's poor selection of charts of the area was also brought out in the hearing:

Investigating Officer: And his excuse was that if he had had (chart) 14833 which is 1 to 15,000 (chart scale) that he would have been able to see the channel more clearly, is that correct?
Witness: He just stated to me that if he had had 14833 that he feels that he would not have taken the route that he did.

Note: By showing that the tug operator transited an area that a prudent mariner would avoid, that he failed to use the best chart and that he ignored the *Coast Pilot's* warnings, *the negligence charge could have been proved even if the tug operator did not allide with the Peace Bridge*. Proving that negligence existed prior to an actual allision is the surest way to keep a case from being overturned upon appeal to the National Transportation Safety Board.

Government Culpability: *The Coast Pilot*

The defense centered on attempts to show that the federal government was at fault and that this alleged fault exonerated the respondent. The first attempt was a claim that the government-published *Coast Pilot* was incorrect and ambiguous.

In this issue, the defense took one part of the *Coast Pilot* that spoke of 2- to 3-mile-per-hour currents out of context and relied upon that section alone to plead that the *Great Lakes Coast Pilot* had misled the respondent concerning the vicious currents in another section of the Niagara River. However, the succeeding portions of the *Coast Pilot* clearly describe the strong currents near the Peace Bridge and the

need to navigate carefully. When the *Coast Pilot* is read carefully -- as it should be by a licensed mariner with no local knowledge -- it also points out that the Black Rock Canal "provides a safe passage for large vessels around the rapids and shoals in the head of the Niagara River."

The presiding Administrative Law Judge described this unsuccessful defense issue in his Decision and Order:

> *(I)t would be difficult to imagine a more persuasive factor to a mariner contemplating the route for his tug and tow than the statement that the Black Rock Canal provides a safe passage for large vessels around the rapids and shoals in the head of the Niagara River.*
>
> *Reading* The Coast Pilot *as a whole, there is simply no reasonable basis for a mariner in the respondent's circumstances to reject the route of safe passage and to risk the hazards of the open Niagara River particularly where he knew that flood waters could be encountered.*

Government Culpability: Coast Guard Station Buffalo

The defense also asserted that the personnel at Coast Guard Station Buffalo knew that the tug operator was standing into danger and refused to assist him. There was simply no evidence to support this assertion. A 41-foot patrol boat from Station Buffalo saw the **Ruth B** after it entered the Niagara River, but it was too late for the tug to turn back then, and the only entrances to the Black Rock Canal are at its northern and southern ends.

The defense also tried to show that the Coast Guard was at fault for ignoring its own instructions. The thrust of this argument was that Station Buffalo failed to follow the District's instructions when the watchstander's refusal to give information on the currents in the Niagara River was not referred to Group Buffalo, implying that if this request had been referred, the tug operator would have been given information that would have led him to safety. This argument was first countered by testimony that the tug operator never indicated that he was in difficulty. Second, the watchstander was shown to be unqualified to provide this assistance because he was not a licensed tug operator, had never operated a tug or towed a barge and, most important, could not accurately evaluate the tug operator's situation since he wasn't on scene and didn't know the tug's location. The watchstander also could not evaluate factors such as the sea and weather conditions, the tug's horsepower, draft, mechanical condition, and size -- all factors that would have to be accounted for before navigational advice is provided. Indeed, the Station Buffalo watchstander was not even able to see the **Ruth B** when her operator asked for information. Obviously, it's foolhardy to provide information under these conditions and equally foolhardy to rely upon that information if it was given. The Administrative Law Judge agreed and ruled:

The Barge 45, shown in foreground, took 4 months to remove from the Peace Bridge. *(Photo courtesy U.S. Army Corps of Engineers, Buffalo District)*

It is difficult for me to understand how the watchstander's action, even if it were a violation of Ninth District's instructions, alleviate the respondent's responsibility for command of this flotilla. It is not Station Buffalo's duty, by law or regulation, to instruct a tug boat Captain in the operation of his vessel or to tell him which route to take down the Niagara River.

Good Case Preparation Is the Key

The defense raised several other issues during the hearing. These contentions were successfully countered in the same way that anticipated problems with NTSB's ruling on the presumption of negligence in the Murphy and Dougherty cases were dealt with: every facet of the respondent's actions was examined, each witness was exhaustively interviewed and prepared for the hearing, every possible piece of documentary evidence was properly authenticated and offered, Commandant's Decisions on Appeal were researched for each known and anticipated issue, counters for anticipated defenses were prepared, probable cross-examination questions were prepared, and finally, the Investigating Officers vigorously prosecuted the actual hearing.

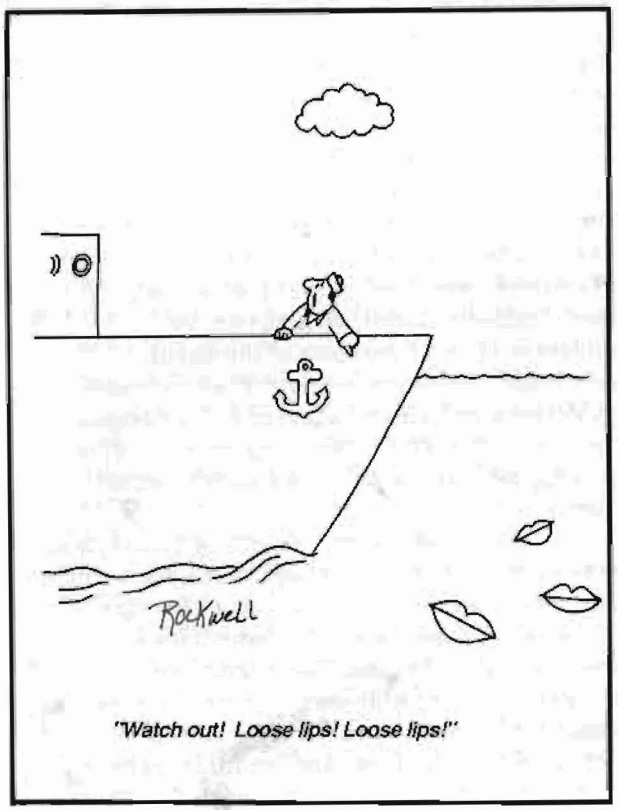
The Sanction

On September 28, 1987, Administrative Law Judge Peter A. Fitzpatrick suspended the tug operator's license for 21 months; the first 9 months was an outright suspension while the remaining 12-month suspension was remitted on 12 months' probation. The Judge did not give the respondent credit for the 5 months during the course of the hearing when his license was impounded.

Proceedings Magazine Has New Address

The Coast Guard has recently reorganized several of its headquarters offices. Effective April 18, 1988, the *Proceedings* is now part of the Coast Guard's Office of Marine Safety, Security, and Environmental Protection.

Our new address is *Proceedings* Magazine, U.S. Coast Guard (G-MP-2), 2100 Second Street, SW, Washington, DC 20593-0001. Our telephone number has changed to (202) 267-1483. Office hours will be from 7:00 a.m. until 3:30 p.m., EST, Monday through Friday, excluding federal holidays.



"Watch out! Loose lips! Loose lips!"

-- MORE --
where did all those nautical words come from?

Jay Gaines

"It should be of the greatest interest to all who sail the seas to know as much as possible of the customs and traditions of the sea."

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Illustrations by Roland Rodegast.)

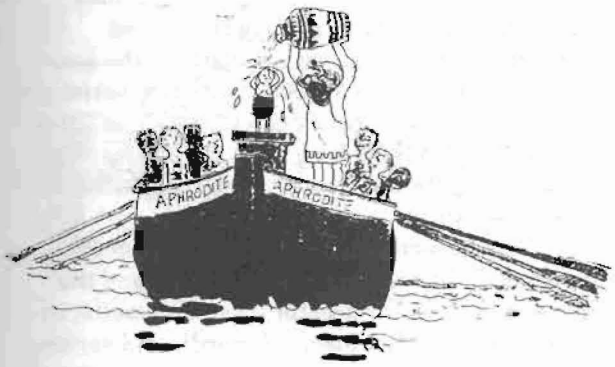
In the first presentation of "Where Did All Those Nautical Words Come From?", published in *The Compass* 1986-No. 2, readers were reminded that the 1932 edition of the *U.S. Navy Reserve Officer's Manual* suggests that, "It should be of the greatest interest to all who sail the seas to know as much as possible of the customs and traditions of the sea. One should be proud to be entirely conversant with the odd expressions and strange terms with which the naval vocabulary is so plentifully flavored."

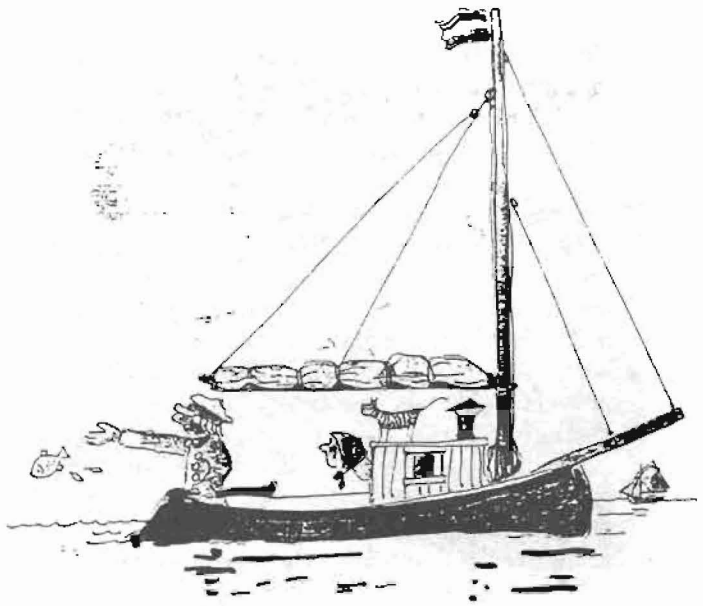
In the previous article, the origins of nearly fifty nautical words and expressions were examined -- confirming that the language of the sea is indeed colorful. In addition, an understanding of the roots of the naval vocabulary provided, hopefully, an increased awareness and appreciation of naval customs and traditions. With this purpose in mind, let us now "spin more yarns" about *more* nautical words.

"Spinning a yarn," or telling a story, is an expression that was born, not at sea, but on land because of the sea. In 16th century Europe, one of the major manufacturing industries was the making of rope to meet the enormous demands of the ever-growing shipping industry. A rope was made from several strands of small rope, each of which was made from many small threads or yarns. The quality of the rope varied, in that rope made from fine yarn was stronger and more flexible than rope made from coarse yarn which produced a rigid and bulky rope.

Special wheels were devised to spin the basic yarn, but the rope itself was hand-made by men working in groups in yarn lofts. To pass the time and, perhaps, to make the rope-making process a little less boring, the men would swap tales while they made the ropes for ships. The invention, or telling, of these tales came to be known as "spinning yarn," and the tale itself became known as a "yarn."

Many of our nautical words, expressions, and customs go back much further than the 16th century, of course. For example, the words "sea" and "ocean" can be traced all the way back to the Greeks to *seio* (meaning "to shake or be tossed about") and *okeanos* (meaning "river that encircled the earth.")





Even one of our most cherished naval customs can be traced back thousands of years to the pre-Christian era when apprehensive sailors, fearful of the unknown, attempted to influence the divine powers controlling the oceans. When a ship was launched, the sailors decked the ship and themselves with flowers, and a pagan priest poured wine and oil on an altar or shrine erected on the deck of the ship. This "christening" of the ship was designed to invoke the protection of the gods or goddesses. The Greeks introduced water in this ceremonial launching as a token of purification, but Christian ceremonials used wine as the sacrament. The name given that sacred part of the ship's deck where an altar or shrine was erected was *puppis* because a *pupi* (doll or image) of the deity protecting the ship was placed there. From this Latin *puppis* or *pupi* came our present "poop deck."

In ancient times, and even as late as the 1800s, carved images adorned the bow of a ship. Originally, these were religious effigies in honor of a deity and later, as on the famous clipper ships, these carved or ornamental images were supposed to bring good luck to the ship and crew. These ornaments, of course, did little to enhance the speed or operation of a ship, but they were impressive. Equally impressive are those individuals who head up companies and corporations in title only and have very little authority or very little to do with the company's operation. They are pure ornamentation, or, as we know them, "figureheads."

Like "figurehead," many words and expressions common to our everyday land-locked language can be traced directly to the sea. For example, our "Blue Monday" originated in the era of sailing ships when the entire crew was mustered on deck every Monday to witness the punishment of wayward sailors -- flogging until black and blue.

We're all familiar with the term "scuttle butt," which means gossip, and it is common knowledge that a lot of "scuttle butt" originates around the office water cooler. So it was on old sailing ships. The "scuttled butt" (a Dutch term) was the lidded cask at which the ship's crew gathered to obtain its drinking water -- and to exchange the latest ship's rumors or gossip.

Equipment on land and sea occasionally goes "on the blink," an expression that originated among New England sailors. A small mackerel -- too small for sale in port -- was called a "blink." Anytime the sailors caught only blinks, the fishing voyage was considered to be unsuccessful or "on the blink."

Whenever a mast was broken at sea, it was up to the captain to decide whether to attempt to salvage the mast or to just let it go "by the boards" -- fall over the side. Today, when we decided to let a matter go "by the boards," we mean that we are washing our hands of it -- are finished with it once and for all just as the captain was with an unsalvageable mast.

Though the age of sail has long disappeared, its images and terms still permeate our language. Besides those ancient nautical

terms still used by seafarers, we still use many old sailing terms that have taken on a new or metaphorical meaning.

For example, to be "hard up" is to be short of money. The expression, a nautical one, comes from a ship being "hard up" or when the rudder is turned as far to one side as it will go.

We have cereals "chock full" of vitamins, coffees "chock full" of flavor, and television movies "chock full" of excitement. "Chock full" is derived from the nautical "chock-a-block," which originally referred to a tackle being pulled up as far as it would go until its two blocks or pulleys were drawn together.

In the business world, when a particular strategy fails, executives often "try a new tack," a nautical expression derived from the maneuver of following a zigzag course when sailing into the wind. From sailing ships, we have also learned how to deflate an inflated ego: "to take the wind out of one's sails," referring, of course, to the manner in which one ship blankets another from the wind, as when in close quarters during a battle or race.

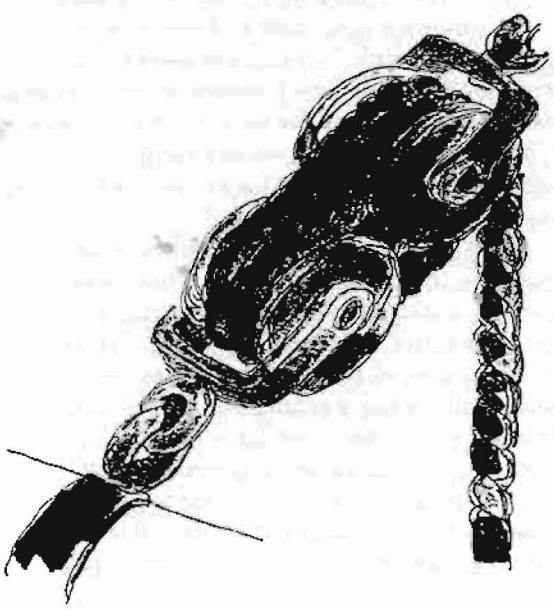
We've all known someone at sometime who went out on "a lark" or partying spree. This expression is distinctly nautical and comes from the old Anglo-Saxon word *lac* which meant to play or have fun. "A lark" was originally "to skylark," derived from the practice of young sailors laying aloft to the royal yards and sliding down the backstays.

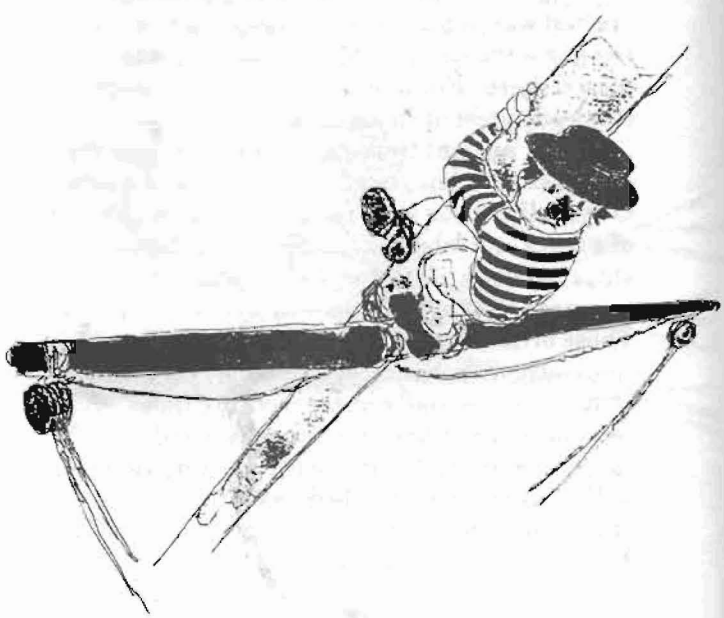
Also, from the days of sail, we arrived at our present "skyscraper." Originally, a "skyscraper" or "skyraker" was any sail above the fore, main, or mizzen royal. It was so high that it was only natural that architects borrowed the term to describe a ten -story building built in Chicago in 1884 and the first structure to be called a skyscraper.

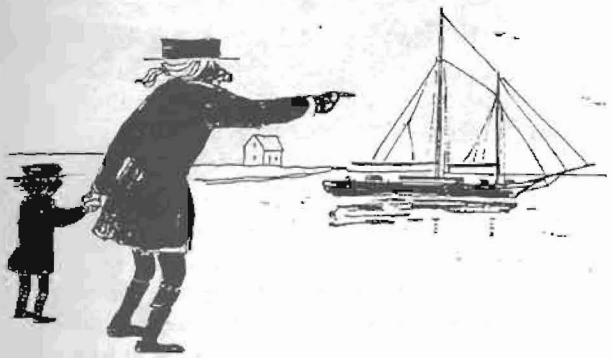
Sailing ships and their own particular language and lore have always fascinated everyone for as long as man has sailed the seven seas. None has ever captured the imagination as much as those swift American ships of the 1700s and 1800s, with their long hulls, sweeping bows, and towering tiers of canvas, known as schooner and clipper ships.

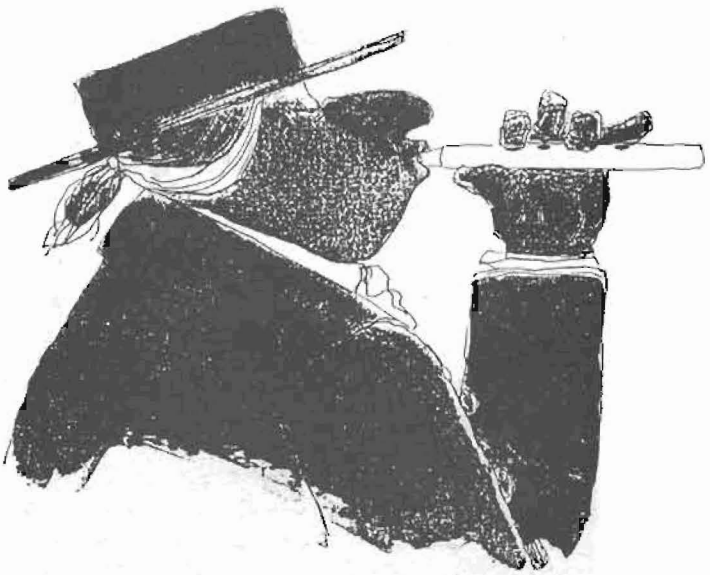
The schooner was designed to meet the demands of the lucrative China trade, and the first was built in Gloucester, Massachusetts, in 1713 by Andrew Robinson. According to various accounts, Robinson had not yet named his new rig when she was launched, but as she left the ways, a bystander yelled out, "See how she scoons" (from the Swedish *skunna* or *scoon* meaning to skim over the water). Upon hearing the cry, Robinson immediately decided, "A schooner she shall be."

Then came the great clipper ships, the fastest, largest, and most beautiful sailing ships the world had ever known. Samuel Eliot Morrison wrote in *The Maritime History of Massachusetts*, in 1921: "Never, in these United States, has the brain of man conceived, or the hand of man fashioned so perfect a thing as the clipper ship." Its very name, "clipper," came from the English word *clip*, which mean trim or









shipshape, but after the clipper ships, the word came to mean "very fast."

Now, here is a potpourri of nautical words and customs, and their origins.

Perhaps one of the oldest and most distinctive items of nautical gear is the "Boatswain's Pipe." Originally, naval vessels were commanded not by captains but by *batsuens*. The Saxon word *swein* meant a boy or servant, *bat* meant boat, and from a combination of the two words we arrived at "boatswain" -- a boat boy or steerer of the boat.

From earliest times, a boatswain utilized a pipe or flute to signal members of the crew. Galley slaves, in the glory days of the Greeks and Romans, rowed to a rhythm set by a boatswain's pipe or flute. During the Crusade of 1248, English crossbowmen were signaled to the deck by a boatswain's pipe. Shakespeare mentioned it in *The Tempest* and Samuel Pepys, the English diarist, wrote of it in his *Naval Notes*.

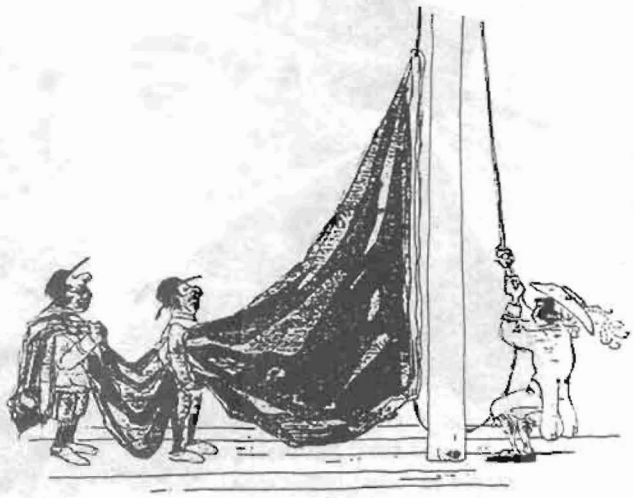
At one time, the pipe was made of gold and was worn as a badge of office or honor and was carried on a chain around the neck. The present form -- a whistle -- was adopted in commemoration of the English victory over the notorious Scotch pirate, Andrew Barton . Lord Edward Howard took the whistle from the body of Barton, and later when Howard was proclaimed Lord High Admiral, he established the whistle as the official and only signal piece of the Boatswain.

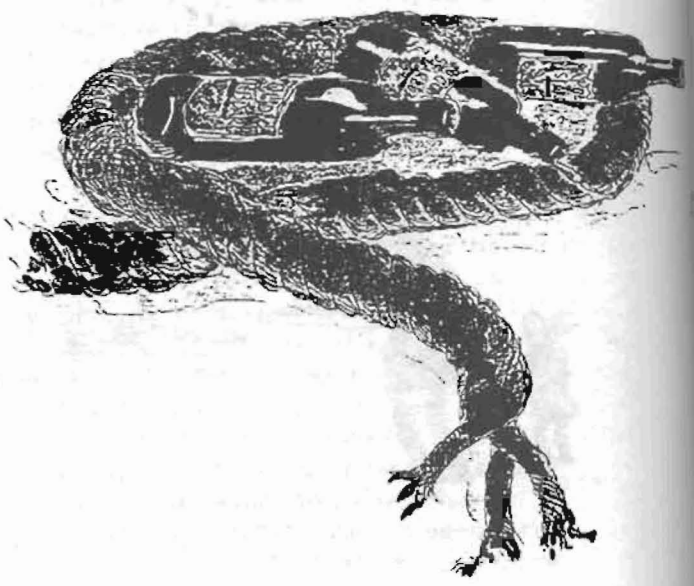
The "coxswain" or "cockswain" has a similar origin. From *cock* (a small boat) and *swain* (servant), cockswain or coxswain was born. Originally, the title meant one who had charge of a boat and crew in the absence of an officer.

While we are on the subject of rank, let's look at the rank of "Commodore" which was originally a Dutch title, created during the Dutch wars of 1652 when there were not enough admirals to command ships. The rank was adopted by and eventually officially recognized by the British Navy in 1806. The American navy used the rank as an honorary title during the American Revolution.

The word "ensign" came to us direct from the Norman *enseigne*, which meant flag or signal. The British navy borrowed the word from the army in the 16th century when a large flag was hoisted on the poop of ships. An "ensign bearer," called "ensign," was first a young officer in the French army and then introduced as a naval rank in the French navy. The British navy adopted it as a rank in 1861 to designate sub-lieutenant, which replaced the rank of mate. The U.S. Navy adopted the rank in 1862 to denote midshipmen who had graduated from their training period. Originally, however, ensign was -- as it is today -- a flag or banner used to indicate nationality.

The "Blue Peter" is another flag of interest flown by vessels about to leave port. There are several versions of how the "Blue Petre" received its name. One story suggests





that between 1793 and 1799, when Admiral Sir Peter Parker was Chief of Command of the British navy, convoys sailing from St. Helens could not depart until they received a signal from Parker, in Portsmouth. The signal was a blue flag and was hoisted on the admiral's direct order -- thereby giving us the "Blue Peter."

Another version suggests that originally (in the 1750s), a blue flag with six white balls was utilized to signal other ships to prepare to leave port. From a distance, however, the six white balls were hard to distinguish. Consequently, Sir Edward Hawke had the flag replaced by one described as "blue pierced with white." A lack of clear enunciation on the part of the ship's crew members gave us the "Blue Peter," from a corruption or mispronunciation of the "Blue Pierced."

The flying of a flag at half-mast, an international sign of mourning, is a custom derived directly from naval tradition. The practice had its origin in early naval battles when a defeated vessel was required not only to lower its flag, but also its top sail (half-way) so that the victor's flag could take its place and signify its superiority. In later years, passing ships dipped the flag as a gesture of courtesy, and eventually, in a time of mourning, the flag was hoisted to the top and then lowered half-way, or half-mast, as a sign of respect and homage.

Whenever a ship does fly its flag at half-mast, it is not uncommon for the officers to gather in the "wardroom" to raise a toast to the departed. Originally, the "wardroom" was called the "wardrobe," and it was a small compartment below the cabin which was utilized as a storage room for valuables captured in battle. The officers' staterooms were located nearby, and it became their practice to meet in the "wardrobe" to eat their meals and to pass the time. In time, this compartment was used entirely as an officers' messroom and the name was changed to "wardroom."

More than just a few "dead marines" have resulted from social gatherings in the wardroom, and this expression, of course, refers to an empty bottle. According to the story, William IV, then Duke of Clarence and Lord High Admiral, at an official dinner, is said to have pointed at some empty liquor bottles and declared, "Take away those marines." A major of the marines immediately rose from the table and said, "May I respectfully ask why your Royal Highness applies the name of the corps to an empty bottle?" The Duke with tact and grace, replied, "I call them marines because they are good fellows who have done their duty and are ready to do it again."

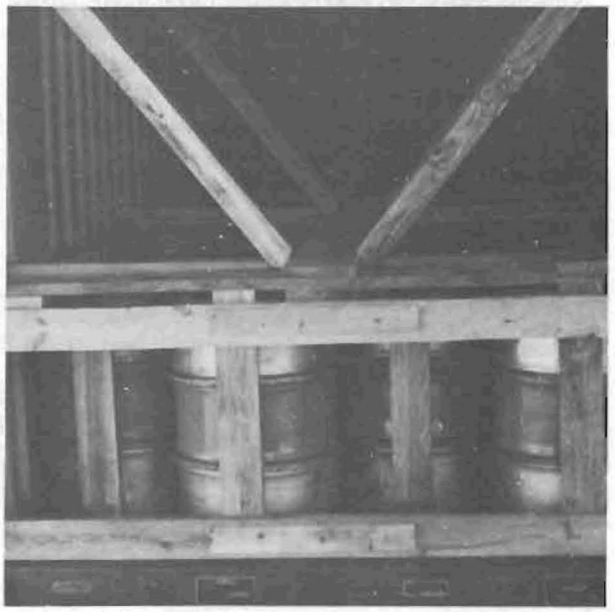
And so this yarn has reached its end. As stated earlier, the naval vocabulary is truly colorful, and it is hoped that this examination of a few words and customs has provided not only an increased appreciation of naval traditions, but also has provided a little enjoyment as well.∎

The Good, the Bad, and the Ugly: Stowing and Securing Hazardous Materials in Freight Containers

K. V. Cookson

The majority of packaged hazardous materials are shipped in intermodal freight containers, and due to the intermodal nature of the shipment, i.e., House to House, the person responsible for stowing, segregating, and securing the hazardous materials may have no firsthand experience of conditions likely to be encountered during all modes of transportation, especially the waterborne part when regulations described in 49 CFR Part 176 are required to be followed.

There are three main reasons for securing hazardous materials within freight containers. The first and most important is the 49 CFR 176.76 which details the conditions to be met for stowing and securing hazardous and non-hazardous materials in freight containers. (*Note:* These regulations do not apply when no hazardous materials are present in the container.) The second is the protection of the hazardous material from damage to itself (in the form of damage to the packaging, causing spillage), protection from damage caused to other commodities stowed in the same container, protection from damage caused to the container, and depending on the type of hazardous material involved, protection from damage to the vessel's structure and personnel forced to cope with the situation caused by lack of securing and subsequent spillage. The third reason is to minimize financial loss, from which the Carrier may exclude himself by Bill of Lading clauses relating to the carriage of sealed containers and thereby exposing the Shipper or Consignee to associated losses and possible liabilities, bearing in mind the Shipper is also bound by the Shipper's certification as detailed in 49 CFR 172.204.



Excellent securing of methyl isocyanate. *(Photo courtesy of the author)*

Each of the various parties involved with the carriage of hazardous materials has its own priorities; National Cargo Bureau's are safety and the adherence to pertinent rules and regulations.

The staff of National Cargo Bureau is well-versed in CFR and IMDG regulations through familiarity and training, the latter gained through example and recently through tuition provided by Ron Bohn of our New York office. They have also gained experience in the stowage, securing, and carriage of hazardous materials while serving at sea as deck officers and captains, thus appreciating conditions likely to be encountered during ocean and coastal passages, remembering that places like Cape

Captain Cookson is a Senior Surveyor with the National Cargo Bureau, Inc., in Norfolk, VA.

Boston Patriot Barge Aground

PA3 Kenn Arbogast

A loaded container barge broke loose from a tugboat on Thanksgiving night, 1987, and ran hard aground on a Massachusetts beach, creating a salvage problem for the owners and the Coast Guard Marine Safety Office in Providence, Rhode Island.

The **Boston Patriot** broke loose from its tug when a towing hawser parted while exiting the Cape Cod Canal. Strong winds and heavy seas forced the barge aground 25 yards from shore. The barge carried 184 containers of merchandise, including liquor, toys, and shoes. One container onboard held 76 barrels (55 gallons each) of the toxic chemical toluene diisocyanate (TDI), located in a single, 20-foot container.

Attempts to refloat the barge at high tide failed because the barge was so firmly settled on the bottom. Representatives of the owner and Marine Safety Detachment at Hyannis agreed the cargo had to be removed before the barge moved.

Petty Officer Arbogast is a Public Affairs Specialist in the First Coast Guard District, Boston, Massachusetts.

A week after the grounding, the owner was still unable to reach agreement with a private salvage contractor. With a winter storm threatening, Captain David Jensen of the Marine Safety Office in Providence federalized the case. This meant federal Superfund money would be used to remove the toxic chemical from the barge.

The Coast Guard's primary concern was the safe removal of the diisocyanate container. Heavy lift equipment was necessary to hoist the 20-ton container intact from the barge. The Coast Guard hired a salvor to remove the container and others in the immediate vicinity.

A barge and crane combination from Boston arrived on December 6. Weather conditions prevented the removal of the containers until December 8. Finally, tugs towed the barge alongside the **Boston Patriot**, and within an hour four containers, including the hazardous chemical, were removed.

Three weeks later, the barge was removed by salvors. After the remaining containers were removed, workers pumped air into the hull of the barge, and refloated it. The **Boston Patriot** finally reached its destination in Boston, almost a month late and without its cargo.

Lessons from Casualties

For Want of a Flame Screen, the Ship Was Lost

Dr. A. L. Schneider

There is a fable telling how, for want of a nail, the kingdom was lost. Usually the story is cited to illustrate the need to pay attention to details. Many think flame screens are merely details -- but this is untrue! For want of a flame screen, ships have been lost.

On October 28, 1986, the tankship **Omi Yukon** exploded and burned. Considering the violence of the explosion and the severity of the fire, the fact that only four died and four were seriously injured is remarkable. Fortunately the ship survived and was examined by a Coast Guard investigator before being scrapped. Unfortunately, the wrong fuel had been loaded into the bunker tanks, a fuel with a flash point below that required by the regulations. The investigator concluded that a vapor plume from a fuel tank ignited, and the fire flashed back to the fuel tank vent, entering the vent and then igniting the fuel tank atmosphere. The fuel tank exploded, leading to other explosions and a general fire. The flame screen protecting the fuel tank was missing; the marine board concluded that the screen was not in place at the time of the accident. Someone thought the flame screen was unimportant, but had the screen been there and in good condition, the explosion almost certainly would not have happened.

Since the **Omi Yukon** was a U.S.-flag tankship, Coast Guard regulations (Title 46, Code of Federal Regulations 56.50-85(a)(7)) required it to have flame screens on all fuel tank vents. While the Safety of Life at Sea Convention of 1974, as amended, requires flame screens on cargo tanks, it does not require flame screens on fuel tanks, so unless the ship's Classification Society of its National Administration requires them, foreign-flag ships are not required to install flame screens. This casualty demonstrates that although they are not required by all flag states, flame screens are a valuable safety feature. At the minimum, flame screens must be installed where required by 46 CFR Subchapters D and F; the flame screens themselves must meet the requirements of 46 CFR Parts 30 and 56. A small piece of metal screening would almost certainly have saved four lives, prevented four serious injuries, and saved a valuable ship.

Tank vents prevent the pressure from rising too high or falling too low and damaging the tank. When vapors leave the tank, they may form a flammable cloud that, if ignited, can burn back to the tank opening. Flame screens prevent flames from entering tanks. They work by cooling the flame, transferring heat from the flame to the screen. The finer the wire mesh, the greater the heat transfer from the flame. This means that *all* of the screen must be there, and not just 99.9 percent. One wire or piece of wire missing means that the flame can "squeeze" through; even the smallest defect in the screen means that the screen may fail. The entire screen must be there, or else it may not work.

Sometimes flame screens are accidentally painted, despite the requirements that screens be made of corrosion-resistant metal. Remember, screens protect tank vents, and vents protect tanks from pressures that are too high or too low. If a screen is painted over, the vent may be blocked. If pressure or vacuum builds up in the tank, the screen is usually the first to fail, and with it the protection the screen provides. Also, some chemical vapors can leave deposits on screens. These deposits behave similarly to paint because they can block the

Dr. Schneider is a Fire Protection Engineer in the Coast Guard's Ship Design Branch, Marine Technical and Hazardous Materials Division.

screen, so screens must be checked for deposits. Whenever a screen is painted over or blocked by chemical deposits, replace the screen.

The vent leading to the screen must also be in good condition. Any opening larger than the screen mesh size may let flames into tanks. So vent pipes must be free of corrosion pinholes. The flame screen must be firmly mounted. If bolts or gaskets are missing, or bolts are not tightened, there may be a gap between the vent and the screen for flame to pass through.

Flame screens are not armor plate. Treat them gently and inspect them periodically. When you see a defect, however small, replace the screen. Make sure the mounting and the vent pipe leading to the screen are in good condition and intact. A flame screen may be the only thing preventing a ship from experiencing a catastrophe.∎

New Publications

The Navigator's Almanac

The Navigator's Almanac: Sun, Moon, Star and Planet Data 1988 is the latest navigation table by RADM Thomas D. Davies, USN (ret.) It has been developed with the specific intention of remaining compact to permit it to fit into a sextant case and be readily available when needed.

This compact table is one of five books on navigation by RADM Davies currently in print, and the first published by Backstaff Press, which is the publishing arm of "The Foundation for the Promotion of the Art of Navigation," (short title: The Navigation Foundation).

The Navigator's Almanac lists for $8.00 a copy. Normal industry discounts apply to book dealers on volume purchases. Contact The Navigation Foundation, P.O. Box 1126, Rockville, MD 20850 for ordering information.

Somewheres East of Suez

Tristan Jones, the incomparable one-legged poet sailor, is back at his most irreverent, eloquent and humorous in *Somewheres East of Suez*, the firsthand account of his 8,000-mile journey from Turkey to Thailand in a 38-foot trimaran. Tristan, holder of the most single-handed ocean sailing records ever, chronicles in *Somewheres East of Suez* the third leg of his attempt to establish a new sailing record by circumnavigating the globe traveling east and north of the equator. A delightfully entertaining tale of the sea and of exotic places told by a splendid storyteller, *Somewheres East of Suez* continues the inspiring saga of a man who, with remarkable bravery and ingenuity, rebuilt his life to accommodate a physical handicap without sacrificing an ounce of adventure.

Making his way from the tourist-and-terrorist-dominated port of the eastern Mediterranean to the coasts of East Africa, Arabia, and India, Tristan keeps up his characteristically wry and well-seasoned commentary. By turns caustic, kindly, opinionated, pithy, lyrical, ironic, and downright funny, this one-of-a-kind skipper is enduringly courageous, generous and realistic. Whether caught in the midst of a tropical cyclone or savoring his dwindling ration of fresh water in the vast, windless expanse of the Indian Ocean, he is master at conveying the fascination, excitement, and continual challenge of a sailing life.

In *Somewheres East of Suez*, Tristan provides an unforgettable and unconventional portrait of the people, customs, and politics of his ports of call, from the heavily fortified marines of Israel to the commerce of the Suez Canal; from the ghostly Sudanese outposts peopled by famine refugees to the baroque bureaucracy and unparalleled vibrancy of India. From his unusual vantage point as a modern voyager using one of the world's oldest means of transportation, he describes the strange reality created when today's politics and technology mix with ancient cultures. Contrasted against the passing scene along the shore, however, are the eternal truths of the sea

He often finds himself in tight spots: surprised by an earth tremor in Cyprus which almost costs him his one good leg; nearly blown

onto a deadly reef off the coast of Yemen; forced to jettison his beloved books and charts in order to save his boat; chased by trigger-happy port police; and compelled to beat a quick retreat from an Arab port after the American bombing of Libya. Happily, Tristan's formidable perseverance, courage, charm, and quick wit help him escape natural and man-made disasters alike.

Somewheres East of Suez, by Tristan Jones, is available from William Morrow & Company, 105 Madison Avenue, New York, New York 10016; price: $16.95.

The Mariner's Manual

This manual is designed for serious amateur sailors who wish to become licensed operators, mates, and captains. It successfully avoids sacrificing detail in an effort to be a popular, easy-reading text and yet is not a formal treatise for experienced, professional mariners. It is, in short, a manual of advanced, practical, real-world seamanship, correlating this information to U.S. and international law.

It is specifically intended for people who want to become real captains in the sense of earning Coast Guard licenses to carry paying passengers. The Coast Guard definition of a passenger is very specific. Because of this definition, more and more aware sailors are getting licenses.

After reviewing the marine-regulating governmental agencies and their requirements, the book addresses the entire range of subjects over which mastery is mandated for those seeking licenses. This complete, up-to-date manual belongs in the pilothouse of every yachtsman. For the professional, it is a much-needed, easy-to-read reference and review manual.

Captain Frost earned his degree in mathematics from the University of London and is a Master Mariner licensed for unlimited passengers for vessels of up to 100 tons.

The Mariner's Manual, by Capt. S. Gavin Frost, is available from Cornell Maritime Press, P.O. Box 456, Centreville, MD 21617; price: $22.50.

Maritime Notes

New NOAA Administrator

William E. Evans was sworn into office on April 1, 1988, as Under Secretary of Commerce for Oceans and Atmosphere, and Administrator of the Commerce Department's National Oceanic and Atmospheric Administration.

Dr. Evans was nominated to this position by President Reagan after a year and a half as NOAA's Assistant Administrator for Fisheries. As head of the National Marine Fisheries Service, he was responsible for management and enforcement of fishery resources, and conservation and protection of threatened and endangered species.

Dr. Evans holds a Ph.D. in physiology, ecology, biology, and animal behavior from the University of California, Los Angeles.

Safer Working Conditions on Fish Vessels

The promise of safer working conditions for commercial fishermen is contained in legislation approved April 14 by the House Merchant Marine and Fisheries Committee. H.R. 1841, the Commercial Fishing Industry Vessel Safety and Compensation Act, imposes -- for the first time -- requirements for the carriage of safety equipment on all fishing, fish tender, and fish processing vessels. Required on most vessels will be lifeboats, emergency position indicating radio beacons (EPIRBs), exposure suits, radio equipment, navigation equipment, and first aid equipment. Vessels carrying a crew larger than 16 have additional requirements for radar, fire protection equipment, and standards for other onboard materials and equipment.

The Committee considered the safety title of the bill at a session on February 24 but postponed discussion of the second portion, dealing with compensation and liability for injuries sustained by crew members, until early April. The delay was intended to provide additional time for representatives of the fishing industry and the trial lawyers to negotiate and recommend acceptable language to the

Committee. These negotiations, while not yet complete, have been ongoing.

On behalf of the Committee leadership, the bill's sponsor, Gerry Studds (D-MA), Chairman of the Fisheries and Wildlife Conservation and the Environment Subcommittee, offered an amendment substituting a new compensation title. The amendment was agreed to by a voice vote. This substitute makes three significant modifications to the bill as reported from the Subcommittee. First, the new compensation scheme would no longer be voluntary, but is mandatory. Second, a seaman would be required to comply with a request from his employer for a medical examination. And last, the general requirement for a seaman to give notice of *any* injury to an employer is deleted, recognizing that the title deals only with temporary injuries.

Mr. Studds offered two other amendments that were also accepted by a voice vote. The first requires vessels to provide crew with information on their responsibilities for notification of injury (the amendment states that this is 7 days from the time of the injury or from the time the crew member should have had reasonable knowledge of the injury) and requirements for obtaining compensation. The second amendment made technical changes to Title II.

Also adopted by the Committee was an amendment by Mike Lowry (D-WA), Chairman of the Oceanography Subcommittee, to delete the requirement for inspection of fish processing vessels contained in Title II and substitute a requirement for an American Bureau of Shipping (or similar) certificate for these vessels.

Jack-up Simulator Training

Stewart Technology Associates announces the development of the world's first jack-up training simulator. This simulator enables the training of marine crews and rig movers for jack-up drilling units. A full-sized jack motor control console is provided inside a control room, which is itself mounted upon a hydraulic tilting table. The hydraulic table moves the room as if the rig was floating on the waves. Controls operated by the trainees enable raising and lowering the legs. As the legs touch down onto the sea floor, the rig is bumped and lurches as would the real rig, depending upon what sea bed characteristics are being simulated. The trainees can elevate the rig, and gradually the wave motions stop as the hull comes clear of the water. At all times the warning lamps and motor load indicators display critical information to both the training instructor and to the trainees.

The training instructor has complete control over all aspects of the simulation. Different soil stiffness may be simulated beneath each of the three rig legs. The rig may be subject to rapid leg penetration on one or more legs. This so-called punch-through effect has caused an enormous amount of damage to rigs and significant loss of life to personnel in the marine and offshore industries.

For the first time a hands-on training tool is available to prepare rig movers and offshore personnel for the optimum avoidance and punch-through situations, as well as the other crucial aspects of rigid stability.

The first simulator was commissioned by Det norske Veritas in Houston and was installed in their offices in February 1988. DnV will use this simulator as part of their on-going business in marine training to improve the safety and reliability of rig operations in the offshore industry.

In addition to the complete simulator hardware, the simulator software is able to stand alone and run on any personal computer under the DOS operating system. Complete control over the leg jack motors, brakes, pumps, valves, and ocean environment is provided to the user. Interactively, the tanks may be flooded, variable loads may be moved, and leg penetrations may be varied. The software also simulates all the problems associated with withdrawal of the legs once they are deeply embedded in cohesive soils. Similarly, lack of penetration problems on sandy sea beds can be simulated.

This unique training tool additionally offers research possibilities to engineers involved with the design, operation, and general safety of jack-up rigs. For further information, contact Stewart Technology Associates in Houston at (713) 665-7294.∎

Chemical of the Month — *Todd R. Chappell*

Chlorobenzene

Chlorobenzene was first produced in the mid-nineteenth century. Since then, it has been used for the production of the explosive picric acid in World War I, and to make aniline in the early twentieth century. Now, chlorobenzene, C_6H_5Cl, is used in the preparation of DDT, TDE, Bufencarb and other insecticides, as well as in Chlorophacinone, which is an anticoagulant rodenticide. Forms of chlorobenzene can also be used in moth balls or room deodorants. Today, chlorobenzene is most often made by chlorinating benzene in the liquid state, using ferric chloride as a catalyst.

Chlorobenzene, also known as monochlorobenzene, chlorobenzol, or phenyl chloride, is shipped as a clear liquid. When transported, it must be labeled as a flammable liquid and is usually shipped in stainless steel tank trucks or tank cars. The chemical is stable to transport, has no reaction with water, and has little reactivity with most common materials, with the exception of rubber, which deteriorates after long exposures.

When shipped in bulk on chemical tankers, it is regulated by the U.S. Coast Guard under 46 CFR Subchapter O and under the IMO Chemical Code as a Chapter Six commodity. Chlorobenzene, as a packaged commodity, is regulated under Department of Transportation regulations 49 CFR Subchapter C. When stored, it should be in a cool, well-ventilated storage room designed to hold flammable liquids. Black iron containers are recommended for the storage of the chemical, while aluminum or aluminum alloy containers should be avoided.

Todd R. Chappell was a Fourth-Class Cadet at the U.S. Coast Guard Academy at the time he wrote this article. It was written under the direction of LCDR J. J. Kichner for a hazardous materials transportation class.

If 100 lbs. or more of chlorobenzene is spilled in a 24-hour period, it should be reported to the Environmental Protection Agency as a reportable quantity (RQ). In case of a spill or other accidental discharge, anyone working in the area should use a self-contained breathing apparatus and wear full protective clothing. The first step for cleaning the spill would be to stop the source and ensure that there is no smoking or flames in the area. Water vapor can be used to minimize vapors and the spilled liquid should be picked up with sand or other noncombustible materials. The fire department and local health and pollution officials should be called. If fire should break out, it should be fought with an alcohol foam, dry chemical, or carbon dioxide because water may not be effective. Water could be used, however, to keep other containers of chlorobenzene cool. In case of fire, it is important to remember that when heated, chlorobenzene emits toxic chlorine gases like hydrogen chloride or phosgene.

Chlorobenzene is hazardous to fish and animals. Animals exposed to chlorobenzene for extended periods of time have developed lung and kidney cancer. Chlorobenzene may linger in one area for long periods of time when spilled in lakes or streams because it is denser than water and sinks to the bottom.

Exposure to the chemical also has hazardous effects on humans. If the vapor is inhaled, it will cause coughing and dizziness. The victim should be removed to fresh air and given oxygen as needed. In repeated or long exposures to the vapor, damage may be done to the lungs, liver, or kidneys. Also, transient anesthesia or central nervous system depression could result. If the skin or the eyes are exposed to the chemical, they will be irritated and should be rinsed with plenty of water. If chlorobenzene is swallowed, the conscious victim should be given plenty of milk or water.

Chlorobenzene is considered a hazardous waste and is regulated under the Environmental Protection Agency's 40 CFR Subchapter C.

Chemical Name
Chlorobenzene

Formula
C_6H_5Cl

Synonyms
monochlorobenzene, phenyl chloride, benzene chloride, chlorobenzol

Physical Properties
boiling point: 132°C (270°F)
freezing point: -45°C (-48°F)
vapor pressure: 20°C (68°F) 10mmHg

Threshold Limit Value
75 ppm

Flammability Limits in Air
lower limit: 1.3% vol.
upper limit: 9.6% vol.

Combustion Properties
flash point: 29oC (84oF)
autoignition: 637.8oC (1180oF)

Vapor Density
3.88 (air = 1)

U.N. Number: 1134

CHRIS Code: CRB

Cargo Compatibility Group: 36 (Halogenated Hydrocarbons)

Booze and Boats Don't Mix!

National Safe Boating Week

June 5 - 11, 1988

Nautical Queries

The following items are examples of questions included in the Third Mate through Master examinations and the Third Assistant Engineer through Chief Engineer examinations:

Engineer

1. A ship with a two-element feedwater control system responds to a stop bell from full sea speed. After the shaft has stopped, the automatic feedwater regulator will _____.

A. close down on the feedwater valve due to decreased steam flow
B. open wide the feedwater valve due to the shrink effect
C. close down on the feedwater valve due to a swell effect
D. open wide the feedwater valve due to increased steam flow

Reference: Babcock and Wilcox, *Steam: Its Generation and Use*

2. As you are disposing of a self-generating-type OBA that has been properly prepared for disposal, violent foaming occurs when the canister is dropped into a pail of fresh water. This reaction _____.

A. is normal
B. indicates the presence of oil within the water
C. will result in a non-caustic solution
D. will result in an explosion

Reference: MARAD, *Marine Fire Prevention, Firefighting, and Fire Safety*

3. Tubing is measured by _____.

A. outside diameter
B. inside diameter
C. thickness of wall
D. wire gauge

Reference: NAVPERS 10520-C, *Fireman*

4. The state of charge of a lead-acid battery is best indicated by _____.

A. individual cell voltage
B. ampere hour capacity
C. electrolyte specific gravity
D. total cell voltages

Reference: NAVPERS 10086-A, *Basic Electricity*

5. What is the effect on velocity and pressure when steam passes through a nozzle?

A. Velocity increases and pressure increases
B. Velocity increases and pressure decreases
C. Velocity decreases and pressure increases
D. Velocity decreases and pressure decreases

Reference: Osbourne, *Modern Marine Engineer's Manual, Vol. I;* NAVPERS 10788-B, *Principles of Naval Engineering*

Deck

1. In using the load-on-top method of controlling pollution, what action should be taken after all dirty ballast has been transferred to the slop tank?

A. The clean tanks should be ballasted.
B. The slops should be allowed time to settle.
C. Chemicals should be added to emulsify the oil.
D. The dirty ballast tank is crude-oil washed.

Reference: Marton, *Tanker Operations*

2. Functions such as connecting, disconnecting, and topping off must be supervised by _____.

A. any certificated tankerman
B. The Master of the vessel
C. the officer of watch
D. the person designated as "person in charge"

Reference: CG 174

3. You must evacuate a seaman by helicopter lift. Which of the following statements is true?

A. The ship should be stopped with the wind off the beam while the helicopter is hovering overhead.
B. The basket or stretcher must not be allowed to touch the deck.
C. The tending line of the litter basket should be secured to the ship beyond the radius of the helicopter blades.
D. The hoist line should be slack before the basket or stretcher is hooked on.

Reference: Knight's *Modern Seamanship*

4. When refueling a power-operated industrial truck in the hold of a cargo vessel, the number of persons who must be specifically assigned and present for the complete operation is

A. one.
B. two.
C. three.
D. none, since refueling is not allowed in a cargo hold.

Reference: 46 CFR 97.70-20(B)(2)

5. Containership operations have all the following advantages over conventional breakbulk operations *except*

A. flexibility of operation.
B. greater operational safety.
C. lower stevedoring costs.
D. reduction of cargo damage.

Reference: Sauerbier, *Marine Cargo Operations*

Answers

Engineer
1-A; 2-A; 3-A; 4-C; 5-B
Deck
1-B; 2-D; 3-D; 4-B; 5-B

If you have any questions concerning "Nautical Queries," please contact Commanding Officer, U.S. Coast Guard Institute (mvp), P.O. Substation 18, Oklahoma City, Oklahoma 73169; telephone (405) 686-4417.

Keynotes

Final Rule, Correction

CGD 84-099, Operation Of A Vessel While Intoxicated (April 21)

The Coast Guard is correcting errors to the final rules on Operating A Vessel While Intoxicated, which appeared in the *Federal Register* on December 14, 1987 (52 FR 47526). That *Federal Register* notice contained several minor and nonsubstantive typographical errors which are corrected by this document.

For further information, contact Mr. Sean T. Connaughton, Office of Marine Safety, Security, and Environmental Protection; telephone (202) 267-0229.

Notice

CGD 88-013, Discontinuance of Radio Safety Services from Coast Guard Communications Station NMR, San Juan, Puerto Rico (March 7)

Because of reduced resources, increased radiocommunications requirements within the Coast Guard, and a need to increase our overall radiocommunications efficiency, we closed our Communications Station NMR at San Juan Puerto Rico, on March 31, 1988. Services ceasing on that date included distress and safety watchkeeping on the Morse Code radiotelegraphy frequency 500 kHz, transmissions of maritime safety information using Morse Code radiotelegraphy, and communications with commercial vessels using medium and high frequency Morse Code radiotelegraphy. Present distress and safety watchkeeping on the popular radiotelephone frequencies 2182 kHz and 156.9 MHz, and transmissions of maritime safety information on NAVTEX remain unaffected.

For further information, contact Mr. Joseph Hersey, Chief, Marine Radio Policy Branch, Telecommunications Systems Division, Office of Command, Control, and Communications, U. S. Coast Guard, 2100 Second St., SW, Washington, DC 20593-0001; telephone (202) 267-1231.

CGD 88-016, Disestablishment of Regional Boating Standards Units (March 31)

The Coast Guard is reorganizing implementation of the Recreational Boating Standards program in the field by disestablishing its three Regional Boating Standards Units: Miami, FL; St. Louis, MO; and Long Beach, CA. The recreational boating standards duties performed by the three units will be performed by the Coast Guard Marine Safety and Marine Inspection Offices located throughout the United States.

For more information, contact Mr. Donald J. Kerlin, U.S. Coast Guard (G-BBS-1), 2100 Second St., SW, Washington, DC 20593; telephone (202) 267-0988.

CGD 88-023, Vessels Under the Optional Simplified Measurement Method (April 15)

The Coast Guard is publishing a notice that, on and after May 2, 1988, the applications required under 46 CFR 69.05 for simplified measurement will be accepted and processed, as part of the vessel documentation application process, at the vessel's intended port of documentation.

For further information, contact Mr. Ray Bunnell, telephone (202) 267-2992.

Final Rules

CGD 86-082a, Identification of the Horizontal Datum Referenced in the Coast Guard Regulations (March 10)

The purpose of this final rule is to inform the public that due to the ability to establish global reference systems that provide more accurate geographic positions (latitude and longitude), the horizontal datums referenced on maps and charts are being revised and during

the interim, various horizontal datums may be encountered. The geographic positions listed in the regulations in Title 33 Part 161 are referenced to various horizontal datums such as the North American Datum of 1927, U.S. Standard Datum, and others; however, the datum is not identified in the regulation. The National Oceanic and Atmospheric Administration (NOAA) has identified the North American Datum of 1983 (NAD 83) to replace the various horizontal datums currently in use. This rulemaking inserts cautionary reminders that during the conversion, there may be discrepancies between the positions described in the existing regulations and the charted positions.

The effective date of this rulemaking was March 10, 1988. For further information, contact Mr. Frank Parker, (202) 267-0357.

CGD 84-044, Hazardous Materials Used as Ships' Stores on Board Vessels (March 10)

The Coast Guard is revising the rules for hazardous materials used as ships' stores on board vessels. Except for minor amendments, the present rules have remained unchanged since January 18, 1941. Many of the citations, terms, and definitions have become outdated. This revision updates the text and replaces lengthy tables by cross referencing existing Department of Transportation Hazardous Materials regulations and Consumer Product Safety Commission labeling regulations. It also eliminates the requirement for hazardous materials to be certified for use as ships' stores on board vessels to reduce the paperwork burden for industry and the Coast Guard, while maintaining the current level of safety. Materials presently listed which are no longer used as ships' stores are removed.

This rule is effective April 11, 1988. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the *Federal Register* as of April 11, 1988. For further information, contact Mr. Carl Rivkin, Hazardous Materials Branch, telephone (202) 267-1217.

CGD 87-051, Annex I; Positioning and Technical Details of Lights and Shapes (April 1)

The Coast Guard is amending the regulations concerning the horizontal positioning and spacing of lights in 33 CFR 84.05(b) to include certain navigable "waters specified by the Secretary." This rulemaking extends the applicability of the horizontal positioning and spacing of lights regulations in the Inland Navigation Rules to the "specified waters." Vessels of 50 meters but less than 60 meters in length operating on Western Rivers as well as the "specified waters" shall comply with the horizontal positioning and spacing of lights provisions of the Inland Navigation Rules.

For further information, contact Mr. Peter S. Palmer, telephone (202) 267-0362.

Advance Notice of Proposed Rulemaking

CGD 87-094, Dry Cargo Ship Subdivision and Damage Stability Regulations (April 6)

The Coast Guard is considering regulations to require new, oceangoing, foreign and domestic dry cargo ships greater than 330 feet (100 meters) in length and of 500 gross tons or over entering U.S. ports to meet a minimum standard of subdivision and damage stability. At the present time, there are no requirements for cargo ships, which may carry sizeable quantities of hazardous materials in packages, to be designed to remain afloat without capsizing after sustaining even minor damage which may occur as a result of a collision or grounding. This advance notice provides a preliminary draft of the proposal for public comment. These draft regulations represent a commitment by the United States to expedite implementation of a standard approved by the Subcommittee on Stability and Load Lines and Fishing Vessel Safety (SLF) of the International Maritime Organization (IMO) in anticipation that the Maritime Safety Committee (MSC) will approve the Circular that implements this standard. The standard is outlined in Annex 2 of SLF 32/21, the report of the Subcommittee. It has been forwarded to the MSC of the IMO for adoption as an amendment to the International Convention for the Safety of Life at Sea 1974 (1974 SOLAS). It is anticipated that these draft regulations will become effective concurrently with the international standard.

Because of paramount marine safety issues involved, and consistent with the recommendation of the SLF Subcommittee, the

United States intends to implement the provisions of Annex 2 of SLF 32/21 at the earliest possible date consistent with international application. In the unlikely event that the MSC fails to adopt these standards, it will be necessary to reconsider the application of these draft regulations. In particular, to be effective and in order to ensure a uniform level of safety to the U.S. ports and the surrounding environments, the Coast Guard will consider a phased-in application of the draft regulations to existing dry cargo ships entering U.S. waters. Most existing U.S.-flag dry cargo ships are expected to meet the draft regulations without modification.

Comments on this advance notice must be received on or before January 3, 1989. Comments should be mailed to Commandant (G-CMC/21) (CGD 87-094), U.S. Coast Guard, Washington, DC 20593-0001. For further information, contact Mr. J.S. Spencer, Office of Marine Safety, Security, and Environmental Protection (G-MTH-3/13), U.S. Coast Guard, Washington, DC 20593-0001; telephone (202) 267-2988.

Withdrawal of Advance Notice of Proposed Rulemaking

CGD 85-019, Delegation of Authority to United States Classification Societies (March 31)

This notice announces the Coast Guard's intention not to proceed with the rulemaking "Delegation of Authority to United States Classification Societies." An Advance Notice of Proposed Rulemaking was published on October 3, 1985 (50 Federal Register 40413) seeking input on the criteria for a "similar United States classification society" and the framework through which a classification society could request and be granted authority to work on behalf of the Coast Guard under 46 U.S.C. 3316. The reasons for not proceeding with a rulemaking action are the adverse impact on Coast Guard resources and the apparent lack of support by shipowners and operators.

For further information, contact CDR R. S. Tweedie, telephone (202) 267-1181.