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of the Marine Safety Council

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The Coast Guard played an active role in helping the nation celebrate the Statue of Liberty's 100th birthday. Happy Independence Day from the Marine Safety Council Staff. (Official U.S. Coast Guard photo)

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Workboats of the U.S. Coast Guard

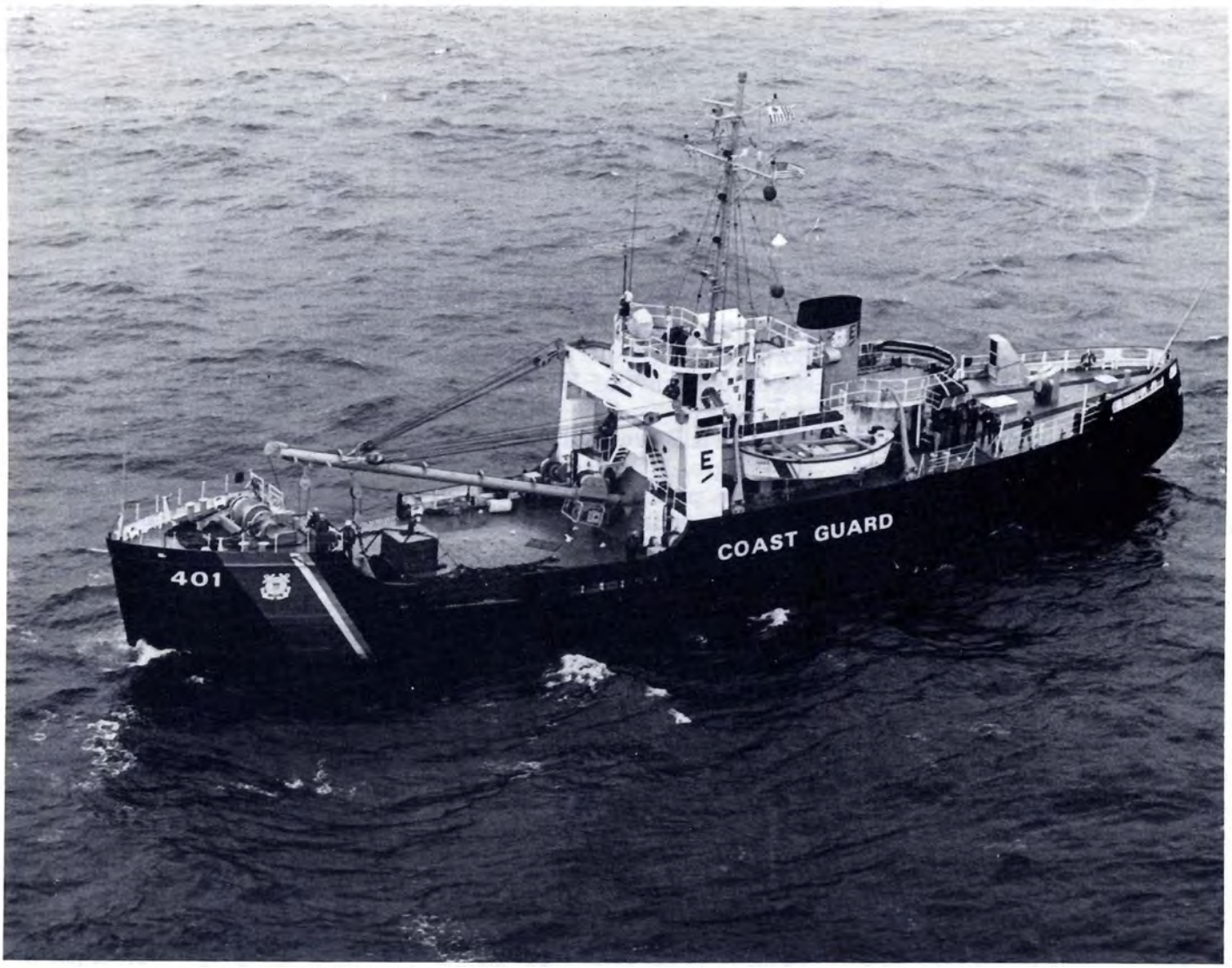
In the March 1986 issue of ***Proceedings,*** *we published photographs showing some of the Coast Guard's search and rescue equipment. In this issue, we'd like to highlight the Coast Guard's workboats: equipment used for ice-breaking, maintaining aids to navigation, and other related duties. Special thanks to PA1 Jerry Snyder, Office of Boating, Public, and Consumer Affairs, for compiling this information. (Official U.S. Coast Guard photos)*

This 110-foot tug is used for breaking ice and for coastal search and rescue missions.

This coastal buoy tender maintains aids to navigation in coastal waters, performs SAR and law enforcement missions, and participates in special assignments.

The Coast Guard's river tenders maintain aids to navigation on the Mississippi River and its navigational tributaries.

The Coast Guard's harbor tugs are employed in towing, assisting vessels in trouble, boarding, law enforcement, fire-fighting, and light icebreaking.



The "400 series" (note number 401 on this vessel's bow) of seagoing buoy tenders is considered the backbone of the Coast Guard's buoy tender fleet. These vessels have icebreaking bows for work in northern points. They also perform aids to navigation duties.

SAN FRANCISCO Named Gallant Ship

Secretary of Transportation Elizabeth Hanford Dole has named the pilot boat SAN FRANCISCO a "Merchant Marine Gallant Ship" for lifesaving actions while assisting the tanker PUERTO RICAN. The tanker exploded as it was leaving San Francisco Bay in October 1984.

The Merchant Marine Gallant Ship Award is among several awards authorized by the Congress for presentation by the Secretary of Transportation. It may be granted to a United States merchant vessel for outstanding or gallant action which saves lives or property in a marine disaster.

As master of the SAN FRANCISCO, Captain Peter Crowell will receive the Merchant Marine Meritorious Service Medal for directing the rescue of crewmen blown overboard in the tanker's explosion. Captain James S. Nolan, San Francisco Bay pilot who was rescued after the PUERTO RICAN exploded, will receive the Distinguished Service Medal.

Nolan, who sustained leg and pelvic fractures and third-degree burns, directed the SAN FRANCISCO to rescue Third Officer Philip Lempriere of the PUERTO RICAN first. Lempriere was blinded by chemical residue and suffered severe burns over half his body. The other crew member could not be found.

The awards were presented aboard the SS JERIMIAH O'BRIEN in San Francisco Bay by John Gaughan, Maritime Administrator, U.S. Department of Transportation. ‡

The "A Boats"

Editor's Note: The fishing vessels AMERICUS, ALTAIR, ALYESKA, and ALLIANCE routinely participated in Alaskan commercial fisheries under the direction of the same managing owner. This fleet of vessels often was referred to as the "A boats."

Vessel Information

The U.S.-registered fishing vessels AMERICUS and ALTAIR were the second and the last, respectively, of seven sister vessels built by Dakota Creek Industries, Inc., (Dakota Creek) of Anacortes, Washington. The AMERICUS was built in 1978 and the ALTAIR was built in 1980. Both vessels were owned by a group of partners. Jeff Hendricks, Inc., Nations Enterprises, Inc., Beirnes Enterprises, Inc., and Robert E. Resoff each owned a one-sixth share of each vessel, and Sea Pacific, Inc. owned a one-third share of each vessel. Neither vessel was inspected by the Coast Guard, nor was either required to be.

The AMERICUS and the ALTAIR each had an overall length of 123.5 feet, a beam of 32 feet, and a depth at amidships of 14 feet. The AMERICUS admeasured 194 gross tons and 131 net tons; the ALTAIR admeasured 190 gross tons and 129 net tons. Both vessels had a designed maximum draft of 13 feet.

Both the AMERICUS and the ALTAIR were propelled by a single, 84-inch-diameter variable pitch propeller driven by a 16-cylinder, 1125-horsepower, freshwater-cooled, turbocharged diesel engine. Each vessel had a single, hydraulically operated rudder. The AMERICUS and the ALTAIR had a maximum speed of about 10 knots.

The AMERICUS and the ALTAIR were originally designed and built as typical, modern crab fishing vessels with large, open deck areas aft and enclosed forecastles and pilothouses forward. The welded steel hulls had a single chine, raked bow, and square stern. The forecastle contained a dry goods storage area, three staterooms with accommodations for eight persons, a toilet/shower room, a large frozen stores area, a galley and mess area, and an accessway to the pilothouse above and the engineroom below. Aft of the forecastle, the open main deck where the crab pots were carried was protected by wood planks fitted on supports a few inches above the steel deck. One 8-ton-capacity crane was located on the port side of the main deck slightly aft of amidships, and another was on the forecastle deck on the starboard side. (See figure 1.)

The engineroom was inboard below the forecastle. Outboard of the engineroom on the port and starboard sides were cofferdams, fresh water tanks, and lubricating and hydraulic oil tanks. Forward of the engineroom was the fuel oil day tank and chain locker. Aft of the engineroom were

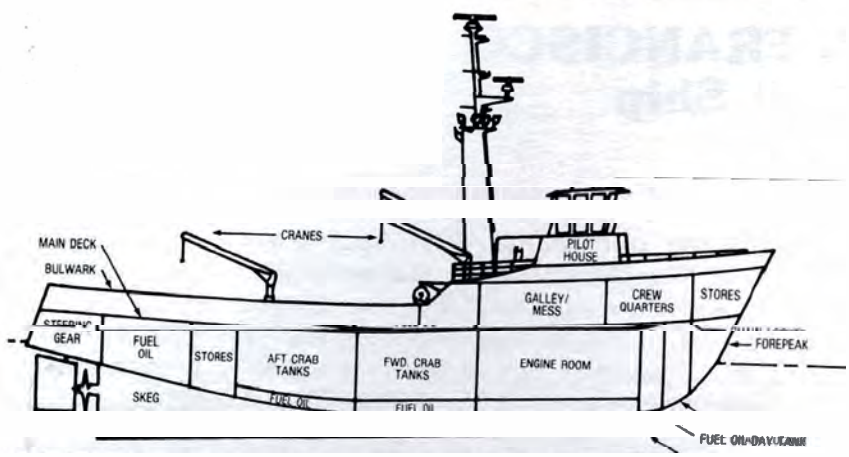


Figure 1. Profile view of AMERICUS before installation of trawling gear.

This article was taken from the National Transportation Safety Board's Marine Accident Report No. NTSB/MAR-86/01.

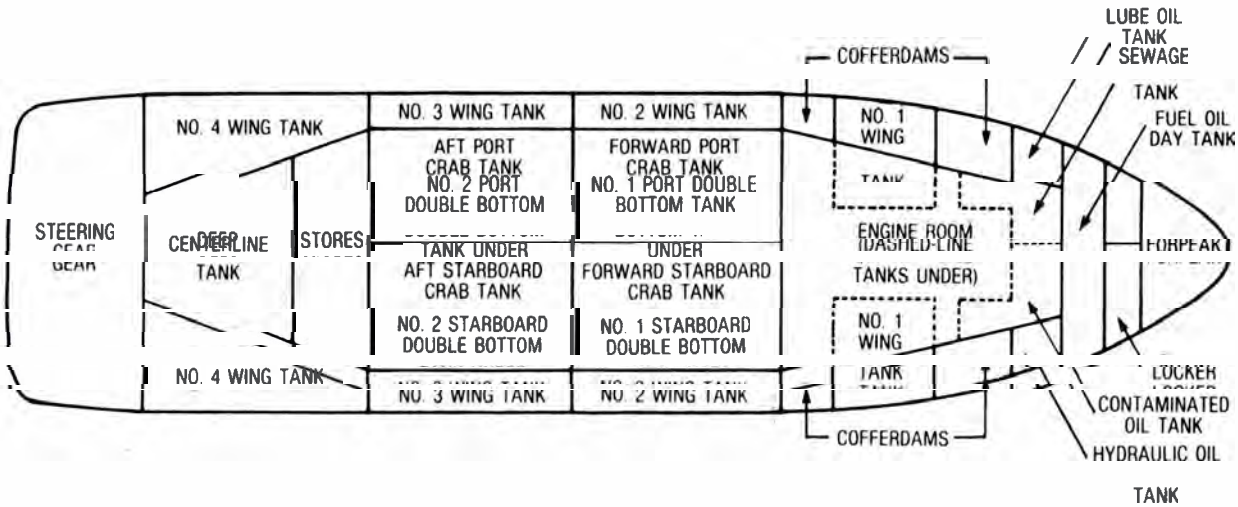


Figure 2. Tank arrangements and capacities for AMERICUS.

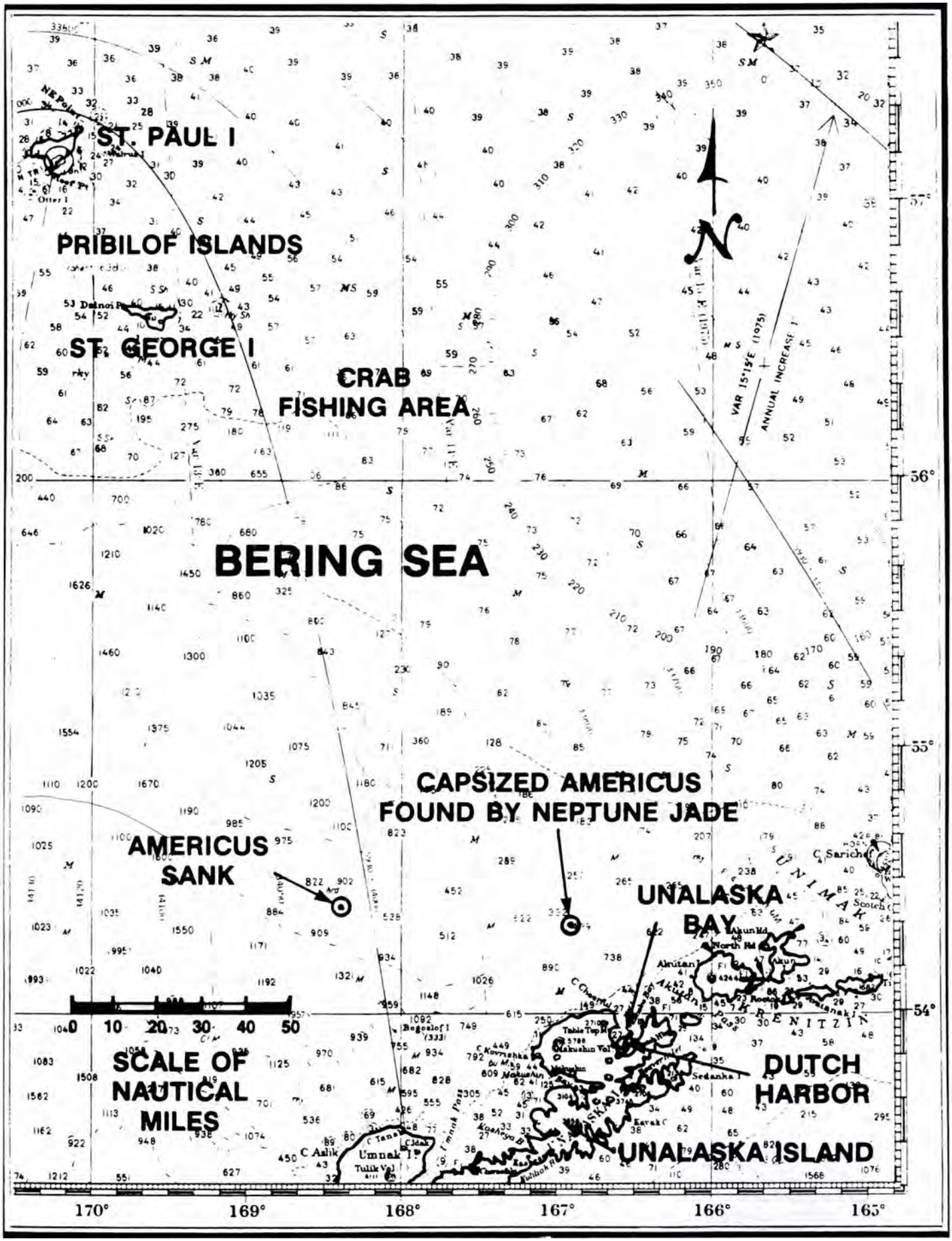
the four crab tanks, a dry storage area, and a centerline fuel oil tank. The steering gear compartment was at the stern. Fuel oil wing tanks extended aft from the aft cofferdam bulkhead to the forward bulkhead of the steering gear compartment. Fuel oil double bottom tanks were located below the crab tanks. (See figure 2.)

The fishing vessel ANTARES was the first-built vessel of the seven sisterships that included the AMERICUS and ALTAIR. A stability test[1] was conducted on the ANTARES by the designer on April 15, 1978. Based on that stability test, a stability booklet, which included a stability letter and numerous loading conditions, was prepared. The loading conditions were developed using the stability criteria developed by the International Maritime Organization and disseminated by the Coast Guard in Navigation and Vessel Inspection Circular (NVIC) No. 3-76. Stability booklets later were prepared for the AMERICUS and the ALTAIR using the lightship data determined by the stability test of the ANTARES. The lightship data for the AMERICUS was assumed to be the same as for the ANTARES, and the lightship data for the ALTAIR was calculated from the ANTARES lightship data by making an allowance for the weight of crab tank insulation which was installed on the ALTAIR but not on the ANTARES or AMERICUS. No stability tests or deadweight surveys[2] were conducted on the AMERICUS or the ALTAIR to confirm that the lightship data of the ANTARES applied to those vessels.

The AMERICUS and the ALTAIR originally were designed and constructed for crab fishing only. During February and December 1981 and January 1983, equipment was installed on the vessels to enable them to trawl for fish. Hydraulic pumps and piping, electric motors, rubber stern bumpers, winches, wire cables, drag stanchions, a net reel, and other heavy equipment were added to each vessel. Additional electronic equipment was installed in the pilothouse. The repair manager at the Dakota Creek shipyard where the work was performed calculated that the total weight added to each vessel was about 35.2 long tons. At the completion of the conversions, neither a stability test nor a deadweight survey was performed on either vessel. The vessel's stability booklets were not amended to reflect the addition of the trawling gear.

[1] *A stability test involves the movement of known weights across the deck of a vessel and the measurement of the vessel's heel with the weight movement. A stability test is conducted to determine a vessel's lightship data (the vessel's displacement and the vertical and longitudinal location of its center of gravity in the unloaded condition).*

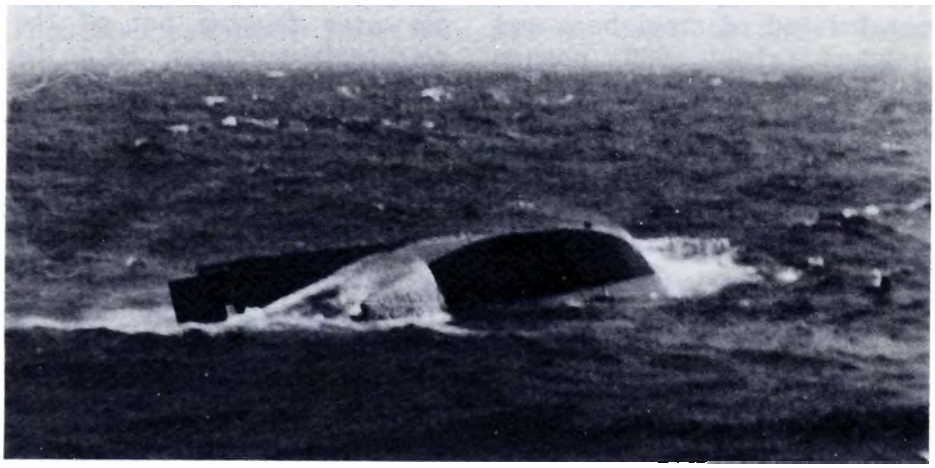
[2] *A deadweight survey is conducted to determine a vessel's displacement and longitudinal center of gravity, but not its vertical center of gravity, in the unloaded condition.*


ST. PAUL I
PRIBILOF ISLANDS
ST. GEORGE I
CRAB
FISHING AREA
BERING SEA
CAPSIZED AMERICUS
FOUND BY NEPTUNE JADE
AMERICUS
SANK
UNALASKA
BAY
DUTCH
HARBOR
UNALASKA ISLAND
SCALE OF
NAUTICAL
MILES
0 10 20 30 40 50
VAR 15°15'E (1975)
ANNUAL INCREASE 1°
56°
55°
54°
170°
169°
168°
167°
166°
165°

Events Preceding the Accident

On February 3, 1983, the U.S. fishing vessels AMERICUS and ALTAIR departed Anacortes, Washington, on a voyage to Dutch Harbor, Alaska. The vessels were fully loaded with fuel and galley stores in preparation for crab fishing in the Bering Sea. This was the vessels' first voyage (other than sea trials) since a shipyard period during which the installation of trawling equipment on each vessel was completed. In Dutch Harbor, the vessels were to be loaded with crab pots and were then to proceed to the crab fishing grounds selected by their respective captains. (See figure 3.)

The 7-day voyage from Anacortes to Dutch Harbor was uneventful. The vessels' managing owner estimated that each vessel burned about 10,000 gallons of diesel fuel during the voyage. Because diesel fuel was less expensive in Anacortes than in Dutch Harbor, both vessels carried fuel to be transferred to the M/V SEA ALASKA, a fish processing vessel owned by Sea Alaska Products, Inc. (Sea Alaska). On February 10, shortly after arriving at the Sea Alaska terminal at Dutch Harbor, the AMERICUS' engineer attempted to transfer fuel to the SEA ALASKA but was unsuccessful because of "a problem with their [AMERICUS] pump," according to a SEA ALASKA engineer. Meanwhile, the ALTAIR was moored alongside a Sea Alaska dock where the vessel's crab pots were being delivered from the storage area. One hundred crab pots were delivered to the ALTAIR on February 10 and were loaded on deck by the vessel's crew.



The capsized AMERICUS.

On February 11, after the pump problem had been corrected, the AMERICUS' engineer transferred 28,000 gallons of diesel fuel to the SEA ALASKA. An engineer on the SEA ALASKA testified that the AMERICUS' engineer said that he would transfer between 25,000 and 30,000 gallons, and that after he had emptied "a front tank with 8,000 or 10,000 gallons," he could determine the length of time necessary to empty the other tanks. Meanwhile, the ALTAIR's crew continued loading crab pots onto the vessel's deck. An additional 112 crab pots were delivered to the ALTAIR on February 11, along with 289 32-pound cases of frozen herring to be used as bait. The AMERICUS received 280 cases of frozen herring.

During the afternoon, an employee of the State of Alaska, Department of Fish and Game, boarded the ALTAIR from another vessel. He noted water flowing from the ALTAIR's crab tank overflows and concluded that some of the vessel's crab tanks were full of water. He testified, "...I know...that he was pumping because the vessel I was on was a smaller vessel, about 90 foot, and the way it tied up to it, the 'A' boats are such larger vessels and sit so much higher out of the water when they're dry that we would have had considerably more effort to put our gear over on the ALTAIR's deck, and we didn't have that."

On February 12, the ALTAIR was shifted from the dock to alongside the SEA ALASKA to transfer fuel. Sea Alaska's records show that 27,730 gallons of diesel fuel were transferred from the ALTAIR to the SEA ALASKA. Meanwhile, the AMERICUS had shifted from alongside the SEA ALASKA to the dock where the crew began loading crab pots. One hundred four crab pots were delivered to the AMERICUS on February 12.

On February 13, the crews continued loading crab pots onboard. Another 12 crab pots were delivered to the ALTAIR, and an additional 126 crab pots were delivered to the AMERICUS. Two of the crab pots delivered to the AMERICUS were broken and were not loaded on board.

◀— *Figure 3 (previous page). Bering Sea crab fishing grounds and location of AMERICUS.*

Each crab pot was 7 feet long, 7 feet wide, and had a height of 32 inches. The pots were constructed of steel bars and weighed about 690 pounds each. The crab pots in the first tier on each vessel were stacked on end, and the crab pots in tiers two through six were laid flat. The crab pots were secured to each other and to the vessels with chains.

About 1200, the captain of the fishing vessel ALLIANCE, which also was loading crab pots at the Sea Alaska terminal, went on board the ALTAIR to ascertain from that vessel's captain the location of his intended crab fishing area. He testified that he was on board the ALTAIR for 15 to 20 minutes and discussed nothing other than the crab fishing area with the ALTAIR's captain. He later recalled that he had seen water flowing over the ALTAIR's port side forward of the crane, which indicated to him that "there was a possibility that the ALTAIR departed with all four crab tanks full."[3]

About 1700, the Sea Alaska operations manager boarded the ALTAIR to deliver a communications code sheet to the vessel's captain. The crew was still loading crab pots on deck, and the operations manager noticed seawater flowing out of the crab tank overflows. He testified that he believed that the forward crab tanks were full of seawater at that time.

During the evening, the engineer from the fishing vessel ALYESKA, which also was being loaded with crab pots at the Sea Alaska terminal, went on board the ALTAIR to borrow a hose coupling. He characterized his conversation with the ALTAIR's engineer as "general chit-chat." He testified that the crew had completed loading the crab pots by that time, but he had no information about the condition of the ALTAIR's crab tanks or fuel tanks. The ALYESKA's engineer then went on board the AMERICUS to ask for "a check valve for a saltwater pump." He and the AMERICUS' engineer discussed the amount of fuel that had been transferred from their vessels to the SEA ALASKA, but they did not exchange any information regarding which specific fuel tanks on their respective vessels had been emptied. The ALYESKA's engineer said that he had pumped the ALYESKA's four crab tanks full of seawater, and he testified that the AMERICUS' engineer told him that the AMERICUS' crab tanks were "cross-tanked."[4]

During the evening, the AMERICUS was moored to the dock at the Sea Alaska terminal. The ALLIANCE was moored to the AMERICUS, and the ALTAIR was moored to the ALLIANCE. About 0230 on February 14, the ALTAIR's lines were cast off, and the vessel departed for the crab fishing grounds near the Pribilof Islands. The captain and the engineer of the ALLIANCE watched the ALTAIR depart, and both testified that the ALTAIR appeared "normal."

About 0330, the helmsman of the fishing vessel SILVER WAVE, which was en route to Dutch Harbor, saw the ALTAIR proceeding on a course toward the Pribilof Islands at about 10 knots. The helmsman said that he saw the name "ALTAIR" on the vessel's bow as the vessels passed starboard to starboard, and that the ALTAIR appeared "normal." He did not take any particular note of the ALTAIR's trim, freeboard, or deck load of crab pots. No whistle signals were sounded, and no radio communications were established. The SILVER WAVE continued on its voyage and arrived at Dutch Harbor about 0700.

The captain and engineer of the ALLIANCE and two Sea Alaska employees watched the AMERICUS depart from the dock about 0830. The ALLIANCE's master testified that the AMERICUS looked "normal," and the engineer said that the red boot-topping paint was visible at the bow and "right at the water" at the stern. The Sea Alaska operations manager saw water flowing out of the crab tank overboard discharge. The Sea Alaska foreman cast off the AMERICUS' stern line from the dock and noted that the waterline was near the "red

[3] *The captain of the ALLIANCE indicated that it is common practice when flooding crab tanks to remove every other bolt from the hatch covers and to loosen the remaining bolts to relieve pressure in the upper reaches of the crab tanks and to prevent the crushing of crab. This would allow seawater to flow out of the hatches, across the deck, and down the vessel's sides. The captain of the ALLIANCE had previously sailed as a deckhand and engineer on the ALYESKA and as engineer and relief captain on the AMERICUS.*

[4] *The AMERICUS and ALTAIR each had four crab tanks. When cross-tanked, one forward crab tank and one aft crab tank on the opposite side of the vessel would be filled, e.g., the forward port tank and the aft starboard tank. According to the managing owner, individual crab tanks were not filled partially; a crab tank would either be completely full or completely empty.*

line" on the hull. None of these persons observed anything unusual about the AMERICUS when it departed.

The Accident

About 1430 on February 14, 1983, personnel aboard the M/V NEPTUNE JADE sighted a capsized vessel with red bottom paint and a blue hull about 30 nautical miles northwest of Dutch Harbor. (The vessel was later identified as the AMERICUS.) The NEPTUNE JADE searched the area near the capsized vessel, but no persons or flotsam were found. The NEPTUNE JADE transmitted radio messages, which initially were relayed by the M/V ALEUTIAN DEVELOPER, to report the capsized vessel to the U.S. Coast Guard Communications Station at Kodiak, Alaska. A short time later, the capsized vessel was sighted by personnel on board the M/V OCEAN BROTHER.

Personnel aboard the M/V NEPTUNE JADE sighted a capsized vessel with red bottom paint and a blue hull.

The OCEAN BROTHER also searched the area around the capsized vessel, found no survivors, and informed the Coast Guard of the capsized vessel.

Upon receipt of the NEPTUNE JADE's messages, beginning about 1450, the Coast Guard began what was to become a major, 6-day, air-sea search. Since no Coast Guard vessels were near the reported location of the capsized vessel, and since the closest Coast Guard facility with search and rescue capabilities was the base at Kodiak about 600 nautical miles away, the Coast Guard North Pacific Search and Rescue Coordinator at Juneau, Alaska, initially requested assistance from the Unalaska Police Department, the Dutch Harbor detachment of the Alaska State Troopers, and civilian aircraft and vessels near the scene. Visual searches by aircraft initially were hampered by the low ceiling and restricted visibility.

Meanwhile, the captain of the fishing vessel ALASKA INVADER had heard the radio message regarding the capsized vessel. The ALASKA INVADER and the nearby PACIFIC INVADER changed course and headed toward the reported location of the capsized vessel. According to the captain of the ALASKA INVADER, they arrived on scene between 1900 and 2000 and began searching for the capsized vessel and survivors. About 2030, the Soviet fish processing vessel SVETLAYA responded to the Coast Guard's Urgent Marine Information Broadcast and joined the search, and another Soviet fish processing vessel, the TURKUL, arrived about 2200.

At daybreak on February 15, an HC-130 search aircraft and the fishing vessel GOLDEN PISCES joined the SVETLAYA and TURKUL on scene. On board the GOLDEN PISCES were the captain, an Alaska State Trooper, a policeman who was also the Unalaska Dive Team captain, four volunteers from the Dive Team, and a commercial diver. The GOLDEN PISCES' captain recognized the capsized vessel as "one of the 'A' boats," and, after sighting the capsized vessel's bow emblem, believed that it was the AMERICUS. He later testified, "I called the ALYESKA and informed them that it was one of their boats, but I wasn't sure which one, and they started calling the ALTAIR and then a little later when the [crab pot] buoy set-ups came up and I could get the number off it, I passed that on to the ALYESKA and they came back that it was the AMERICUS' buoys."

"...when the buoy set-ups came up and I could get the number off it, ...the ALYESKA... came back that it was the AMERICUS' buoys."

After speaking with the captain of the GOLDEN PISCES and concluding that the capsized vessel was the AMERICUS, the captain of the ALYESKA contacted the captain of the ALLIANCE and unsuccessfully attempted to contact the ALTAIR. The ALYESKA and the ALLIANCE proceeded to 75-fathom-deep water and unloaded 40 and 32 crab pots, respectively, from the deck to provide space for rescue operations. Both vessels then headed for the capsized AMERICUS and continued to attempt to contact the ALTAIR by radio. About 1630, the Coast Guard was advised that the ALTAIR was missing.

About 0530 on February 16, the Coast Guard cutter SHERMAN arrived onscene. The floating, capsized hull of the AMERICUS had served as an excellent datum marker for the search for survivors from that vessel; however, since the location of the ALTAIR was unknown, the search area was expanded greatly, and the number of search craft was increased. Beginning early in the morning, the SHERMAN, its onboard HH-52 search heli-

copter and two HC-130 search aircraft and an HH-3 search helicopter from the Coast Guard Air Station at Kodiak, the ALLIANCE, and the ALYESKA continued the search for survivors and for the ALTAIR. About 0930, a Navy P-3 Orion aircraft from the Naval Station at Adak, Alaska, joined the search.

About 1130, the captain of the ALLIANCE saw the capsized AMERICUS sink stern-first in about 700 fathoms of water at latitude 54°24'N., longitude 168°22'W. A few minutes later, an inflatable liferaft and two ring life buoys rose to the surface and were taken onboard the ALLIANCE.

The search for survivors and for the ALTAIR continued until February 20, 1983. Coast Guard, Navy, and Air Force aircraft and Coast Guard vessels searched more than 26,000 square miles. Private vessels and aircraft searched additional areas. Despite the extensive search, neither the ALTAIR nor survivors were found.

On March 16, 1983, an inflatable liferaft, positively identifed later as equipment from the ALTAIR, was found by the ALLIANCE while en route to the Pribilof Islands at latitude 54°24'N., longitude 166°53'W., about 35 nautical miles northwest of Dutch Harbor. The raft was deflated and torn in several places, and all of the raft's equipment was missing. One end of the raft was covered with a typical green marine algae. There was no evidence to suggest that persons had attempted to use the raft.

On June 6, 1985, while trawling for bottom fish, the fishing vessel ACE BONO MARU No. 2 retrieved a crab pot from the AMERICUS in its trawl net at approximately 54°21'N. latitude, 166°57'W. longitude. The ALTAIR still has not been located.

Stability Tests

No stability tests or deadweight surveys had been performed on the AMERICUS or the ALTAIR. The original lightship characteristics for both vessels had been derived from the results of a stability test on the sister vessel ANTARES, even though the difference in crab tank construction on the ALTAIR had added about 7.6 tons to the vessel's lightship displacement. Although the extrapolation of lightship data from one vessel to another might have been standard practice within the fishing vessel construction industry at the time, a deadweight survey probably would have been required to verify the lightship characteristics of the AMERICUS and the ALTAIR if those vessels had been required to meet Coast Guard stability standards for inspected vessels.

Stability tests of similar vessels showed significant increases in the vessels' displacements over the known weights of added trawling gear and other modifications.

After the accidents, stability tests of several other fishing vessels similar to the AMERICUS and the ALTAIR showed significant increases in the vessels' displacements above the known weights of added trawling gear and other modifications. If stability tests had been performed on the AMERICUS and the ALTAIR after the trawling gear had been installed, the increases in displacement and any inherent reductions of stability would have been discovered and quantified, and the vessels' stability booklets and stability letters could have been modified appropriately. The revised stability information would have shown the reduced crab pot loading capacity and any other precautions necessary to ensure safe loading. If the stability information had been amended and provided to the captains of the AMERICUS and the ALTAIR, and if the captains had used the information properly, these accidents might have been prevented.

After the AMERICUS and the ALTAIR had been in service for some time, both vessels underwent conversions to allow trawling operations. The installation of the trawling gear to the vessels added significantly to their lightship displacements, but again no stability tests or deadweight surveys were conducted, and the vessels' stability information was not amended. For inspected vessels and for some uninspected vessels such as tugboats, the Coast Guard requires that a stability test be conducted after major modifications are made. Although the Coast Guard recently has published new voluntary stability standards for uninspected commercial fishing vessels that include recommendations for stability tests and stability information, there is no statutory requirement that stability information be provided to the captains of commercial fishing vessels. The Coast Guard's NVIC 6-68, published in 1968, and NVIC 3-76, published in 1976, each contained recommendations for stability tests and stability information for commercial fishing vessels, but commercial fishing vessels continue to be operated with-

out adequate stability information. For example, the National Transportation Safety Board (NTSB) recently has investigated stability-related accidents involving the commercial fishing vessels AMAZING GRACE, LIBERTY, SANTO ROSARIO, and ATLANTIC MIST where no stability information had been provided to the captain. The high number of stability-related fishing vessel accidents (more than 100 in 1983) indicates that reliance on voluntary compliance with stability standards is ineffective, and the NTSB believes that statutory requirements are necessary.

Probable Cause

The NTSB determines that the probable cause of the capsizing of the AMERICUS was inadequate intact stability caused by improper loading and the addition of trawling gear. Contributing to the accident was the owners' failure to determine the stability characteristics of the AMERICUS and to amend the vessel's stability information after the trawling gear was installed, and the captain's failure to comply with the provisions of the existing stability information.

The NTSB determines that the probable cause of the loss of the ALTAIR was capsizing as a result of inadequate intact stability caused by improper loading and the addition of trawling gear. Contributing to the accident was the owners' failure to determine the stability characteristics of the ALTAIR and to amend the vessel's stability information after the trawling gear was installed, and the captain's failure to comply with the provisions of the existing stability information.

Recommendations

As a result of its investigation of this accident, the NTSB made the following recommendations:

—to the North Pacific Fishing Vessel Owners' Asociation:

Recommend that your members require a stability test on each new vessel unless a deadweight survey confirms that the stability data from a sister vessel may be used. (Class II, Priority Action) (M-86-1)

Recommend that your members require a stability test or deadweight survey and amended stability information when major modifications, such as the addition of trawling gear, are made to a vessel. (Class II, Priority Action)(M-86-2)

Recommend that your members require vessel operators in their employ to comply strictly with the provisions of vessel stability letters and stability booklets. (Class II, Priority Action)(M-86-3)

—to Jeff Hendricks & Associates (managing owner):

Require a stability test on each new vessel unless a deadweight survey confirms that the stabilty data from a sister vessel may be used. (Class II, Priority Action)(M-86-4)

Require a stability test or deadweight survey and amended stability information when major modifications, such as the addition of trawling gear, are made to your vessels. (Class II, Priority Action)(M-86-5)

Require your vessel operators to comply strictly with the provisions of vessel stability letters and stability booklets, and establish a monitoring system to ensure compliance. (Class II, Priority Action)(M-86-6)

Provide formal training for your fishing vessel captains in vessel stability and the use of vessel stability information to establish safe loading conditions. (Class II, Priority Action)(M-86-7)

—to Dakota Creek Industries, Inc.:

Recommend to your clients that a stability test be conducted on each new vessel constructed at your shipyard unless a deadweight survey confirms that the stability data from a sister vessel may be used. (Class II, Priority Action) (M-86-8)

Recommend to your clients that a stability test or deadweight survey, as appropriate, be conducted on each vessel that undergoes a major modification, such as the addition of trawling gear, at your shipyard. (Class II, Priority Action)(M-86-9)

Recommend to your clients that complete stability information be prepared for each vessel constructed or modified at your shipyard. (Class II, Priority Action)(M-86-10)

—to the U.S. Coast Guard:

Seek legislative authority to require that stability tests be conducted and that complete stability information be provided to the captains of commercial fishing vessels. (Class II, Priority Action)(M-86-11)

Deterioration Hazard to Rubber Fuel Hoses

The Coast Guard is cautioning recreational boat owners with inboard gasoline engines to watch closely for damaged or leaking fuel hoses, which could cause a fire or explosion.

The danger comes from alcohol-gasoline blends which have replaced leaded fuel. Alcohol, which increases octane ratings, also causes deterioration of rubber fuel hoses and eventually the fuel leaks through. On boats with enclosed engine compartments, such leaks create a fire and explosion hazard.

To help boaters solve this problem, a new alcohol-resistant fuel hose has been developed, and the Coast Guard is permitting its use immediately, pending regulatory changes to the Coast Guard's Fuel System Standard.

Alcohol-gasoline blends have become common since the Environmental Protection Agency ordered the lead in regular gasoline reduced to less than one-half of one percent by January 1, 1986.

Anticipating the effect of the alcohol-gasoline blends, the Coast Guard and its National Boating Safety Advisory Council last year requested industry to develop a new standard. Prompt action by the Society of Automotive Engineers' Marine Technical Committee resulted in Standard SAE J1527DEC85. The new standard sets a permeation rate — the rate at which fuel passes through the walls of the hose — which is one-sixth of that specified under the present standard. The lower rate is achieved by reducing the plasticizers (wax) in the hose.

Because of the deterioration hazard, the Coast Guard urges all owners of inboard, inboard-outdrive, and jet-drive, gasoline-powered boats to inspect their fuel hoses frequently, especially near the engine where heat can accelerate deterioration. Damaged hoses may be dry and cracked or soft and mushy.

A hose that has failed should be replaced immediately, preferably with one meeting the new standard. If that is not available, owners should use any hose marked "USCG Type A." ↕

Seattle Trade Show Expanded

"Pacific Marine Expo" will be the name of an expanded marine trade show slated for November 20-22, 1986, at the Seattle Center Exhibition Hall. Originally called Fish Pacific, the show has been rechristened to reflect its status an an exposition of equipment and ideas for fishing and work boat professionals.

Sponsored by National Fishermen Expositions, Inc., Pacific Marine Expo meets the demand for a regional trade show to serve the highly professional commercial marine industries of the West Coast and Alaska.

In odd-numbered years, National Fisherman's long-established international Fish Expo showcases the latest developments in marine technology for the commercial fishing fleet. But commercial fishermen aren't the only ones who visit Fish Expo. Professionals from a broad spectrum of the marine industries come to view the state of the art in electronics, propulsion systems, and other gear that is as common to work boats as it is to fishing vessels.

In even-numbered years, Fish Expo moves to Boston, and the West Coast is left without a major commercial marine trade show. Now, Pacific Marine Expo will fill that void. It will bring to Seattle the same exhibit and seminar quality that has marked Fish Expo during its 20-year history, but the focus will be broadened to encompass the fishing and work boat industries.

It will be a unique event that reflects the West Coast commercial marine industry. From California to Alaska, from the towboats and supply vessels, to the troller and trawlers, the commercial fleets of the region are technologically advanced, capital-intensive operations that support an equally sophisticated concentration of marine-oriented businesses.

For more information, contact John Sabella at (206) 283-1150. ↕

Preparing for a Coast Guard License Examination

LT J.K. Dabney

One of the questions that Coast Guard licensing personnel hear most often is, "How and what do I study for my examination?" This article will outline some popular study methods used by license applicants and will present some points to consider when taking an examination.

PURPOSE OF THE EXAMINATION

Before discussing the methods of preparing for an examination, let's establish the exam's purpose. A license examination is one measure used to determine the competency and qualifications of persons licensed to serve aboard a vessel in a particular capacity. To maintain the objectivity of the examinations, certain rules and procedures were developed for their administration. We receive many comments on our policy of not disclosing to an applicant the specific questions missed and/or discussing questions and answers. Applicants should note that the examination is not intended to be an educational process. That is, the test is used to evaulate an applicant's knowledge, not to teach an applicant the material that may have been answered incorrectly during the examination. We do encourage applicants to use a Comment/Protest sheet when they feel a question is bad. A question may be protested for any legitimate reason, such as typographical errors, insufficient information, correct answer not shown, ambiguous wording, etc. Protests based solely on the applicant's unfamiliarity with particular technical or nautical words are generally not considered valid since this is part of the question's construction.

LT Dabney is the Senior Inspector Personnel at the Regional Examination Center, Coast Guard Marine Safety Office, St. Louis, Missouri.

STUDY METHODS

Study methods used by applicants generally fall into one of the following categories:

- **Studying on one's own using only** reference texts.
- Studying on one's own using commercially prepared, question-and-answer study guides.
- Attending a license preparation course.
- Attending a Coast Guard-approved training course.
- Attending a maritime academy.

Studying on one's own using only reference texts.

This method is based on the fact that every license examination has a suggested study bibliography. This list primarily reflects many of the textbooks used by the U.S. Coast Guard Institute examination writers in developing examinations. The idea behind this study method is that if you know everything in the books, then you will pass the examination. This is, of course, easier said than done. Persons using this approach have had mixed results. The obvious drawback is that the books represent a huge body of knowledge that must be read and assimilated. The Coast Guard does **not** recommend that an applicant purchase every publication on the list solely for examination purposes. Aside from the substantial cost involved, many books cover the same (or similar) material. This is particularly true of publications that would be studied by persons applying for lower level licenses. A more typical use of the study bibliography list is as a supplement to strengthen weak areas in an

applicant's training or experience.

Studying on one's own using commercially prepared, question-and-answer study guides.

This method is popular with many applicants. The study guides are sold by several publishers for specific licenses, such as Motorboat Operator (Operator of Uninspected Passenger Vessels), Operator of Uninspected Towing Vessels, or Second Mate. The books are often arranged in sections corresponding to the license examination. The questions are similar in style and content to Coast Guard license questions. Study guides are often used to supplement license-upgrade courses taught at several union schools. Persons with broad on-the-job experience and good educational backgrounds have spoken highly of these study guides. However, no matter how comprehensive the guide, it cannot substitute for skills or knowledge gained through service experience. There is a danger, too, in believing that the questions asked on the examination are similar to the ones shown in the study guide. Overdependence on these guides sometimes leads applicants to memorize its questions and answers. However, with the addition or deletion of just one word, two similarly worded questions may require completely different answers. Overall, many applicants have stated that buying study guides was a good investment when compared with buying several reference texts.

Attending a license preparation course.

Licenses preparation courses vary in format and length, but most of them provide an instructor, use questions and answers similar to the actual examinations, augment practice tests with classroom instruction, and assist students in preparing their applications. Variables from course to course may include differences in length, in the degree or extent of instruction, and in the dependence upon a question-and-answer format to prepare applicants. Some courses are taught in a highly structured "class" environment, while others offer a "learn at your own rate" approach. Cost and availability are major determinants for most people in deciding on a license preparation course. A word of caution about these courses is appropriate. Some firms may advertise guaranteed passing as a means to solicit business. A better way to measure the course is by it first-time pass rate for students. Another consideration is whether you want only examination preparation or a more general course. For the latter, a Coast Guard-approved training course may be appropriate.

Attending a Coast Guard-approved training course.

Let's clear up any possible misunderstanding about the term "Coast Guard-approved" in the context of training courses. Coast Guard approval of a course usually means one of two things: either the course is accepted in lieu of a Coast Guard examination, or it allows course graduates to substitute the training for a portion of required service time to qualify for a license. *The Coast Guard does not approve courses whose sole purpose is to prepare students for a license examination.* Also, courses that are accepted in lieu of an examinaton refer primarily to such things as radar observer or blinker-light, not to the actual license examination. However, many applicants find it logical to take an examination upon completion of a training course.

Prior to 1980, Coast Guard-approved courses were mostly those suggested by law or regulation. For example, service requirements for Lifeboatman allow "successful completion of a course of training approved by the Commandant" as qualifying experience. The number of approved training courses has rapidly increased in the last few years, and the Coast Guard encourages formal training for mariners as a means to increase professionalism.

Attending a maritime academy.

Maritime academies are colleges which specialize in preparing students for a career in the maritime industry. A college degree and qualifications for a Third Mate or Third Assistant Engineer's license are gained through the training.

TAKING THE EXAMINATION

Test-taking is a complex subject. The following list is by no means all-inclusive, but it does reflect some areas that many applicants overlook or are unaware of.

Before the Examination:

1. Know what subject areas you are responsible for.
2. Obtain a list of the suggested study bibliography for your examination.
3. Know what the minimum passing score is for each section and the number of questions

per section.
4. Talk to people who have taken the examination before.
5. **Do not** depend only on rote memorization of questions and answers to get you through the examination. (This is not to imply that the use of questions and answers is necessarily a bad way to study, but it is better not to put "all your eggs in one basket.")
6. Learn what reference materials are allowed on the various examination sections. Try to familiarize yourself with this material beforehand.

During the Examination:

1. Ask how much time you have for each section. (Rarely is a lack of time cited as the reason for poor results.)
2. Make sure you have, or know where, the allowed reference material is.
3. **Always** read the question twice.
4. Mark your answer in the correct spot on the answer sheet. Check this twice. An answer left blank is counted as incorrect.
5. Try to recognize regulatory questions and look the answers up. Don't depend on your memory when the answers are readily available.
6. Use a Comment/Protest sheet when you think a question is bad.

After the Examination:

1. If you pass, congratulations. The examinations are not easy — they weren't intended to be.
2. If you fail, find out which sections will require reexamination.
3. If you fail a particular section badly, ask the examiner to identify the areas you are weak in. Remember, examiners are there to examine, not to teach.
4. Find out when you may take a reexamination.
5. Do not get into an argument with the examiner about the questions. The Comment/Protest sheet is the appropriate place to voice your opinion. Neither you nor the licensing examiner wants to be placed in an adversarial position.

CONCLUSIONS

How you study and prepare for a license examination is, by its nature, a personal decision. No one can tell you which study method is best. Licensing personnel may be able to give you some assistance; however, due to conflict-of-interest laws, examiners cannot recommend a particular course, study guide, or license preparation firm.

FOR ADDITIONAL INFORMATION

Coast Guard-approved courses or license examination study bibliographies: contact a Coast Guard regional examination center.

License preparation courses: check nautical or maritime periodicals in your local library for advertisements.

Question/answer study guides: may be carried by nautical supply stores or bookstores located near regional examination centers. They may be advertised in some places as license preparation courses.

Maritime academies: U.S. Merchant Marine Academy, (516) 482-8200; Texas Maritime Academy, (713) 766-3265; State University of New York Maritime College; (212) 409-7200; Maine Maritime Academy, (207) 326-4311; California Maritime Academy, (707) 644-5601; Massachusetts Maritime Academy, (617) 759-5761; and the Great Lakes Maritime Academy, (616) 946-5650, extension 510. ↨

Call for Papers

The Ninth International Symposium on the Transport and Handling of Dangerous Goods by Sea and Inland Waterways (TDG-9) will be held in Rotterdam, The Netherlands, from April 13-17, 1987. TDG-9 will provide a forum at which all those involved in the production and movement of dangerous goods can discuss and evaluate the latest scientific and technical advances in the transport of these products by the marine and other interfacing modes. Proposed papers should address one of the following areas: safety in transport and handling, zoning in ports, environmental and legal aspects, training, and new developments.

Additional information can be obtained from and outlines for proposed papers submitted to the TDG-9 Organization at VVV-Congresbureau Rotterdam, Stadhuisplein 19, 3012 AR Rotterdam, The Netherlands. Telex 21228 VVV N1; telephone (31) 10-14.14.00 ↨

Wind and Fire

Donald J. Kerlin

It is often the case that maritime casualties reveal the need for additional vessel safety features. Fire safety engineers in Marine Safety Office Charleston (South Carolina) and in Coast Guard Headquarters recently got involved with the investigation of just such a casualty regarding an 83-foot, fiberglass and wood, Subchapter T vessel used in the fishing/cruise trade. Our on-scene investigation revealed that the installation of a fixed fire-extinguishing system could have precluded the severe engineroom damage caused by fire. In this particular casualty, a 5-hour fire would have been limited to a 5-minute fire, and the resultant damage would have been minimal. A fixed fire-extinguishing system for "T" boats would be a marked improvement in marine fire safety.

During the last week of October 1985, the M/V HURRICANE suffered an engineroom fire while the vessel was engaged in fishing in the vicinity of Myrtle Beach, South Carolina. The vessel was certificated to carry 149 passengers up to 20 miles offshore and 100 passengers up to 100 miles offshore. At the time of the fire, the HURRICANE had 86 passengers and 5 crew aboard. There were no deaths or injuries as a result of this casualty, although there was considerable fire damage to the engineroom.

The fire was caused by an electrical short which ignited the wire insulation together with the combustible ceiling and eventually involved the wooden structural members. The most likely area of ignition was the electrical wiring forward of the starboard engine used for an electrical reel system. Overall firefighting efforts lasted about 5 hours.

The action on the part of the vessel's captain and crew were exemplary. They performed extremely well under adverse conditions, and their efforts resulted in no personnel injuries in what could otherwise have been an extremely bad situation.

As a result of the casualty, recommendations were offered with a view toward future improvement of the applicable Coast Guard regulations, which are contained in 46 CFR Subchapter T. The recommendations concerned better overall firefighting capabilities, and are outlined below:

- using fixed extinguishing systems for enginerooms;
- separating the generator from the engineroom;
- examining hand bilge pump/fire pump inadequacy;
- designing a better cable arrangement for remote engine shutdown (plastic encasement melts and renders the cable useless);
- using noncombustible materials for insulation, ceilings, etc., including within the engineroom;
- not keeping all firefighting apparatus in the engineroom so that a fire in the engineroom will put everything out of operation;
- reviewing the practice which allows a proliferation of plastic pipe in the engineroom;
- reviewing standards associated with wire insulation flammability (need improved insulation flame retardance);
- closing off all ventilation and other openings to engineroom in case of fire;

continued on page 164

At the time he wrote this article, Mr. Kerlin was the Assistant Chief, Ship Design Branch, in the Coast Guard's Marine Technical and Hazardous Materials Division. He has since become the Assistant Division Chief in the Marine Investigation Division.

Oleum

The average person is not likely to know what oleum is, but the chemical might be better known under another name: highly concentrated or fuming sulfuric acid. Oleum is used in manufacturing fertilizers, pigments and dyes, industrial and military explosives, and detergents. In addition, it is used in petroleum refining and in the plastics industry for manufacturing rayon and cellophane. Sulfuric acid is an electrolyte in lead storage batteries, so many people may come into contact with the chemical if their cars are equipped with this kind of battery.

Oleum is an oily liquid and has a sharp, choking odor. It may range in color from dark brown to colorless. It is shipped in all strengths from 20 percent (104.5 percent) sulfuric acid to 65 percent (114.6 percent sulfuric acid) grade.

Oleum is not flammable, but due to its high reactivity, it still poses a fire hazard. It is capable of igniting finely divided combustible materials on contact. It also reacts violently with water and organic materials, evolving heat in the process. In particular, oleum is extremely hazardous in contact with carbides, chlorates, fulminates, nitrates, picrates, and powdered metals. Flammable hydrogen gas is evolved on contact with metals. Fires involving small amounts of combustibles may be smothered with dry chemicals. The use of water should be avoided as water applied directly to oleum will result in an evolution of heat and splattering.

Any kind of contact with oleum in liquid or mist form should be avoided. The mist is severely irritating to the eyes, respiratory tract, and skin. Inhalation of the mist will cause coughing or difficulty in breathing. When exposure to sulfuric acid mist occurs, the victim should be moved to fresh air. If breathing has stopped, artificial respiration should be given (but not mouth-to-mouth). If there is breathing difficulty, oxygen should be given to the victim.

Exposure to the liquid burns and destroys tissue because of its severe dehydration action. If the acid is dilute, it acts as a milder irritant similar to other acids. As an indication of its effects, a person who was sprayed in the face with liquid oleum suffered skin burns of the face and body, as well as pulmonary edema from breathing the chemical. Additional effects were pulmonary fibrosis, residual bronchitis, pulmonary emphysema, and necrosis of the skin resulting in marked scarring. Severe damage, often leading to blindness, occurs when eyes are splashed with concentrated sulfuric acid. Exposed victims should remove contaminated clothing and flush the affected areas liberally with water. Do not induce vomiting when swallowed. Instead, have the victim drink plenty of water or milk if conscious.

Persons handling oleum should use full protective clothing. This means wearing a respirator approved by the Mine Safety and Health Administration (MSHA) or by the National Institute for Occupational Safety and Health (NIOSH). This also includes wearing rubber gloves, splashproof goggles, rubber footwear, and a face shield.

The U.S. Department of Transportation (DOT) classifies oleum as a corrosive material for purposes of transportation and requires "corrosive" labeling. Open venting and storage at ambient temperature are required when shipping oleum. Containers should be protected against physical damage and water. Detailed packaging and shipping requirements can be found in Part 173 of Title 49 of the Code of Federal Regulations (49 CFR). The International Maritime Organization (IMO) classifies it as a Class 8 chemical. Oleum is also regulated as a Subchapter O commodity in 46 CFR Part 150.

Ramoncito R. Mariano was a Second-Class Cadet at the U.S. Coast Guard Academy at the time this article was written. It was written under the direction of LCDR J.J. Kichner for a class on hazardous materials transportation.

Chemical name:	Oleum
Formula:	$H_2S_2O_4$-SO_3
Synonyms:	fuming sulfuric acid disulfuric acid pyrosulfuric acid
Physical Properties:	
boiling point:	decomposes
freezing point:	3°C (37°F)
vapor pressure:	
20°C (68°F)	less than 0.001 mmHg
46°C (115°F)	not pertinent
Threshold Limit Values (TLV)	
time-weighted average:	1 ppm; 1 mg/m^3
short-term exposure limit:	5 ppm; 5 mg/m^3
Flammability Limits in Air	not flammable
Combustion Properties	not flammable
Densities	
liquid (water=1):	1.91-1.97 at 15°C
vapor (air=1):	3.4
U.N. Number:	1831
CHRIS Code:	OLM
Cargo compatibility group:	unassigned compatibility group (inorganic acid)

LESSONS FROM CASUALTIES

continued from page 162

— considering a second fire pump located outside the engineroom;

— ensuring that insulation material, including ceilings in the engineroom, are impervious to oil or oil vapors or being enclosed with a material that is [metal clad].

The Coast Guard is considering these recommendations for inclusion in a current regulatory project to revise Subchapter T (CGD 85-080). Additional input was developed as a result of the regulatory project (CGD 85-021) regarding various aspects associated with possible reduction of the structural fire protection requirements of 46 CFR Subchapter T for small, limited route, short duration, high-density, daytime operation passenger vessels.

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. One way to overcome the possibility of a large slug of liquid refrigerant entering the compressor suction while hot gas defrosting is in progress is to install

A. a subcooler.
B. liquid extractors.
C. a re-evaporator.
D. drain lines.

Reference: Dossat, Principles of Refrigeration

2. When cold tappet clearance is less than that specified by the engine manufacturer, diesel engine valves will

A. open earlier than normal.
B. close earlier than normal.
C. remain open for a shorter duration.
D. fail to open when the valves are warm.

Reference: Maleev, Diesel Engine Operation and Maintenance

3. The dimension of the thinnest hydrodynamic fiber developed within a full journal bearing, when all other factors remain constant depends upon the

A. pour point of the lubricant.
B. fluidity of the lubricant.

C. dielectric strength of the lubricant.
D. interfacial tension of the lubricant.

Reference: Gunther, Lubrication

44. In a gravity-type lube oil service system, no oil appearing in the sight flow glass (bulls-eye) while under way, positively indicates

A. no oil is flowing to the bearings.
B. no oil is overflowing the gravity tank.
C. failure of all lube oil pumps.
D. the gravity tanks are empty.

Reference: U.S. Naval Institute, Naval Turbines

5. Which statement is a requirement of Coast Guard regulations concerning emergency diesel engines?

A. The fuel must have a flash point not less than 75°F.
B. They must be capable of operating under full load not less than 30 seconds after cranking.
C. The generator set must lubricate and operate when inclined to specified angles and must be arranged so that it does not spill oil when a vessel rolls 30 degrees either side of the vertical.
D. The starting battery must produce 12 consecutive cranking cycles.

Reference: 46 CFR 112.50-1(g)

DECK

1. Blocks and falls used as lifeboat gear must be designed with a minimum safety factor of

A. 4, based on the breaking strength.
B. 5, based on the maximum allowable strength.
C. 6, based on the maximum working load.
D. 8, based on the normal working load.

Reference: 46 CFR 94.33-5(a)

2. A cloud sequence of cirrus, cirrostratus, and altostratus clouds followed by rain usually signifies the approach of a (an)

A. occluded front.
B. stationary front.
C. warm front.
D. cold front.

Reference: Donn, Meteorology

3. The lower hold of your vessel has a bale cubic of 52,000 cu. ft. You will load a cargo of cases, each weighing 380 lbs. and measuring 3 ft. x 2 ft. x 2 ft. The estimated broken stowage is 15%. How many tons of cases can be loaded?

A. 137 tons.
B. 161 tons.
C. 625 tons.
D. 969 tons.

Reference: Merchant Marine Officer's Handbook

4. Which lights shall a 200-meter vessel exhibit when at anchor?

A. In the forepart of the vessel, a 225-degree white light
B. In the aft part of the vessel, a 112.5-degree white light
C. Any available working lights to illuminate the decks
D. In the forepart of the vessel, a 112.5-degree white light

Reference: COMDTINST M16672.2A

5. In special cases, the Commandant of the Coast Guard may permit cargo piping to pass through machinery spaces, provided that the only cargo carried through such piping is

A. grades A or B.
B. grades D or E.
C. grade E.
D. LFG.

Reference: 46 CFR 32.50-15(3)

ANSWERS

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

DECK
1-C;2-C;3-C;4-C;5-C

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

GREENSBORO Exhibit

The Greensboro (North Carolina) Historical Museum is attempting to locate anyone who served on the USS GREENSBORO, a Navy patrol frigate in World War II with a Coast Guard crew.

If you have memories to share, call the museum at (919) 373-2043, or write Howard Hendricks, Greensboro Historical Museum, 13 Summitt Street, Greensboro, NC 27401.

This project is being undertaken to develop a USS GREENSBORO exhibit.

Final Rule

CGD 84-022, Bridge Lighting and Other Signals (May 2)

This rule revises the bridge lighting regulations by adding standards for retroreflectors, daymarks, fog signals, vertical clearance gauges, radar reflectors, racons, and other signals. Due to a history of accidents involving vessels hitting bridges, the old regulations, which refer only to bridge lighting, needed to be expanded to include means of signaling in daylight or fog and of informing vessel operators of the vertical clearance at bridges. These amendments are intended to promote safe navigation through bridges across the navigable waters of the United States. This rule is effective on June 2, 1986.

CGD 85-060, Inland Waterways Navigation Regulation; Connecting Waters from Lake Huron to Lake Erie (May 8)

This rule amends the existing Inland Waterways Navigation Regulations for the connecting waters between Lake Huron and Lake Erie. This amendment results from the Coast Guard's commitment to industry to review the reporting point requirements after a period of experience of two seasons of operation under the current rules. The amendment will maintain the existing level of safety while reducing the burden of compliance on marines and ship owners. The effective date is May 28, 1986.

CGD 84-067, Oil and Hazardous Discharge Reporting Requirementss (May 16)

This final rule amends the procedures for reporting discharges of oil and hazardous substances as required by Section 311 of the Federal Water Pollution Control Act, as amended (FWPCA), revises or deletes outdated language, and clarifies criteria for direct payment from the Pollution Fund. The intended effect of this rule is to assure consistency of this Part with the statutory provisions of the FWPCA, the regulatory requirements of the National Contingency Plan, and the statutory reporting requirements under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The effective date is June 16, 1986.

CGD 84-069b, Lifesaving Equipment; Thermal Protective Aids (May 29)

The Coast Guard is adopting specifications for approving thermal protective aids. A thermal protective aid is a bag or suit made of waterproof material with low thermal conductivity. It is required by the Second Set of Amendments to the International Convention for the Safety of Life at Sea (SOLAS 74/83) to be carried in a liferaft, lifeboat, or rescue boat to provide protection against hypothermia. These specifications are necessary so that the Coast Guard may approve thermal protective aids to be carried aboard U.S. vessels on an international voyage. The effect of the regulations will be to provide guidance to potential manufacturers of the devices so that they can design a product to fulfill the requirements of SOLAS 74/83, and to provide a vehicle for approval of the devices as required by SOLAS 74/83. The effective date is June 30, 1986.

CGD 85-015, Vessel Reporting Requirements (May 29)

The Coast Guard is amending the shipping regulations by adding requirements to give the Coast Guard prior notification of vessel inspections and to give immediate notification to the Coast Guard if there is reason to believe a vessel is in distress. These regulations apply to individuals in charge of a vessel, including vessel owners, charterers, operators, agents, and masters. These regulations implement the reporting requirements of the Maritime Safety Act of 1984. Their purpose is to enhance maritime safety by insuring vessels will be reinspected for certification and also by increasing the likelihood that timely assistance will be provided to vessels in distress. These rules become effective on May 29, 1986.

Termination Notice

CGD 85-001A, Individual Participation in Marine Safety Reporting Program (MSRP); Enforcement Policy (May 29)

On June 1, 1985, the Office of the Secretary, Department of Transportation, initiated a one-year, voluntary Marine Safety Reporting Program (MSRP). As part of this program, the Coast Guard agreed not to impose a civil penalty for certain offenses if a report was filed with MSRP. Title 33, Section 1.07 sets forth Coast Guard enforcement pol-

icy for participation in the MSRP. This notice announces the termination of the one-year test and removes references to the MSRP from 33 CFR 1.07. The effective date is June 15, 1986.

Notice of Proposed Rulemaking

CGD 78-038, Liquefied Natural Gas Waterfront Facilities (May 16)

The Coast Guard proposes safety standards for the design and construction, equipment, operations, maintenance, personnel training, firefighting, and security at liquefied natural gas waterfront facilities. These regulations implement the Ports and Waterways Safety Act of 1972, as amended, and are necessary to prevent or mitigate the results of an accidental release of liquefied natural gas at a liquefied natural gas waterfront facility. They would reduce the possibility that such an accident could occur, and would reduce the damage and injury to persons and property should an accident occur. Comments must be received on or before August 14, 1986.

CGD 86-020, Great Lakes Pilotage Rates (May 23)

The Coast Guard is proposing to amend the Great Lakes Pilotage Regulations. These amendments propose an increase in the basic pilotage rates of thirteen percent in District 1 and six percent in District 3. No change is proposed in District 2. These changes are proposed in order to increase the revenue received by the pilot organizations so that they may meet their operating costs. They also provide for comparability between the three Districts regarding the recognition of the types of expenses incurred in providing pilotage services.

CGD 85-002, Boating Safety; Certification and Safe Powering Standards (May 29)

This notice proposes amendments to the Certification regulations in Subpart B of Part 181 and the Safe Powering Standard in Subpart D of Part 183 of Title 33, Code of Federal Regulations. The intended effect of the proposal is to give those boats, which can clearly operate safely with more horsepower than they currently rate under the Coast Guard Safe Powering Standard, more reasonable maximum horsepower capacities. In order to allow greater flexibility in the manner in which the maximum horsepower capacity of these boats is determined, the proposal would establish an optional performance test method as an alternative to the existing calculation method. An additional editorial change to Subpart A of Part 181 would reflect changes in the applicability of the part. Comments must be received on or before July 29, 1986.

Advance Notice of Proposed Rulemaking

CGD 84-099 and 099A, Operation of a Vessel While Intoxicated (May 23)

These notices propose regulations designed to monitor, control, and reduce alcohol and drug use in both recreational vessel operation and commercial marine operations, including operations of the Outer Continental Shelf and at deepwater ports. Recent legislation provides civil and criminal penalties for an individual who is intoxicated while operating a vessel, as determined under standards prescribed by the Secretary. The proposals are based on the belief by the Coast Guard that alcohol and/or drugs are involved in a substantial number of recreational boating casualties and contribute to numerous commercial marine casualties. The proposals are intended to reduce recreational and commercial marine casualties caused by intoxication. Comments must be received on or before August 21, 1986.

Requests for copies of NPRMs should be directed to the Marine Safety Council. The address is Commandant (G-CMC), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593; telephone (202) 426-1477. The office, Room 2110, is open between the hours of 8:00 a.m. and 3:00 p.m. Monday through Friday. Comments are available for inspection or copying during those hours. ↕

From the Editor

Once again, we are looking for ways to conserve those all-important budget dollars. In our next issue of ***Proceedings,*** *we plan to include a tear-out postcard which readers may use to continue their subscriptions to this magazine. Please watch for the postcard — if we don't receive one from you, we won't be able to continue sending you the* ***Proceedings*** *each month. Full details will appear in our next issue.* ↕

Sharon Chapman