
RIO NEUQUE

Published bimonthly by the Coast Guard's Office of Marine Safety, Security, and Environmental Protection, in the interest of safety at sea under the auspices of the Marine Safety Council. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or artwork, is not required provided credit is given to this magazine. The views expressed are those of the authors and do not represent official Coast Guard policy. All inquires and requests for subscriptions should be addressed to Editor, *Proceedings* Magazine, U.S. Coast Guard (G-MP-2), 2100 Second Street, SW, Washington, DC 20593-0001; (202) 267-1483. Please include mailing label when sending a change of address. The Office of the Secretary of Transportation has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this agency.

Bruce P. Novak
Executive Secretary

Sharon Vance Chapman
Editor

DIST (SDL No. 127)
A: abc(2); efghijklmnopqrsuv(1).
B: nr(50); cefgipw(10); bklqshj(5); xdmou(2);vyz(1).
C: adenk(3); blo(2); cfgijmpqrtuvwxyz(1).
D: ds(5); abcefghijklmnopqrtuvwyz(1).
E: kn(2). F: abcdehjkloqst(1).
List TCG-06.

Proceedings
of the Marine Safety Council

October-November 1989 *Vol. 46, No. 6*

Contents

Features

Departments

Cover

In 1984, the Argentine vessel Rio Neuquen was offloading containers filled with flasks of aluminum phosphide fumigant in the Port of Houston. A container exploded, killing one person and injuring three. The cargo hold soon filled with phosphine -- a toxic, flammable gas -- and members of the Coast Guard Strike Team responded. The dangerous material was properly disposed of, preventing greater tragedy. Our cover photo shows a Strike Team member in full protective gear about to board the Rio Neuquen. *(Photo by PA1 Keith Spangler)*

Hazardous Cargo

CAPT Thomas Thompson and LCDR Randy Helland

Knowing the regulations is crucial to containerized HazMat safety

(Reprinted with permission from the August 28, 1989 issue of *American Sailings* magazine.)

The number of containers passing through U.S. ports continues to increase every year, making it ever more important for shippers of containerized freight to be aware of their responsibilities when they ship hazardous materials in containers.

In 1981, approximately 7 million containers -- measured in 20-foot equivalent units -- passed through U.S. ports. That number increased to approximately 13 million containers in 1987. Many shippers who once transported their commodities by breakbulk are now switching to containerized shipments. This places an additional burden on the shipper to ensure compliance with applicable regulations. The safety of our waterways depends on it.

Although the area of packaged hazardous materials has not received, until recently, as much attention as bulk hazardous materials, there is a growing realization that a significant danger exists when transporting hazardous materials in freight containers.

Risky Business

In 1984, an incident occurred at the Port of Houston which demonstrated the danger that hazardous materials pose when improperly packaged and shipped. The Argentine vessel Rio Neuquen was offloading containers at City Dock #9, Houston, when a 20-foot container exploded in the vessel's No. 2 cargo hold, killing one person and injuring three others. The force of the explosion reshaped the rectangular freight container into a balloon-like cylinder. The container doors blew out, and the support beams along the top and bottom of the container were split.

The freight container was loaded with approximately 10 tons of aluminum phosphide fumigant packed in small aluminum flasks and cardboard boxes. High concentrations of phosphine -- a toxic, flammable gas -- filled the cargo hold and traveled to the main deck at the No. 2 cargo hatch. There was a high risk of a secondary explosion and substantial threat to the public from the release of the highly toxic fumes. Coast Guard strike team personnel responded to the scene in fully encapsulated suits, overpacked the material in drums, and finally disposed of the drums properly at an Environmental Protection Agency-approved dump site in the Gulf of Mexico.

The transportation of containerized hazardous materials is a multi-modal industry, and accidents can occur anywhere in the scheme.

A recent example was an incident brought to our attention by the Dutch government. A container shipment of highly corrosive material was transported by highway from Mexico to El Paso, Texas, then by rail from El Paso to Galveston, and finally by ship from Galveston to Rotterdam. When the container was offloaded from the vessel at Rotterdam, nine dock workers were overcome by toxic vapors and had to be hospitalized. Fortunately, there were no fatalities.

Subsequent investigation revealed the material was not properly secured in the freight container, and sometime during the voyage the

---

Captain Thompson is Chief of the Coast Guard's Port Safety and Security Division. LCDR Helland is Chief of the Hazardous Materials Section within the Port Safety and Security Division.

packages were damaged, leaked part of their contents, and filled the container with toxic vapors.

The Coast Guard's goal is to stop such shipments at their source. Preventing these accidents requires the cooperation and coordination of industry and all modal regulatory agencies.

For the past 4 years, the Coast Guard and the Department of Transportation's Office of Hazardous Materials Transportation have conducted joint inspections of packaged hazardous goods. These operations have been fruitful, and we will continue to coordinate our inspection activities.

Inspection Results

The most common deficiencies found during these inspections were improper placarding, improper blocking and bracing, and the improper use of Title 49 of the Code of Federal Regulations and the International Maritime Dangerous Goods Code (IMDG). Another problem we have encountered is that some shippers try to circumvent the regulations by misdeclaring cargo. Not only were Customs-required declarations being improperly prepared and shipments falsely represented, but DOT-required shipping papers, labels, and placards were improperly prepared.

In 1986, the Coast Guard discovered that scrap lead-acid batteries were being shipped from West Coast ports to the Far East, where smelters melt down the lead and send rebuilt batteries back to the United States for resale. None of the shipments inspected by the Coast Guard were placarded or properly dunnaged or manifested, and many of the batteries were cracked and leaking.

In addition to posting civil penalties for such violations, we continued to work with the shippers and the metal recycling industry in an effort to improve future regulatory compliance and preclude recurrence of these unsafe practices.

This situation presents several dangers in the transportation system. Operators of vessels and waterfront facilities are not afforded the opportunity to properly segregate corrosives from incompatible cargoes, and response personnel may take the wrong action during an emergency -- action they might not otherwise have taken had they been aware of the presence of corrosive liquids or other hazardous materials.

In addition, this places the manufacturers and shippers who go to significant expense to comply with environmental and safety regulations at a financial disadvantage by having to compete with firms which realize substantial savings in transportation costs by circumventing the regulations.

While the economic incentive to circumvent the regulations is certainly there, the results can be literally dangerous.

Title 49 or the IMDG Code?

The Coast Guard is not only responsible for enforcing domestic regulations but international regulations as well.

Internationally, the Coast Guard is a member of the International Maritime Organization (IMO), which functions as a specialized agency of the United Nations. It is concerned primarily with the promotion of safety in shipping and the prevention of marine pollution from ships. IMO facilitates cooperation among governments on technical matters affecting marine safety and pollution prevention through the exchange of information under the auspices of its committees and the adoption of international agreements.

There seems to be some confusion regarding whether to use Title 49 of the CFR or the IMDG Code. The United States has not yet adopted the IMDG Code in its entirety for either domestic or international transport of hazardous materials, but has included many provisions in Title 49 which are identical or very similar to those of the IMDG Code. In addition, the United States does authorize compliance with many of the provisions of the IMDG Code as an optional alternative to the provisions of Title 49.

The regulations in Title 49 allow an ocean import/export shipment of a hazardous material to be described, classed, marked, and labeled as provided in the IMDG Code. They do not authorize compliance with the IMDG Code for packaging, but provisions exist for placarding, stowage, or segregation according to the IMDG Code.

All shipments of hazardous materials which are transported by highway or rail within the United States must be packaged in DOT-specification packaging as provided in part 173 of Title 49. Further, the United States

government has not yet adopted the revised segregation table which appears in amendment 24-86 of the IMDG Code.

Until the Title 49 regulations can be amended to permit compliance with the new IMO segregation scheme, all vessels in which the stowage and/or segregation does not comply with U.S. regulations are in violation of those regulations, unless the ocean carrier has received a DOT exemption.

Another change to the IMDG Code that may be of interest is amendment 25-89. This includes extensive revisions to the IMDG Code general introduction and all the hazard classes by the Maritime Safety Committee. It will result in republication of the entire five-volume set of the Code. The effective date will be January 1, 1991. Many countries, however, are expected to permit transportation in accordance with amendment 25-89 in advance of that date.

Amendment 25-89 also includes the provisions needed to implement Annex III of the International Convention for the Prevention of Pollution from Ships, 1973, and the Protocol of 1978 (MARPOL 73/78). Annex III addresses "the prevention of pollution by harmful substances (marine pollutants) by sea in packaged forms, or in freight containers, portable tanks or road and rail tank wagons."

The provisions in the IMDG Code for implementing Annex III cover the marking, labeling, stowage, and documentation of packages containing marine pollutants. Annex III also contains a general requirement that packaging be adequate to protect the marine environment, but specific IMDG Code provisions remain to be developed to implement that requirement. These provisions will be developed following an immersion testing program which the IMO has undertaken to assess the adequacy of existing packages.

The IMO Maritime Safety Committee also agreed to delay implementing the performance standards which are contained in Annex I of the

Strike Team personnel begin cleanup operations aboard the Rio Neuquen. *(Official U.S. Coast Guard photo by PA1 Keith Spangler)*

IMDG Code until January 1, 1991. The performance-oriented packaging standards were included in amendment 24-86 to the IMDG Code and were originally to be in force by January 1, 1990. This 1-year delay which the MSC has agreed to is in harmony with similar action taken by the International Civil Aviation Organization (ICAO). It should more closely align with U.S. DOT implementation of performance-oriented packaging standards in Title 49 CFR through the current HM-181 rulemaking, in which the DOT is proposing extensive revisions to current hazardous materials transportation regulations.

Key Regulations

There are specific sections in Title 49 that shippers and carriers should be aware of:

- Sections 171.12, 172.102, and 176.11 deal with compliance with the IMDG Code. These sections address when the IMDG Code can and cannot be used.
- Section 172.101 and part 173 address packaging.
- Section 176.76 addresses blocking and bracing.
- Title 49, part 172, subpart D, addresses marking of packages.

There is a DOT rulemaking, HM-166W, that will be published by the Office of Hazardous Materials Transportation in late 1989, of which shippers and carriers should be aware. This rule contains a revision to 49 CFR which has significance for hazardous materials transportation by vessel.

49 CFR 176.11(a) now says "a hazardous material may be offered and accepted for transportation by vessel when in conformance with the requirements of the IMDG Code in place of the corresponding requirements of this subchapter pertaining to packaging, marking, labeling, classification, description, certification and placarding."

The revision will add provisions to also allow stowage and segregation in accordance with the IMDG Code. This means that freight containers can be stowed and segregated at inland freight stations in accordance with the IMDG Code only if the shipment is destined for transport by the water mode.

In the meantime, however, the Title 49 regulations provide for the issuance of exemptions by DOT's Office of Hazardous Materials Transportation from the regulatory requirements if the applicant for such an exemption demonstrates that an alternative method of packaging, stowage, or segregation provides a level of safety equivalent to that required by the regulations.

Maritime Notes

Seafarer Receives Award for Daring Rescue

The captain of a vessel which rescued 17 Taiwanese seamen whose ship foundered in 25-foot waves in the South China Sea in November 1988 has received the 1989 American Merchant Seamanship Award.

The prestigious silver trophy was presented to Captain Joseph C. Mullally II, master of the **USNS Sealift China Sea**, by Deputy Secretary of Transportation Elaine L. Chao at the annual Admiral of the Ocean Sea (AOTOS) dinner in New York City on September 15. Captain Mullally is a 1962 U.S. Merchant Marine Academy graduate.

The Seamanship Trophy was presented for the twentieth time in its 26-year history to recognize extraordinary seamanship and maritime skills by American citizens. Recipients are chosen by a select committee chaired by the U.S. Maritime Administrator and comprised of representatives of maritime labor and management. Administration of the selection process in determining a winner is handled by the U.S. Merchant Marine Academy.

On November 4, 1988, the **Sealift**

China Sea, under charter to the Military Sealift Command and operated by Marine Transport Lines of Secaucus, New Jersey, was enroute from Singapore to Yokosuka, Japan, when it received an urgent request from the **M/V Golden Park** for assistance.

Battling strong winds and rough seas, the **Sealift China Sea** arrived at the scene of the distress call some 4 hours later and found the **Golden Park**, carrying logs above its deck and in its holds, severely listing. Captain Mullally advised the master of the Taiwanese vessel to wait until daylight to abandon ship, but his suggestion was not heeded.

As the Taiwanese crew jumped into the stormy waters, Captain Mullally skillfully maneuvered his ship to a good lee from the wind and sea. Meanwhile, the **Sealift China Sea's** crew, at great personal risk, used cargo nets, ring life buoys, throwing lines, and straight ladders to laboriously pluck the shipwrecked sailors from the waves.

Throughout the rescue operation, the **Sealift China Sea** was shipping seas on deck. Debris from the **Golden Park**, including logs broken loose from the stricken vessel and hitting the rescuer's hull, made operations all the more difficult. Seventeen Taiwanese seamen were saved. Unfortunately, five crew members, including the **Golden Park's** captain, were lost.

The Seamanship Trophy's citation reads: "The extraordinary seamanship skills of Captain Mullally and the heroic, persistent and gallant efforts of his crew under extreme weather conditions uphold the highest traditions of the sea. In saving human life and in the demonstration of the most excellent qualities of seamanship, Captain Mullally and the crew of the **USNS Sealift China Sea** qualify as winners of the American Merchant Marine Seamanship Trophy."

A plaque bearing this wording has been presented to Captain Mullally. The trophy will go on public display at the American Merchant Marine Museum at the U.S. Merchant Marine Academy.

DOT Honors New York Tugboat for Gallantry

The U.S. Department of Transportation has honored the tugboat **Stamford** as a "Merchant Marine Gallant Ship" in recognition of its crew's heroic performance during a 1986 fire in New York Harbor.

Congress has authorized the Secretary of Transportation to honor American-flag merchant vessels for outstanding or gallant action that saves lives or property in a marine disaster. Recognition as a gallant ship has been awarded just 40 times since first authorized during World War II.

In addition, the Department presented the Stamford's master, Captain Charles C. Sheahan of Melbourne, Florida, with the Merchant Marine Meritorious Service Medal for directing the tug's efforts in assisting another commercial tugboat and New York City fireboats.

In June 1986, a fire broke out at Pier 5 in the Hess Oil Terminal, Brooklyn, NY. The fire ignited combustibles on the decks of two tank barges moored at the pier.

En route to assist in fighting the fire, the crew of the **Stamford** responded to calls from a disabled tug. Threatened by a possible explosion, the **Stamford** pulled the disabled tug clear of one of the burning barges. The **Stamford's** crew then assisted New York City firefighters in extinguishing the fires on board the barges.

In addition to Captain Sheahan, the **Stamford's** crew consisted of Walter Andersen, chief engineer, Butler, NJ; Thomas Ring, mate, Freeport, Maine; Leo Blair, cook, Waterford, NY; and able-bodied seamen John DeStefanis, Sagaponack, NY, and Thomas Briody, Staunton, VA.

The awards were presented at an alumni function of the State University of New York's Maritime College, Fort Schuyler, NY. Captain Sheahan is a graduate of the school.

Human Error Times Two

LCDR Douglas B. Cameron

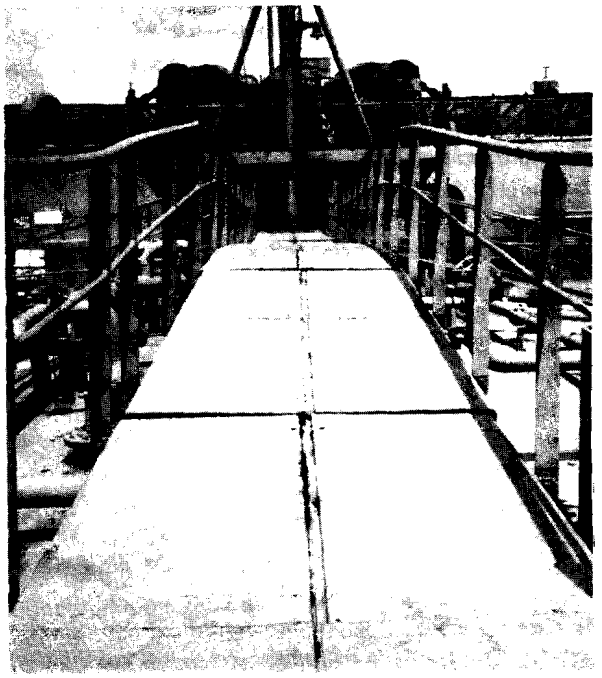
While the U.S. tanker **SS Blue Ridge** was topping off with a cargo of several products, its number 1 center cargo tank overpressurized and suddenly expanded upward about 3 feet. Although the damage to the tank top and underdeck structure was severe, no one was injured.

This article illustrates how two independent human errors caused serious material damage. More important, it alerts those shipowners with similar tank venting arrangements to a potentially serious problem that could exist on their vessels.

The Casualty

On 21 June 1989, the **SS Blue Ridge** was moored at Oil Dock 8 in Corpus Christi to receive a load of several products. At about 6:38 p.m., the mate on watch ordered shoreside pumps secured so that final loading would be accomplished by gravity alone, thus reducing the rate of flow. At about 7:10, an able-bodied seaman monitoring the number 1 port tank heard loud noises similar to steam lines banging. Suddenly, only 25 feet away from where he was standing, the entire deck over number 1 center tank contorted into a pronounced dome. At the same time, several geysers of inert gas and liquid spewed 5 feet into the air. Fearing for his life and thinking the tank was about to explode, the crewman ran toward the deckhouse several hundred feet aft.

The mate heard the same noises from the cargo control room located in the house; however, he didn't know the cause until the running crewman radioed him. The mate immediately secured all loading and simultaneously instructed the other crewman on watch to close all main manifold valves.



Looking forward on the tank vessel Blue Ridge. Catwalk over No. 1 Center showing pronounced distortion of tank top. ***(Photo provided by the author)***

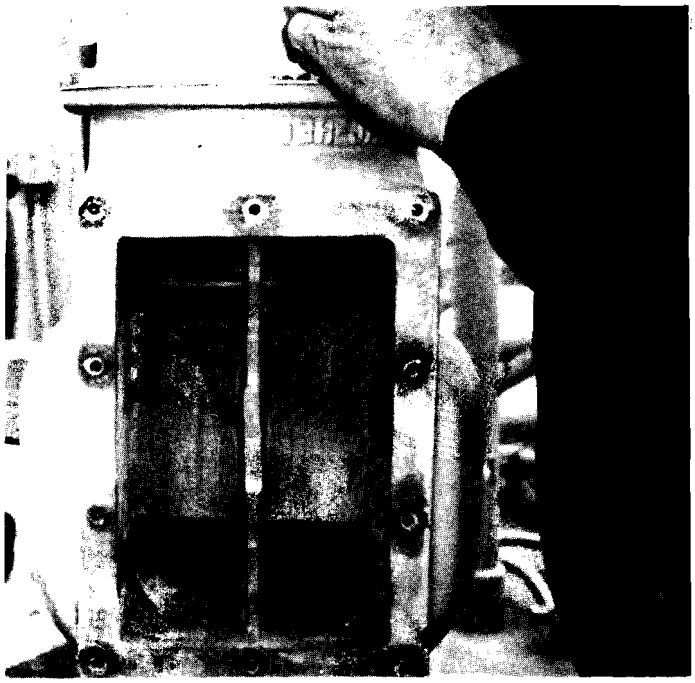
Other crew members, including the Master and Chief Engineer, heard the noise and felt something as well. They were advised of the situation, and they determined it would be safe to go forward and investigate.

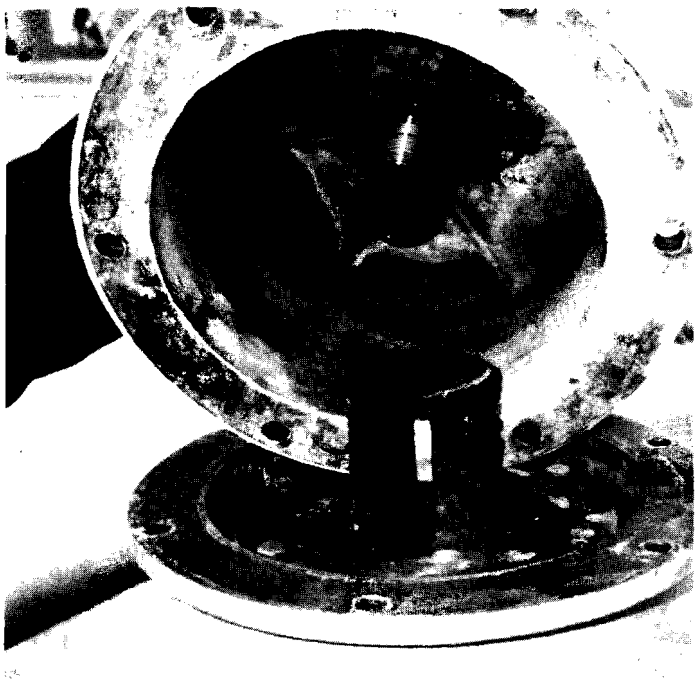
The Master and Chief Engineer found the deck above number 1 center deformed into a dome shape, uniformly elevated to a height of nearly 3 feet at the tank center. The tank top was split in several areas around its periphery and, surprisingly, relatively little diesel oil had escaped. The small amount of leaked oil was contained on deck, and no water pollution occurred. The crew then began to investigate why the tank had overpressurized, and they checked for internal ship damage.

The crew quickly found that the inert gas branch line valve to number 1 center was closed, thus preventing inert gas displacement and proper venting during cargo loading. This valve

---

LCDR Cameron is Chief of the Inspection Department at the Coast Guard Marine Safety Office in Corpus Christi, Texas.





***Top*: P/V valve with louver and flame screen removed. Poppet in upper (pressure side) chamber could not be lifted without opening hand wheel. *Bottom*: Bonnet removed from P/V valve showing valve stem with flared end intended to fit under fitting on top of poppet.**

had been opened earlier by the Chief Mate when loading operations began and the tank received an initial partial load. However, shipboard procedures require that when multiple grades of cargoes are being loaded, the inert gas branch line valve of idle tanks must be closed, especially if the cargo is diesel oil. This prevents vapors from more volatile cargoes, such as gasoline, from raising the diesel's flash point. Therefore, when the Chief Mate concluded the partial loading of diesel into number 2 center tank, he ordered the inert gas branch line valve closed. To remind subsequent watchstanders to reopen that valve when tank loading resumed, he posted a note to that effect on the cargo control panel in the control room. That note was not heeded when loading of number 1 center resumed. The inert gas branch line valve was never reopened. As a result, there was only one way for inert gas to escape: the pressure vacuum relief valve.

The independent pressure vacuum (P/V) relief valve mounted at about eye level off the tank trunk appeared to be normal. However, when the crew removed the louvered cover and flame screen, they were unable to move the valve's pressure-side poppet from its seat unless the hand wheel was opened. At this point, the Master decided to secure the inert gas branch line valve and P/V valve from further examination by covering them with plastic garbage bags. This was done to preserve their condition until Coast Guard investigators, the American Bureau of Shipping, and company representatives had an opportunity to observe the valves.

Findings

Before proceeding with this article, readers should understand the design and function of this type of P/V valve.

The valve was issued a Coast Guard approval number which expired

on October 6, 1982. However, it is still approved on installations made prior to that date, provided the valve continues to function properly.

The valve is composed of three chambers. The center chamber is connected to the line that mounts the valve directly to the tank trunk. The lower chamber, or vacuum section, houses a weight-loaded, cylindrically shaped, bronze poppet called a vacuum assembly. This poppet is designed to lift if the outside ambient pressure is greater than one psi above the tank's internal pressure. This prevents a vacuum greater than one psi from developing in the tank. The upper chamber, the area with which this article is primarily concerned, is the pressure side of the valve. It houses another, heavier, cylindrically shaped poppet called the pressure valve assembly. It is totally independent of the vacuum poppet and is designed to lift if internal tank pressures exceed two psi above ambient. The pressure poppet is also designed to be suspended from a valve stem mounted in the bonnet above. Therefore, the poppet can be manually raised from its seat allowing free and unrestricted exchange of atmospheres and constant pressure equalization.

The day after the accident, all inspection personnel witnessed the dismantling of the P/V valve. When the bonnet was removed, the cause of the valve's failure to lift (and the primary cause of the casualty) was readily apparent. Instead of the poppet's being suspended from the end of the stem as it should have been, the bonnet and stem assembly had been installed so that the stem rested on *top* of the poppet instead of suspending it. Thus, when the stem was cranked down to enable the valve to function in the "automatic" or P/V mode, there was no way for the poppet to lift. Consequently, excessive internal tank pressures could not be released since the poppet was basically "gagged" by the stem. With this valve essentially closed and the inert gas branch line valve closed, the displaced inert gas atmosphere had no place to escape.

Because the cargo tanks surrounding number 1 center were full when the casualty happened, internal tank damage was confined primarily to its upper portions. Nevertheless, initial damage estimates were almost $500,000. All of the transverse deep web frames were split in their upper crotch, and the main underdeck centerline girder fractured just forward of where it intersected with the tank's after bulkhead. Numerous other small strength members, mostly underdeck beams or stiffeners, were severed.

It would be difficult to determine at what pressure the cargo tank actually failed. Typical tank vessel cargo tanks are not designed to withstand pressures beyond those normally caused by atmospheric pressure and temperature variances. Accordingly, it is no surprise to see the type of damage this ship experienced, especially in view of the hydraulic forces set up by the cargo being pumped and compressing the inert gas so that its only escape was upward.

The P/V valves on the **SS Blue Ridge** had been completely overhauled during a shipyard period about 1 month prior to the casualty. The overhaul consisted of dismantling the valves, cleaning and dressing up their components where necessary, then reassembling them. It is likely that this valve and four others were reassembled incorrectly, probably by the same individual since the valves were all in the same vicinity aboard ship. One of the other P/V valves opened for examination was found to have an undersized internal diameter gasket between the bonnet and the valve's body. This caused the poppet to hang up on the excess gasket material when it was opened.

Recommendations

It is strongly recommended that shipowners of vessels having similar P/V valves -- capable of being manually opened -- conduct the following examinations:

1. Remove the P/V valve's bonnet and ensure that the pressure poppet has been properly attached to and suspended from the stem. If in lifting the bonnet from the valve body the poppet stays in place, assume that it was improperly assembled.

2. Ensure that the inside gasket diameter that is fitted between the bonnet and lower valve body is the proper size. This prevents the poppet from getting hung up on the gasket if it is opened. The gasket should be the same width as the two mating surfaces of the bonnet and body.

Fracture on the Blue Ridge. The main underdeck centerline girder fractured just forward of where it intersected with the tank's after bulkhead.

Summary

Both contributing causes to this casualty were human errors, even though their respective degrees of severity differ. By themselves, neitherwould have likely caused the casualty. Had the P/V valve been functioning properly, the inert gas would have vented through it instead of through the branch line. Most likely a watchstander would have been alerted to the inert gas branch line valve's being closed due to the odor of the inert gas and the sound it would make venting through the P/V valve. On the other hand, the more serious problem of the P/V valve's not venting the excess tank pressure might not have been discovered until the next time the valve was overhauled. Displaced inert gas would vent through the branch line as it was supposed to.

P/V valves are an extremely important component of any tank vessel carrying lighter-grade cargoes. They ensure the safe and effective release of pressures between the inside tank and outside atmospheres, yet they reduce the amount of volatile vapors that could otherwise constantly escape from the tank. When installed, maintained, and used properly, they can be almost trouble-free. If they are incorrectly installed, as they were in this situation, disaster can result. Don't underestimate their importance!∎

200 Years of Service

The Coast Guard began a 1-year bicentennial celebration in August 1989 as the Service entered its 200th year. Coast Guard bicentennial events will be held throughout the country in the next 12 months, culminating on August 4, 1990.

It was an hour before dawn. The tiny vessel, lights off, sneaked through the early morning fog along the North Carolina coast. The captain and his mate, guns at their sides to protect illegal cargo, sped under the cover of darkness, hoping to escape detection. The highly sought-after intoxicants, stashed in the hull of their modest vessel, would earn top dollar.

The Coast Guard had been tracking the smugglers' vessel for nearly 2 hours, waiting for the right moment to act. Just before sunrise, the Coast Guard cutter made its move. In just a few minutes, the boat was stopped and boarded, the smugglers taken into custody, and the illegal shipment --- 20 cases of rum -- handed over to authorities for disposal.

The above scenario was one of hundreds carried out by the Coast Guard during the prohibition days of the Roaring Twenties. Today, marijuana has replaced moonshine, but the Coast Guard continues its law enforcement, military readiness, and maritime services as it has for the past 200 years.

It all began on August 4, 1790. At the request of Secretary of the Treasury Alexander Hamilton, Congress authorized the construction of 10 revenue cutters to stop smugglers trying to evade payment of import taxes.

This gave birth to the Coast Guard and earned Hamilton the title of "father of the service." Revenue cutter sailors not only put a stop to smuggling, they also did much more. They battled pirates and privateers and protected Americans against disease by enforcing quarantine laws.

As the country grew, larger and more heavily armed cutters were needed. They were built just in time to fight in the new nation's first war -- the Quasi-War with France (1797-1801). In the 1800s, revenue cutter sailors fought bravely in the War of 1812, the Mexican War, the Civil War, and the Spanish-American War. For instance, in the War of 1812, the revenue cutter **Vigilant** captured the British privateer **Dart**, which had seized nearly 30 American vessels.

Revenue cutters fought on both sides of the Civil War, this country's most brutal and divisive conflict. The revenue cutter **Harriet Lane** opened the Civil War's naval conflict when it fired the first maritime shot at the steamship **Nashville** in Charleston Harbor.

A revenue cutter rescue at Cardenas Harbor, Cuba, was one of the most dramatic incidents in the Spanish-American War in 1898. While under fire from shore, the revenue cutter **Hudson** helped the damaged **USS Winslow** and towed it to safety.

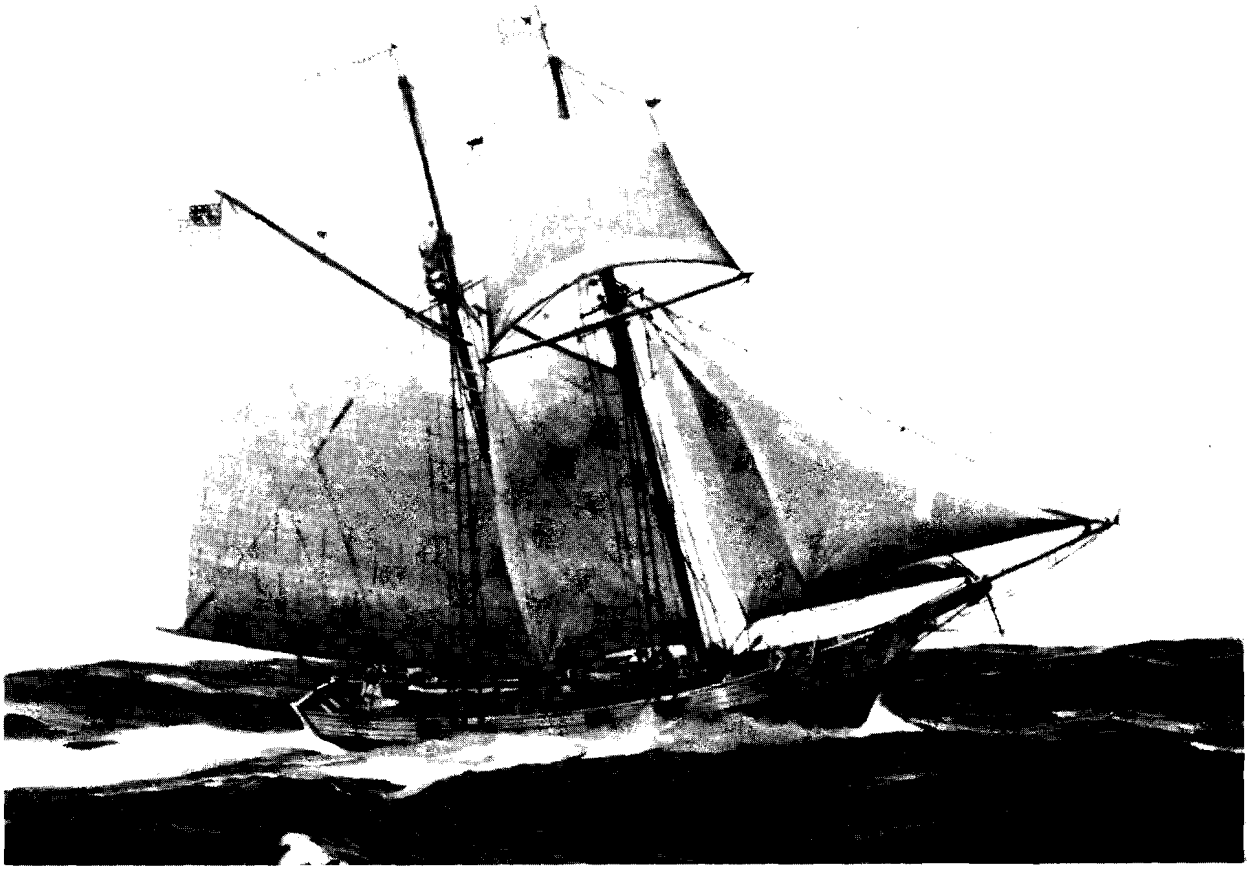
In 1831, revenue cutters helped to establish the authority of the federal government by assisting Charleston Harbor custom agents in collecting a federal sugar tax after the state refused to do the job.

In the 1800s, the Life Saving Service and the Bureau of Navigation and Steamship Service were formed and became key to the service's safety mission. They eventually joined the Revenue Cutter Service and the LIghthouse Service to form today's U.S. Coast Guard.

The Bureau of Navigation and Steamship Service, formed in 1838 after a series of spectacular steamship explosions, developed into the regulatory arm of the Coast Guard. Revenue cutter sailors inspected ships both at sea and at the dock.

Federal lifesaving stations were first built in 1848, and daring surfmen carried out countless legendary rescues. For instance, in 1889, Ramus Midgett single-handedly waded through the treacherous surf of North Carolina's Outer Banks to rescue all 10 passengers and crew from the barkentine **Priscilla**. Ramus even saved the ship's dog.

Preventing accidents before they happen has been a key mission of the U.S. Lighthouse



The revenue cutter Massachusetts was the first of the 10 cutters authorized by Congress in 1790 to be placed into service. Massachusetts was built in Newburyport, Mass., to battle piracy and smuggling.

Service, which later joined the Coast Guard. Lighthouse keepers have guided ships into the nation's harbors since colonial times.

The Coast Guard's environmental responsibilities also have a long history. Beginning in 1890, the revenue cutter Bear introduced a herd of reindeer to Alaska to help supplement the Eskimo's food supply. The International Ice Patrol was established after the sinking of the Titanic, and today Coast Guard aircraft still patrol the busy, fog-shrouded, ice-laden waters between the United States and England.

The modern Coast Guard began in 1915 when the Revenue Cutter Service and the Lifesaving Service merged and took the name Coast Guard. The Lighthouse Service joined in 1939. The Bureau of Navigation and Steamship Inspection Service joined in 1942.

Two years after the 1915 merger, America entered World War I. The Coast Guard once again set sail to defend the nation. During the Roaring Twenties, Coast Guardsmen battled the rum runners. With less than whole-hearted support from the nation, the service engaged in a sometimes deadly cat-and-mouse war with the smugglers of spirits.

During World War II, the Coast Guard underwent its greatest expansion, growing to 240,000 members. The vast majority were reservists. The Coast Guard played a vital role in the North Atlantic convoy duty and landed soldiers and Marines on the beaches during every major amphibious operation. Signalman First Class Douglas Munro, who lost his life rescuing a company of Marines at Guadalcanal, was awarded the Medal of Honor. He was the only Coast Guardsman so honored.

By the end of World War II, the Coast Guard was a true multimission service. It broke ice, marked rivers, helped with flood relief, and continued ocean patrols to assist ships and

planes in distress and provide vital weather information.

Ice operations expanded after the war. In 1957, the cutters **Storis, Bramble,** and **Spar** began Arctic ice operations by crunching through the Northwest Passage. This allowed the ships building the Distant Early Warning Line -- a series of radar stations -- to escape east if necessary.

Coast Guardsmen fought on foreign shores once again, during the Vietnam War, to block the enemy's seaborne supply routes. With Coast Guard cutters patrolling, a small wooden sampan had only a 10-percent change of getting through. A steel-hulled vessel had no chance at all.

During the 1970s, a series of oil tanker disasters led to an expansion of the Coast Guard's marine safety mission. The Coast Guard created Pollution Strike Teams and greatly increased the ship inspection and pollution monitoring programs.

The 1980s opened with a non-stop search and rescue case: the Cuban boat lift. More than 225,000 Cubans jammed into boats of every conceivable size, shape, and condition and fled Cuba for the United States. Many had to be rescued from unseaworthy vessels.

In 1980, Coast Guard pilots assisted by U.S. Air Force and Canadian pilots carried out one of the most dramatic helicopter rescues in history. When the cruise ship **Prinsendam** caught fire off the coast of Alaska, helicopters flew to the limit of their range and saved all of the more than 500 passengers and crew.

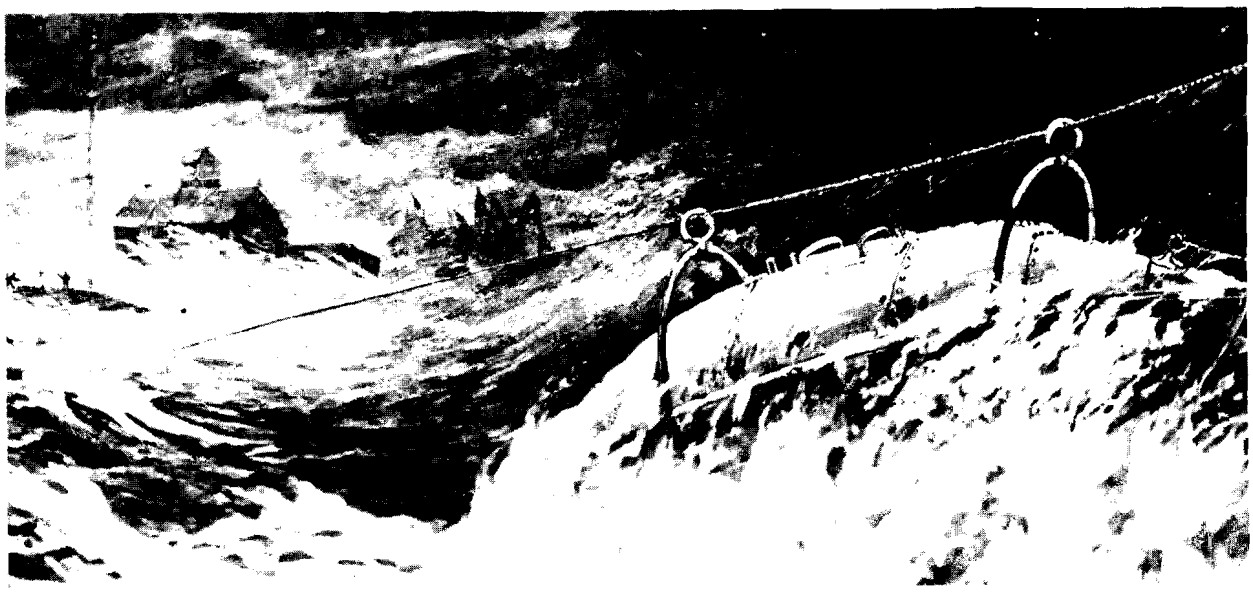
The Coast Guard Auxiliary has been a vital part of the service's safety mission. Since it was formed in 1941, the Auxiliary has taught boating safety courses to thousands of people, conducted countless courtesy boat safety inspections, and assisted the Coast Guard with search and rescue efforts.

The Coast Guard was started as a law enforcement agency, and in the 1980s, the service is still at it. The Coast Guard enforces fisheries laws in the frigid New England and Alaskan waters and stops illegal immigration in southern waters.

Stopping entry of illegal drugs is the Coast Guard's largest law enforcement mission today. The Coast Guard has intercepted thousands of cargoes of marijuana and cocaine.

And, as it has been throughout history, the Coast Guard is still the guardian of our nation's maritime interests. Today the Coast Guard is America's lead maritime agency. It enters its third century as a vibrant, multimissioned organization ready to serve the nation wherever needed.▮

(Reprinted from the July 1989 *Commandant's Bulletin.*)



This artist's conception depicts a rescue by the Life-Saving Service, probably in the 1870s. A surfcar full of survivors is being pulled toward shore.

Clockwise from left: Lifesaving is still a major mission even though it is done a little differently today. This man waits to be hoisted by basket to the safety of a helicopter. *Los Angeles Times photo.* • Drug intervention remains our primary law enforcement mission. Here, a crewman from the CGC Escape carries a bale of marijuana off a seized vessel. • An aircrewman performs a preflight check on an HH-52 helicopter before takeoff. *Photo by Dan Boyd.*

Frapping Lines and Bowsing Tackles

M. R. Daniels

The Coast Guard received a letter last year (1988) from the master of a U.S. tanker concerning some confusion about launching gear of the kind shown in the accompanying photograph. The item in question is the "bowsing tackle" now occasionally seen on U.S. vessels equipped with gravity davits of foreign design. Two "bowsing tackles" take the place of the "frapping lines" (one at each end of the boat) that in the past have been most often used with U.S. gravity davits for launching lifeboats.

Readers having copies of the Coast Guard's old publication, CG 175 ("Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department"), will recall the diagram for "Tricing Pendant and Frapping Lines" that appeared on page 35. (Similar details currently appear in a manual of the same title published by Cornell Maritime Press, and also in the "Lifeboat Training Guide" published by the Military Sealift Command as COMSC Instruction 12410.1C.) We are including the old diagram here for comparing frapping lines with bowsing tackles.

Launching with Frapping Lines

When a vessel launches as lifeboat from its stowage position by gravity davits intended to use frapping lines, the boat first moves outboard and down to the level of the embarkation deck, at which point the two tricing pendants become taut and pull the boat back to the side of the ship where its gunwale will be abreast of the deck. With the boat in this position and not before, two of the crew on the embarkation deck pass the frapping lines around the wire rope falls, heave and belay them tight so that personnel can enter the boat. With all personnel in the boat seated, the tricing pendants will be released by persons in the boat, followed by the easing out of the boat by the two deck hands who gradually slacken their frapping lines. (The two deckhands handling the frapping lines will avoid a sudden release and casting adrift of the frapping lines to prevent the boat from swinging outboard violently and risk spilling its occupants into the water.) With the boat then suspended outboard solely by its wire rope falls, the winch operator can proceed with lowering it into the water.

Launching a boat with frapping lines requires three persons to remain on the embarkation deck: the person controlling the lifeboat winch and two deckhands for handling the frapping lines, one opposite each fall. After the boat is in the water, these three people will have to descend to the boat by a nearby embarkation ladder or other means.

Launching with Bowsing Tackles

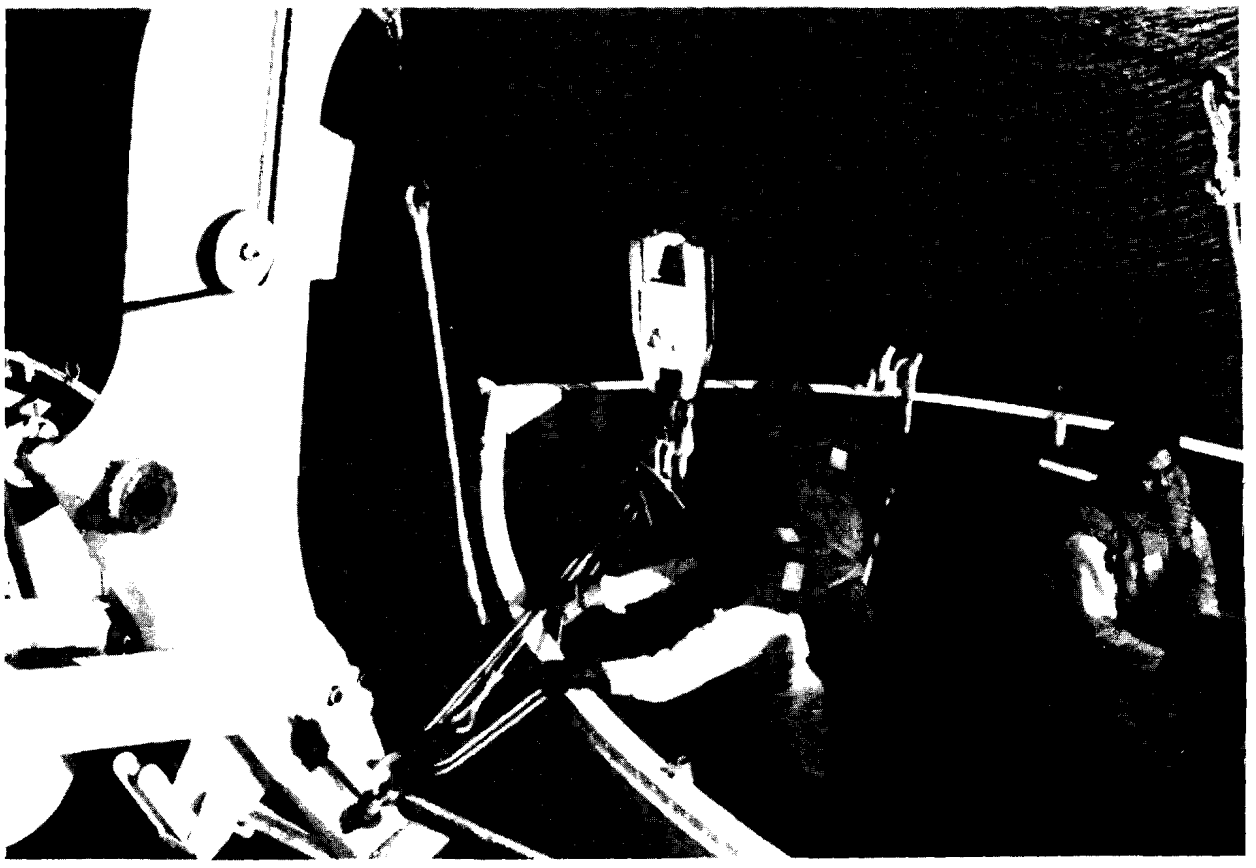
For launching a boat with bowsing tackles, in contrast to the above, only the winch operator is necessary on the embarkation deck because persons within the boat both release the tricing pendants and pass out the bowsing tackles from within the boat as shown in the photograph. The following is a summary of launching with bowsing tackles:

(a) Initially moving the boat from its stowed position down to the embarkation deck is the same with bowsing tackles as it is for frapping lines as discussed above.

(b) With the boat suspended level with the embarkation deck by the tricing pendants and the falls at each end of the boat, the crew in the boat pass out the bowsing tackles from their stowage on the boat's side benches and hook them between ring bolts on the ship's side and padeyes on the floating blocks of the falls. In doing this they will ensure that the hauling part of each tackle leads from the block hooked to the ship's side back into the boat. The crew in the boat will then haul in on the bowsing tackles and

---

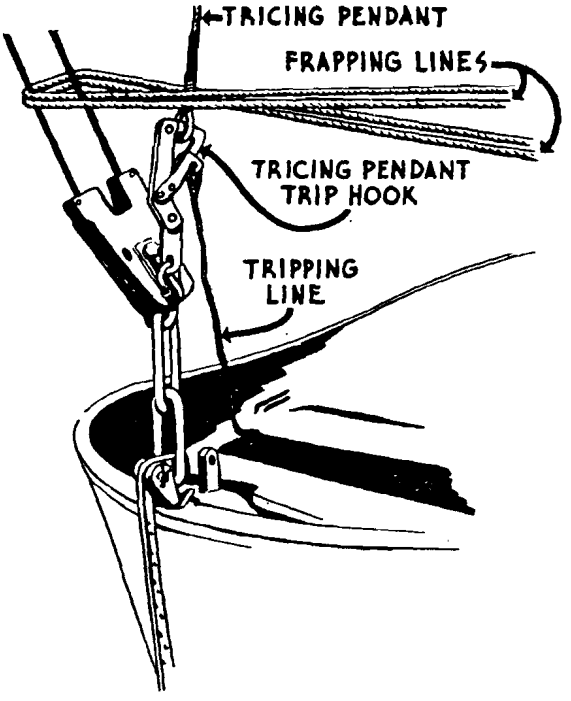
Mr. Daniels, a long-time contributor to Proceedings, *was a General Engineer in the Coast Guard's Merchant Vessel Inspection and Documentation Division before his recent retirement. Good luck, Milt.*



make them fast within the boat. (More on this later.)

(c) The boat crew then releases the tricing pendants from the floating blocks. After the tricing pendants are let go, the boat will be held abreast of the embarkation deck by the bowsing tackles, but the weight of the boat will be suspended by the wire rope falls. Personnel can then move from the embarkation deck into the boat.

(d) When all persons within the boat are seated, the crew in the ends of the boat ease out on the bowsing tackles and unhook them from the floating blocks so that the tackles are left hanging on the side of the ship from their ring bolts. (A variation of this by one United Kingdom authority has the boat crew toss the free ends of the bowsing tackles back on the embarkation deck.) The boat, now free of its tricing pendants and bowsing tackles, is suspended vertically by the wire rope falls. The winch operator can then start lowering the boat into the water.



TRICING PENDANT AND FRAPPING LINES

(35)

Hoisting Procedure

Except for unhooking the bowsing tackles from the side of the ship, the hoisting of a boat will be the same for gravity davits using either frapping lines or bowsing tackles, because neither is used again during a boat's hoisting. The basic hoisting procedure is as follows:

(a) With the personnel in the boat grasping the lifelines, the winch operator hoists the boat until the floating blocks are approximately 1 or 2 feet below the davit arms.

(b) At this point the boat crew grabs the tricing pendants and refastens them to the floating blocks. The winch operator then lowers the boat until the tricing pendants take a strain and pull the boat back to the deck edge, taking care to ensure that the pendants are not overly loaded.

(c) On the boat's return to the deck edge, the bowsing tackles, if employed during the launching, are unhooked from the ship's side and restowed within the boat. Otherwise, all persons then get out of the boat before the start of its hoisting to the stowage position overhead.

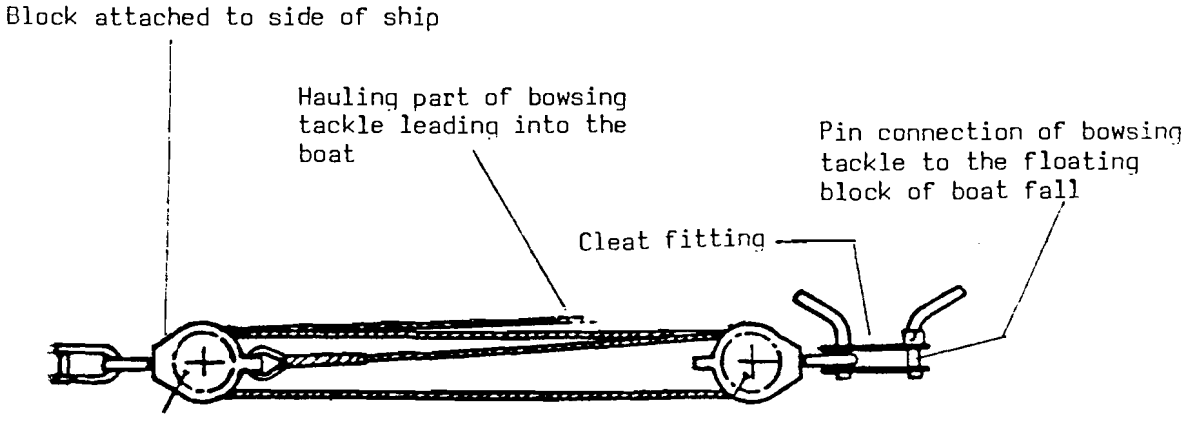
(d) The winch operator then heaves the boat up to the stowage position, using hand cranks for the last 12 inches of the move. With the boat again in the stowed position, the crew then secures the boat by reinstalling the gripes, removing the boat plug, putting on the lifeboat cover, etc.

(For reasons of brevity, the above discussion omits procedures for handling the boat's cover, drain plug, sea painter, gripes, etc., all of which are discussed in the publications identified above and in other books of seamanship.)

Additional Bowsing Tackle Details

A bowsing tackle is usually a "two-fold purchase" (i.e., two sheaves in each block) as shown in the photograph. Some of these tackles include a cleat-fitting adjacent to the floating block of each boat fall. Such cleats make it easier for the boat crew to make fast the bowsing tackles after they have been hove taut as discussed above. Bowsing tackles without such cleats will require the crew to improvise some kind of a hitch with the hauling part of each tackle to keep them taut. The bowsing tackle in the photograph may not include this cleat.

The master who brought the difficulties concerning bowsing tackles to the Coast Guard's attention related that some U.S. crews had been misusing the bowsing tackles by employing them as steadying lines "...to reduce boat motion during lowering to the embarkationd deck" and of how such practice "...on one occasion resulted in damage to the boat fall, necessitating its replacement."



BOWSING TACKLE WITH CLEAT FITTING

A Liverpool instructor on the subject of bowsing tackles cautions against the dangers of (1) hooking the tackle directly on a wire rope fall or (2) letting a bowsing tackle remain hooked to a floating block that is being lowered. The dropping of one end of the boat following cutting of the fall as a consequence of the first error, or the outboard tipping of the boat by the second, would be equally disastrous.

The U.S. and European firms producing lifeboat davits and winches have undergone a series of mergers as a result of the present worldwide slump in shipbuilding. This consolidation has led to an exchange of designs among the surviving companies in various countries. The arrival of bowsing tackles to U.S.-flag vessels is one result of this consoldiation. Now that frapping lines and bowsing tackles permit a choice of the gear used with gravity davits, variations in their use from ship to ship are likely.

Note: The author has made extensive use of correspondence to the Coast Guard from Captain James Drahos, FNI, who at the time was serving as master of the **M/V Sea Wolf**. Additional information about bowsing tackles contained in the following publications was also particularly helpful: *Survival at Sea: The Lifeboat and Liferaft*, by Captain C. H. Wright, Principal National Sea Training School, Liverpool (James Laver Printing Co., Ltd., Liverpool, 1977); and *Life Saving Appliance Manual*, by Captain J. L. Lewis, Master Mariner (Stamford Maritime Ltd., London, 1976).∎

New Publications

Boating Course Video

In response to heavy demand, the United States Power Squadron's boating course, "For Power and Sail," has produced the first video edition of its nationally recognized basic boating course. This 75-minute tape and accompanying booklet cover all of the material normally conveyed in six weekly USPS classes. They also prepare the viewer to pass the exam for a state-approved boating education certificate.

Filmed on the water in a wide variety of power and sailboats, the instruction in Rules of the Road, navigation aids, basic seamanship, and piloting and safety requirements is unparalleled in its liveliness and authority. It is the most convenient form of introductory boating education available. As boat sales continue to boom and our waterways become increasingly congested, this video should become required viewing for any beginning boater and an essential part of any boating library.

The USPS has 70,000 members and is the largest boating education organization in the country; its members have been teaching free boating courses to the public since 1941.

USPS boating course, "For Power and Sail," video and booklet with 24 illustrations, is available from William Morrow and Co., 105 Madison Avenue, New York, New York 10016; telephone (212) 889-3050. The price is $39.95.

Chapman's 59th Edition

Chapman Piloting, Seamanship, and Small Boat Handling continues its tradition, as the most up-to-date, comprehensive, and authoritative book available for recreational boaters. Important changes include the new system of aids to navigation and developments in the fast-changing fields of marine electronics, radar, and communications. Constantly refined chapters on seamanship, anchoring, safety afloat, tides and currents, weather, navigation, charts and compasses -- in short, everything necessary to own and operate a boat safely -- have earned this book its reputation as "The Bible of Boating."

Over 1500 photographs and two-color instructional line drawings make the procedures and equipment described readily understandable. This ease of use is one of many reasons why Chapman's is recommended by the U.S. Power Squadron and the U.S. Coast Guard Auxiliary for their public education courses.

Chapman's is available from William Morrow and Co. (see above) for $29.95.∎

NIOSH Warns Respirator Users

LCDR Joe Ocken

In September 1988, the National Institute for Occupational Safety and Health (NIOSH) was informed of the death of a firefighter during a training fire. A few months later, in January 1989, they received an injury report about a second firefighter. While the investigations have not yet been completed, NIOSH did find potential problems with the certified Self-Contained Breathing Apparatus (SCBAs) that were involved.

In both cases the respirator breathing tubes appear to have separated from the respirator facepieces. Metal retaining clamps were used to hold the tubes and facepieces together. In the first case, NIOSH found that the clamp was bent and worn, and it failed at a critical moment. In the second case, the original clamp may have been replaced with a jury-rig part (perhaps after the original part broke from fatigue). The jury-rig was not well suited to the job and failed in use.

To alert the public to these potential hazards, NIOSH issued a "Respirator User's Notice" on March 16, 1989. Although this NIOSH Notice deals with metal clamps on SCBAs, it points out some important concepts which apply to all respirator usage and respirator programs.

Good respiratory protection programs include thorough cleaning and sanitizing on a regular basis. Adequate cleaning will require some disassembly of the respirator. This should be done using the manufacturer's recommended procedures and tools to avoid premature wear or damaging the parts.

Maintenance and repair go along with thorough cleaning because the process provides an excellent opportunity to inspect each part of the respirator carefully. The first case described by NIOSH demonstrates the importance of following disassembly and cleaning with reassembly and inspection. Even though the repeated disassembling for cleaning might shorten the life of the clamp, a good inspection for maintenance during reassembly should have led to replacement of the worn clamp.

To make this inspection count, the proper spare parts need to be on hand to make repairs. Two serious problems can occur if they are not. NIOSH is concerned that the second firefighter may have been using a respirator with a jury-rig clamp. Respirator parts must be replaced with the manufacturer's designated replacement parts or the respirator is no longer a certified respirator. It can also be a dangerous respirator. The second potential problem comes when damaged respirators are set aside, but accidentally make their way back into use.

NIOSH has requested that information about clamp failures on respirators should be reported to them . Send information to

Division of Safety Research
Centers for Disease Control
National Institute for Occupational Safety and Health -- ALOSH
944 Chestnut Ridge Road
Morgantown, WV 26505-2888

Coast Guard personnel should also report such incidents to Commandant (G-KSE).

LCDR Ocken is a Staff Industrial Hygienist assigned to the Coast Guard's Marine Technical and Hazardous Materials Division.

Chemical of the Month

Brent Alexander

Dichlorodifluoromethane

Celebrating with champagne soon? No matter what the occasion, be sure not to forget your dichlorodifluoromethane -- this month's chemical. Although dichlorodifluoromethane does not appear on many shopping lists, it is used more often than one might think.

Better known as freon 12, dichlorodifluoromethane is used in many ways, one of which is for chilling cocktail glasses. Other uses include as a refrigerant, air conditioner, plastic agent, aerosol propellant, blowing agent, low-temperature solvent, leak-detecting agent, and a food-freezing agent (by direct contact). It is apparent that this month's chemical has quite frigid characteristics. What might some properties of such a frigid chemical be?

Dichlorodifluoromethane is a noncorrosive, nonirritating, and nonflammable gas with the formula CCl_2F_2. It is colorless and almost odorless under normal condition. However, when in high concentrations, a faint, ether-like odor may exist. dichlorodifluoromethane is insoluble in water, yet soluble in most organic solvents such as alcohol and ether. The reason for this chemical's frigid properties is that its freezing point is an astonishing -157.7°C. Dichlorodifluoromethane's boiling point is also interesting. It begins to boil at -29.8°C at 760mmHg (1 atm.). Where xx begins to boil, you and I are well below our own "freezing point."

Does this colorless, odorless gas have any potentially hazardous characteristics at all? Dichlorodifluoromethane is not at all harmful to aquatic life or waterfowl. The vapor is irritating to the eyes, nose, or throat of the person near it. However, if it is inhaled, it will most likely cause dizziness, and the person may have some immediate difficulty in breathing. If inhaled in high concentrations, slight irritation to the lungs may occur. If this situation is encountered, the victim must be moved into an area of fresh air. Breathing may either return to normal or remain difficult. In the latter case, administer oxygen. Of course, if breathing stops altogether, give artificial respiration.

As mentioned earlier, it is nonflammable and poses no danger in either starting or helping to feed a fire. In fact if dichlorodifluoromethane happens to be present in a fire, it would actually help extinguish it due to its extremely frigid properties. However, under severe heat -- which eventually causes the decomposition of this chemical -- highly toxic fumes of phosgene and fluorides are emitted. Dichlorodifluoromethane can also react violently with aluminum.

To prevent any of the above hazards from occurring, precautionary measures must be taken: Rubber gloves and eye protection, such as goggles or safety glasses, should be worn when handling dichlorodifluoromethane. Following these guidelines will help to minimize any accidents which may occur in handling the chemical.

Dichlorodifluoromethane is stored in cylindrical containers and is to be kept in a properly ventilated space as a safety measure. When being shipped, there are few regulations. It is shipped 99.5-percent pure, and the storage temperature is ambient. The label displayed during shipping, whether by rail or air, is as a nonflammable gas.

When shipped in bulk, dichlorodifluoromethane is regulated under 46 CFR, Subchapter O. In packaged form, the Department of Transportation regulates it under 49 CFR, part 172. The International Maritime Organization classifies dichlorodifluoromethane as 2.2, a nonflammable gas, in the IMDG Code.

Brent Alexander was a Fourth-Class Cadet at the Coast Guard Academy when this article was written as a Special Project in Chemistry for LT Thomas Chuba.

Chemical Name: Dichlorodifluoromethane

Formula: CCl2F2

Synonyms: arcton 6, freon 12, frigen 12, genetron 12, isotron 12, eskimon 12, halon 122

Physical Properties:
boiling point: -29.8°C at 760mmHg
freezing point: -158°C
vapor pressure: 16.1°C at 5 atm
Reid vapor pressure: 132 psia

Threshold Limit Values (TLV)
time-weighted average: 1000 ppm
short-term exposure limit: 5000 ppm for 60 minutes

Flammability Limits in Air
lower: nonflammable
upper: nonflammable

Combustion Properties
flashpoint (c.c.): nonflammable
autoignition temperature: nonflammable

Densities
vapor (air = 1): 4.2 or 132 psia
specific gravity at 15°C: 1.35
density at 15°C: 2.5028 lb/ft^3

Identifiers
U.N. Number: 1028
CHRIS Code: DCF
Cargo Compatibility Group: Halogenated Hydrocarbons (36)

"Patience is sometimes a case of not knowing what to do."

—Herbert V. Prochnow, *author*

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. When you are fighting a fire on deck with foam, you should _____.

A. play the foam stream directly on the burning oil
B. play the foam stream off nearby vertical vessel structures
C. only use the foam on flowing liquids
D. play the foam stream on the base of the fire with whirling motion

Reference: CG 329, *Firefighting Manual for Tank Vessels*

2. The method used to produce electron emission in most vacuum tubes is _____.

A. photoelectric
B. secondary
C. cold-cathode
D. thermionic

Reference: Lister, *Electric Circuits and Machines*

3. An operating diesel engine may suddenly lose power due to a/an _____.

A. restricted turbocharger air intake
B. oil leak into the turbocharger
C. sticking injectors
D. low fuel viscosity

Reference: Toboldt, *Diesel Fundamentals, Service and Repair*

4. Leakage of hydraulic fluid from around the shaft of a motor could be caused by

A. loss of pump suction
B. worn shaft seals
C. high level in the oil sump
D. low motor RPM

Reference: NAVPERS 16193-B, *Fluid Power*

5. In reference to lube oil flow, lube oil coolers in a lubricating system are located between the _____.

A. lube oil pumps and gravity tanks
B. gravity tanks and main unit
C. gravity tanks and lube oil sump
D. lube oil sump and lube oil pumps

Reference: Osbourne, *Modern Marine Engineer's Manual, Vol. I*

Deck

1. What is the geographic longitude of a body whose GHA is 215'15'?

A. 35'15'W
B. 35'15'E
C. 144'45'E
D. 144'45'W

Reference: Bowditch, *American Practical Navigator*

2. A term applied to the bottom shell plating in a double bottom ship is _____.

A. bottom floor
B. outer bottom
C. shear plating
D. tank top

Reference: Turpin, *Merchant Marine Officer's Handbook*

3. You are loading in a port subject to the summer load line mark and bound for a port subject to the tropical load line mark. You will enter the tropical zone after steaming 4 days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.006, and the average TPI is 66. The following data is extracted from the Load Line Certificate:

Freeboard from Deck Line	Load Line
Tropical 77 in. (T)	7 in. above (S)
Summer 84 in. (S)	*
Winter 91 in. (W)	7 in. below (S)
Allowance for fresh water all freeboards	8 inches

*(Upper edge of line at level of center of ring.)

What is the minimum freeboard required at the start of the voyage?

A. 78 inches
B. 82 inches
C. 86 inches
D. 88 inches

Reference: LaDage, *Modern Ships*

4. The label required on cases of common fireworks should read _____.

A. "Blasting agent"
B. "Explosive C"
C. "Special fireworks"
D. "Flammable solid"

Reference: 49 CFR 173.108

5. Each of the following statements concerning the collection of fresh water is true *except* _____.

A. fresh water may be obtained from fish
B. lifeboat covers or canopies should be washed with rain before drinking water can be collected.
C. fresh water may be collected from condensation inside the liferaft
D. seawater should never be consumed

Reference: Seaman's International Union, *Water Survival Manual*

Answers

Engineer

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

Deck

1-C; 2-B; 3-A; 4-B; 5-A

If you have any questions concerning "Nautical Queries," please contact U.S. Coast Guard (G-MVP-5), 2100 Second St., SW, Washington, DC 20593-0001; telephone (202) 267-2705.

Keynotes

Notice of Effective Date of Information Collection Requirements

CGD 84-098b, Emergency Evacuation Plans for Manned OCS Facilities (August 11)

The Office of Management and Budget (OMB) has approved the information collection requirements in sections 146.140 and 146.210 of the final rule on Emergency Evacuation Plans for manned OCS facilities published in the *Federal Register* on May 18, 1989 (54 FR 21566) and has assigned OMB Control Number 2115-0580. OMB approval of information collection requirements is required before those requirements may be made effective. The provisions approved concern the development of emergency evacuation plans and their submission to the Coast Guard for review. Emergency evacuation plans for OCS facilities existing on June 19, 1989, including mobile offshore drilling units, must be submitted to the Coast Guard before December 18, 1989.

These provisions are being made effective on the date of publication of this notice because they were published as part of a final rule on May 18, 1989, more than 30 days ago.

In a separate document to be published at a later date, the Coast Guard will amend 33 CFR part 4 to include this approval number.

The effective date is August 11, 1989. For further information, contact LCDR Anthony Dupree or LCDR Steve Ciccalone, Merchant Vessel Inspection and Documentation Division, (202) 267-2307.

Notices of Withdrawal

CGD 84-060, Licensing of Pilots; Manning of Vessels - Pilots; Prince William Sound Pilotage (August 11)

The Coast Guard is withdrawing the proposal regarding Prince William Sound Pilotage contained in the Supplemental Notice of Proposed Rulemaking published in the *Federal Register* on June 6, 1988 (53 FR 20654). A study group has been appointed by the Commandant of the Coast Guard to examine a number of issues relating to pilotage, including Prince William Sound pilotage (see 54 FR 31130). Further action on the remainder of the proposals in this docket (CGD 84-060) will be held in abeyance until the completion of the pilotage study.

For further information, contact Mr. John J. Hartke, Merchant Vessel Personnel Division, (G-MVP), Room 1210, 2100 Second St., SW, Washington, DC 20593-0001; telephone (202) 267-0217.

CGD 81-082, Unmanned Barges Carrying Certain Bulk Dangerous Cargoes (August 24)

On June 4, 1984, an advance notice of proposed rulemaking (ANPRM) concerning the revision of rules in 46 CFR part 151 for barges carrying bulk cargoes was published in the *Federal Register* (49 FR 23085). This rulemaking project is being withdrawn because the amendments that this project would have made have since been made under other Coast Guard rulemakings. The advance notice of proposed rulemaking is withdrawn as of August 24, 1989.

For further information, contact Mr. T.J. Felleisen, Office of Marine Safety, Security and Environmental Protection, (G-MTH-1), Room 1214, 2100 Second St., SW, Washington, DC 20593-0001; telephone (202) 267-1217.

Request for Applications

CGD 89-063, Chemical Transportation Advisory Committee; Request for Applications (August 21)

The Coast Guard is seeking applications for appointment to membership on the Chemical Transportation Advisory Committee (CTAC). The objectives and mission of the Committee are to provide advice and consultation to the Office of Marine Safety, Security and Environmental Protection with respect to water transportation of hazardous materials in bulk. Members of the

Committee serve without compensation from the federal government.

Applications will be considered for nine expiring terms and any other existing vacancies. To achieve the balance of membership required by the Federal Advisory Committee Act, the Coast Guard is especially interested in applications from minorities and women.

The Committee usually meets at least once a year in Washington, DC, with subcommittee meeting for specific problems on an as-required basis.

Requests for applications should be received no later than December 1, 1989. Persons interested in applying should write to Commandant (G-MTH-1), U.S. Coast Guard, 2100 Second St., SW, Washington, DC 20593-0001. For further information, contact Mrs. Dawn Anderson or Commander Ronald Tanner at the above address, or telephone (202) 267-1217.

Withdrawal of Proposed Rule

CGD 80-136, Maneuvering Performance Standards for U.S. Flag Vessels (August 30)

This action withdraws an advance notice of proposed rulemaking published in the *Federal Register* on September 14, 1981 (46 FR 45631) and the supplemental advance notice of proposed rulemaking published in the Federal Register on July 17, 1984 (49 FR 28893). These proposals are associated with development of maneuvering performance standards for U.S. vessels.

After evaluation of a series of projects and unsuccessful attempts at the International Maritime Organization (IMO) to achieve maneuverability standards recognized internationally, the Coast Guard has concluded that maneuvering standards cannot be developed at the present time. Work in the area of maneuverability regulations will continue after generally accepted criteria have been established at the IMO.

The ANPRM is withdrawn as of August 30, 1989. For further information, contact Mr. Volf Asinovsky, Office of Marine Safety, Security and Environmental Protection, telephone (202) 267-2997.

CGD 79-059, Offshore Cranes (September 20)

On February 14, 1986, a notice of proposed rulemaking (NPRM) concerning design standards and operator qualification for cranes on Outer Continental Shelf (OCS) facilities, mobile offshore drilling units (MODUs), and deepwater ports was published in the *Federal Register* (51 FR 5547). This rulemaking is being withdrawn because responsibility for offshore crane design and operator qualification on OCS facilities has been transferred to the Minerals Management Service of the Department of the Interior. That portion of the rulemaking concerning cranes on MODUs is being incorporated into Coast Guard Docket 83-071a (RIN 2115-AB88), which is a major revision of the MODU regulations. Cranes on deepwater ports may be addressed in a separate rulemaking.

The effective date is September 20, 1989. For further information, contact LCDR Stephen L. Johnson, Ship Design Branch, telephone (202) 267-0173.

Proposed Rule; Extension of Comment Period

CGD 82-004 and CGD 86-074, Offshore Supply Vessels Including Liftboats (August 31)

On May 9, 1989, the Coast Guard published in the *Federal Register* (54 FR 20006) a notice of proposed rulemaking to establish regulations governing new Offshore Supply Vessels (OSVs), including self-elevating OSVs known in the industry as liftboats. These rules would become Title 46 Code of Federal Regulations, Subchapter L. Subchapter L would contain rules for inspection and certification of new OSVs including requirements for construction outfitting of lifesaving and fire protection equipment, machinery and electrical installations, and operations.

The deadline for receipt of comments is extended to December 6, 1989. Comments should be mailed to Executive Secretary, Marine Safety Council (G-LRA-2/3600), (CGD 82/004/CGD 86-074), U.S. Coast Guard, 2100 Second St., SW, Washington, DC 20593-0001.

Comments also may be hand-delivered.

For further information, contact LCDR Michael M. Rosecrans, Office of Marine Safety, Security and Environmental Protection (G-MTH-4), Room 1304, Coast Guard Headquarters; telephone (202) 267-2997.

Final Rules

CGD 86-035, Prohibition of Asbestos-Containing Construction Materials (September 1)

The Coast Guard is revising the approval specification for noncombustible materials to delete references to asbestos as an acceptable noncombustible material for the construction of merchant vessels, and to update the list of designated testing laboratories for noncombustible materials. It is also deleting references to asbestos gaskets from the regulations on piping systems. The Coast Guard no longer issues approvals for asbestos-containing structural fire protection materials, and does not permit the use of such materials in merchant vessel construction. The action taken under this docket makes the regulations consistent with established Coast Guard practice.

The effective date is October 2, 1989. For further information, contact Mr. Klaus Wahle, Office of Marine Safety, Security and Environmental Protection; telephone (202) 267-1444.

CGD 76-080, Hopper Dredge Working Freeboard; Load Line and Stability Requirements (September 6)

The U.S. Coast Guard is amending the load line and stability regulations to allow self-propelled hopper dredges to obtain working freeboards. This rulemaking was initiated because of the interest of a segment of the dredging industry to load to a deeper draft (working freeboard) in order to carry more spoil per trip, and this rule will allow the authorization of that carriage.

The effective date is October 6, 1989.

The comments and materials referenced in this rulemaking are available for examination and copying between 8:00 a.m. and 4:00 p.m. Monday through Friday, except holidays, at the Marine Safety Council (G-LRA-2), U.S. Coast Guard Headquarters, Room 3600, 2100 Second Street, SW, Washington, DC 20593-0001.

A Final Regulatory Evaluation is available for inspection or copying as explained in the preceding paragraph or by contacting Dr. J.S. Spencer, Marine Technical and Hazardous Materials Division, telephone (202) 267-2988.

CGD 89-003, Summons in Lieu of Seizure of Commercial Fishing Industry Vessels (September 11)

These regulations provide for issuance of a summons to appear in lieu of seizure of a commercial fishing industry vessel for violations involving the possession of personal use quantities of a controlled substance. The Anti-Drug Abuse Amendments Act of 1988 requires the Attorney General, the Secretary of the Treasury, and the Secretary of Transportation to issue such regulations. These regulations

require, when a violation involving the possession of personal use quantities of a controlled substance is committed on a commercial fishing industry vessel that is proceeding to or from a fishing area or intermediate port of call or is actively engaged in fishing operations, that a summons to appear be issued in lieu of seizure of the vessel.

The effective date is October 11, 1989. For further information, contact Commander Gerald A Gallion, Office of the Chief Counsel, (202) 267-1534.

CGD 87-015b, Tonnage Measurement of Vessels (September 12)

(Note: Editorial corrections to this notice appear in 54 FR 40240, published on September 29, 1989.)

This action revises the Coast Guard's vessel tonnage measurement regulations. This revision incorporates the system of measurement established under the International Convention on Tonnage Measurement of Ships, 1969, and provides a framework for phasing in the Convention Measurement System as the method of measuring ships domestically to establish uniformity in vessel measurement. The availability of the alternate domestic measurement system is continued for regulatory purposes so that the application of the laws of the United States are preserved in order that vessels engaged in domestic and international commerce are not adversely affected.

This revision is necessary to implement the statutory mandate calling for these changes. In the process of incorporating these changes into the regulations, the Coast Guard rearranged and renumbered the regulations in a more current and readable format.

This revision should carry out the intent of Congress, while facilitating the use of these complex regulations by the maritime industry.

This rule is effective on October 12, 1989. For further information, contact Mr. Dennis A. Lamont, Tonnage Survey Branch, (202) 267-2992.

Amendments to the International Regulations for Preventing Collisions at Sea, 1972 (September 21)

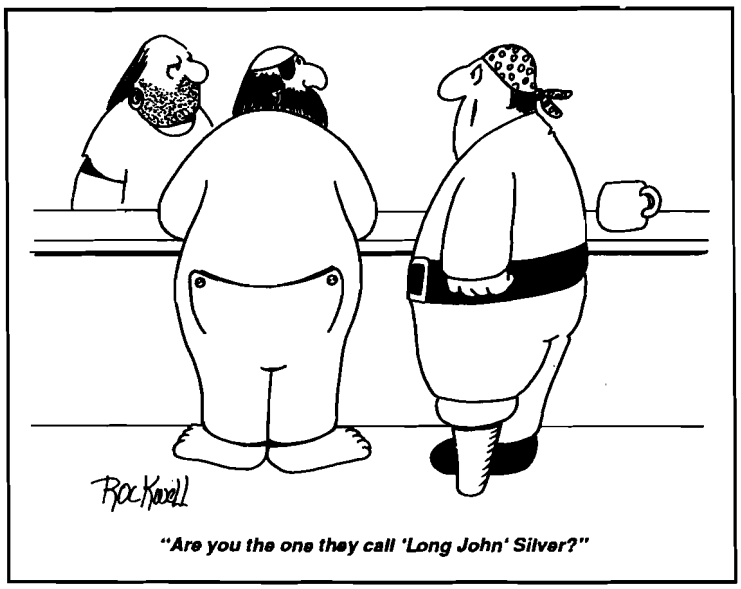
On June 29 1989, the President proclaimed the 1987 amendments to the Regulations of the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS), which will enter into force for the United States of America on November 19, 1989. This rule publishes the President's Proclamation and revises the text of the 72 COLREGS to include the 1987 amendments.

The effective date is November 19, 1989. For further information, contact Mr. Peter Palmer, Office of Navigation and Waterway Services, U.S. Coast Guard, telephone (202) 267-0406.

Notice of Proposed Rulemaking

CGD 88-002A, Prevention of Pollution from Ships (September 6)

The Coast Guard is proposing to require that all manned, oceangoing U.S. ships 79 feet or more in length engaged in commerce keep records of garbage discharges. The Coast Guard is also proposing to require that all manned oceangoing U.S. ships 40 feet or more in length



"Are you the one they call 'Long John' Silver?"

engaged in commerce, or equipped with galleys and berths, maintain waste management plans. Finally, the Coast Guard is proposing that all U.S. ships 26 feet or more in length prominently post informational placards for crew and passengers. The term "ship" includes fixed and floating platforms and recreational vessels. The proposed regulations would implement requirements of the "Act to Prevent Pollution from Ships," as amended. If these proposals are adopted, it will facilitate compliance with the Act and reduce the amount of plastics, including synthetic fishing nets, and other ship generated garbage discharged into the marine environment.

Comments must be submitted on or before November 6, 1989.

Written comments should be submitted to the Marine Safety Council (G-LRA-2), U.S. Coast Guard Headquarters, Room 3600, 2100 Second Street, SW, Washington, DC 20593-0001, attention: CGD 88-002A. A draft Regulatory Evaluation and Environmental Assessment are available for inspection and copying at the same address. Normal office hours are between 8:00 a.m. and 3:00 p.m. Monday through Friday, except federal holidays.

Persons desiring to comment on the information collection requirements in the proposed rules should submit their comments to the Office of Management and Budget, 726 Jackson Place NW, Washington, DC 20503; Attention: Desk Officer, U.S. Coast Guard.

CGD 84-043, Portable Tanks for the Transportation of Bulk Hazardous Materials by Vessel (September 11)

The Coast Guard proposes to discontinue approving marine portable tanks (MPTs) and to authorize liquid hazardous materials to be transferred to and from DOT specification portable tanks aboard vessels. Existing approved MPTs would be permitted to remain in service. The Coast Guard now inspects and approves MPTs while DOT tanks are inspected and approved by private sector agencies. Among the expected benefits of this proposal are removal of the Coast Guard from competition with private industry and greater availability of portable tanks, especially for overseas operations. In addition, in response to a petition for rulemaking, the Coast Guard proposes to permit DOT Specification 57 portable tanks to be used for the bulk carriage of high flashpoint Grade E combustible liquids and other low hazard liquids.

Comments must be received on or before December 11, 1989. Comments should be submitted to the Marine Safety Council (G-LRA-2) (CGD 84-043), U.S. Coast Guard Headquarters, 2100 Second Street, SW, Washington, DC 20593-0001. Comments are available for inspection and copying at the same address in Room 3600. Normal office hours are between 8:00 a.m. and 3:00 p.m. Monday through Friday, except holidays.

For further information, contact Mr. Frank Thompson, Office of Marine Safety, Security and Environmental Protection; telephone (202) 267-1577.

CGD 89-024, Annex I: Positioning and Technical Details of Lights and Shapes and Distress Signals (September 19)

The Coast Guard proposes to amend Annex I and Annex IV of the Inland Navigation Rules to conform to changes in the International Navigation Rules. The proposed amendments in Annex I are technical clarifications, and the amendment to Annex IV propose additional available signals to indicate distress and need of assistance.

Comments must be received on or before November 3, 1989. Comments should be submitted to the Marine Safety Council (G-LRA-2) (CGD 89-024), U.S. Coast Guard Headquarters, 2100 Second Street, SW, Washington, DC 20593-0001. Comments are available for inspection and copying at the same address in Room 3600. Normal office hours are between 8:00 a.m. and 3:00 p.m. Monday through Friday, except holidays.

For further information, contact Mr. Peter Palmer, Navigation Rules and Information Branch; telephone (202) 267-0406.

Advance Notice of Proposed Rulemaking

CGD 89-050, Vessel Identification System (September 15)

The Coast Guard invites comments on establishing a nationwide information system for identifying vessels and vessel owners, and guidelines for State vessel titling systems. Recent legislation requires the Secretary of

Transportation to establish a vessel identification system, prescribe the manner and form for participating States to make information available, and establish guidelines for State titling systems and procedures for certifying compliance with those guidelines. The legislation also authorizes the Secretary to collect a $1.00 per vessel annual fee to maintain the information system and charge additional user fees for providing information to or from the system. The vessel identification system will provide a nationwide pool of vessel and vessel owner information to help in identification and recovery of stolen vessels and deter vessel theft. Mortgages on vessels in States which both participate in the vessel identification system (VIDS) and hold certification of compliance with the State titling system guidelines would be eligible for "preferred mortgage" status.

Comments must be received on or before December 14, 1989. Comments should be submitted to the Marine Safety Council (G-LRA-2) (CGD 89-050), U.S. Coast Guard Headquarters, 2100 Second Street, SW, Washington, DC 20593-0001. Comments are available for inspection and copying at the same address in Room 3600. Normal office hours are between 8:00 a.m. and 3:00 p.m. Monday through Friday, except holidays.

For further information, contact Mr. Carlton Perry, Office of Navigation Safety and Waterway Services (G-NAB); telephone (202) 267-0979.

Proposed Rule; Notice of intent to publish a supplementary notice of proposed rulemaking

CGD 85-080, Small Passenger Vessel Inspection and Certification (September 18)

On January 30, 1989, the Coast Guard published in the *Federal Register* (54 FR 4412) a notice of proposed rulemaking to revise the regulations governing small passenger vessels (Title 46, Code of Federal Regulations, subchapter T). The Coast Guard is currently reviewing the numerous comments received both in writing and at six public hearings on the proposed rulemaking. An initial review of the comments and an analysis of the proposed rules and the draft evaluation indicate that some substantive changes to the proposal may be necessary before final rules are issued. Therefore the Coast Guard will issue a Supplementary Notice of Proposed Rulemaking to revise the regulations governing small passenger vessels.

For further information, contact LCDR William P. Cummins, Office of Marine Safety, Security and Environmental Protection (G-MVI); telephone (202) 267-1181.

Notice of Reestablishment

CGD 89-073, Lower Mississippi River Waterway Safety Advisory Committee; Reestablishment (September 19)

The Secretary of Transportation has approved the reestablishment of the Lower Mississippi River Waterway Safety Advisory Committee. The purpose of the Committee is to provide local expertise on such matters as communications, surveillance, traffic control, anchorages, and other related topics dealing with waterway safety in the Lower Mississippi River area as required by the Coast Guard.

For further information, contact Commander G. A. Bird, Executive Secretary, Lower Mississippi River Waterway Safety Advisory Committee, c/o Commander Eighth Coast Guard District (oan), Room 1141, Hale Boggs Federal Building, 500 Camp Street, New Orleans, LA 70130, telephone (504) 589-6234.

Memorandum of Understanding

(There is no Coast Guard docket number for this notice. It was published at 54 FR 39820 on September 28, 1989.)

The Minerals Management Service (MMS) and the U.S. Coast Guard (USCG) have signed a new Memorandum of Understanding (MOU) to promote the safety of activities and facilities on the Outer Continental Shelf (OCS) of the United States associated with the exploration, development, and production of mineral resources; to avoid duplication of effort; and to promote consistent, coordinated, and less burdensome regulation of these facilities. This MOU conforms to the OCS Lands Act, as amended, and reflects changing Agency roles, new technological and regulatory changes, and the changes of Agency designation from U.S. Geological Survey to MMS.

This MOU is effective August 29, 1989. A copy of the MOU may be obtained from the Manager, Offshore Activities Branch, U.S. Coast Guard (G-MVI-4/24), 2100 Second St., SW, Washington, DC 20593-0001.

For further information, contact Mr. M. L. Courtois, Chief, Offshore Inspection and Enforcement Division, Minerals Management Service, 381 Elden St., MS-647, Herndon, VA 22070-4817; telephone (703) 787-1576.

Interim Final Rule and Request for Comments

CGD 88-100a, Noxious Liquid Substances Lists (September 29)

The Coast Guard is amending its Noxious Liquid Substances (NLSs) regulations to include substances recently authorized for carriage by the Coast Guard or added to the International Maritime Organization's (IMP) Chemical Codes and is making minor editorial changes and corrections. This action updates the current lists of oil-like and non-oil-like NLSs allowed for carriage.

This rule is effective September 29, 1989. For further information, contact Mr. Curtis Payne, Hazardous Materials Branch; telephone (202) 267-1577.

CGD 88-100, Bulk Hazardous Materials (September 29)

The Coast Guard is amending its regulations on carriage of bulk hazardous materials by adding cargoes recently authorized for carriage by the Coast Guard or added to the International Maritime Organization's Chemical Codes and by making minor technical and editorial changes and corrections. This action updates the bulk hazardous materials tables and informs persons shipping a bulk hazardous material of that material's compatibility and special handling requirements.

This rule is effective September 29, 1989. For further information, contact Mr. Curtis Payne, Hazardous Materials Branch; telephone (202) 267-1577.∎