PROCEEDINGS
OF THE MARINE SAFETY COUNCIL

DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

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PROCEEDINGS

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CONTENTS

COVERS

Front: Coast Guard sentries on the waterfront in a West Coast port during the Second World War—the exact date and place unfortunately lost in the fog of wartime censorship. Since before the United States' entry into the First World War, the Coast Guard has been charged with ensuring the security of the nation's ports. The port security mission, over the years, has brought Coast Guardsmen into some very "interesting" situations, one of which is the subject of this month's "Heritage" piece.

Back: The icebreaker *Eastwind*, armed and camouflaged, off the coast of Greenland in 1945.

DIST. (SDL No. 103)
A: acde(2); fghklmntuv(1)
B: n(40); c(16); e(5); f(4); ghj(3); r(2); bkipq(1)
C: egmp(1)
D: i(5); adgklm(1)
E: mn(1)
F: kp(1)
Lists TCG–06, CG–13, CG–20

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

maritime sidelights

POLLUTION PENALTIES

A recent U.S. Court of Appeals decision has started the Coast Guard on a vigorous collection effort of outstanding pollution penalties totaling more than $1 million.

The Fifth Circuit Court of Appeals, on August 16, reversed the decision of the Eastern District Court of Louisiana in the LeBeouf Bros. Towing Co. case, which violators relied upon to suspend payment of penalties in over 1,000 pollution cases.

The Coast Guard, working with the Department of Justice and local U.S. Attorneys, will collect the outstanding penalties for use in the pollution contingency fund established under the Federal Water Pollution Control Act (FWPCA).

On June 3, 1972, a barge belonging to the LeBeouf Bros. Towing Co., Inc. was responsible for discharging 100 gallons of oil into Texas City Harbor, Texas. After voluntarily reporting the spill to the Coast Guard as required by law, LeBeouf Co. was assessed a $2,500 civil penalty for the spill under the Water Quality Improvement Act.

LeBeouf sought and won a favorable decision in 1974 from the Eastern District Court of Louisiana. This court concluded that the penalty against LeBeouf was criminal, rather than civil, despite the wording of the statute. Since the FWPCA specifically states that the mandatory report of information cannot be used as a basis for any criminal action, the court refused to enforce the penalty.

Since that year, this decision was relied upon by pollution violators to refuse payment of assessed penalties.

The Court of Appeals reversed this decision. In referring to the LeBeouf case, the court noted that corporations do not have a constitutional privilege from self-incrimination. The court found that the statutory immunity relied upon in this case had no application to corporations since Congress clearly intended the Water Quality Improvement Act to assess civil, rather than criminal, penalties. This Appeals Court decision is consistent with past decisions of at least four federal district courts which also upheld the civil nature of the penalty.

Corporations, therefore, must continue to inform the Coast Guard of their pollution violations. This information can be used to assess a civil penalty for violating the FWPCA. Failure to report discharges can result in criminal charges. The Act also contains a provision which authorizes the denial of clearances of a vessel whose owner or operator is subject to the civil penalty.

ON THE BUSINESS END

It is not unusual for a Coast Guard marine inspector to uncover potentially hazardous situations in the course of his duties, but seldom does he encounter a hazard in such a direct and personal way as in the following account.

During a routine inspection of the lifesaving equipment in a Whittaker Capsule aboard a drilling rig, an inspector from the Galveston Marine Inspection Office was checking the capsule's signal pistol. The pistol and shells were stowed in a watertight metal box on a shelf over the forward center seats, and secured by a strap.

The box was worked out of its tight stowage space and set on the deck and opened. Normally, the pistol is examined by first breaking it at the chamber, examining the barrel, and then checking the firing mechanism. In this instance, when the inspector removed it from the box, the pistol was found to be cocked. And further inspection revealed a cartridge in the chamber! How or when it had been put there—or why—could not be determined, but the inspector must have felt a bit weak in the knees to think how casually he had been handling a cocked and loaded pistol. If it had discharged, whether while stowed in the capsule, or while being removed or examined, the result could have been tragic.

Such a close call should serve to remind operating personnel, as well as Coast Guard inspectors, that a signal pistol must be treated with the same respect as any other firearm—stowed unloaded, but *always* handled with the assumption that it *is* loaded.

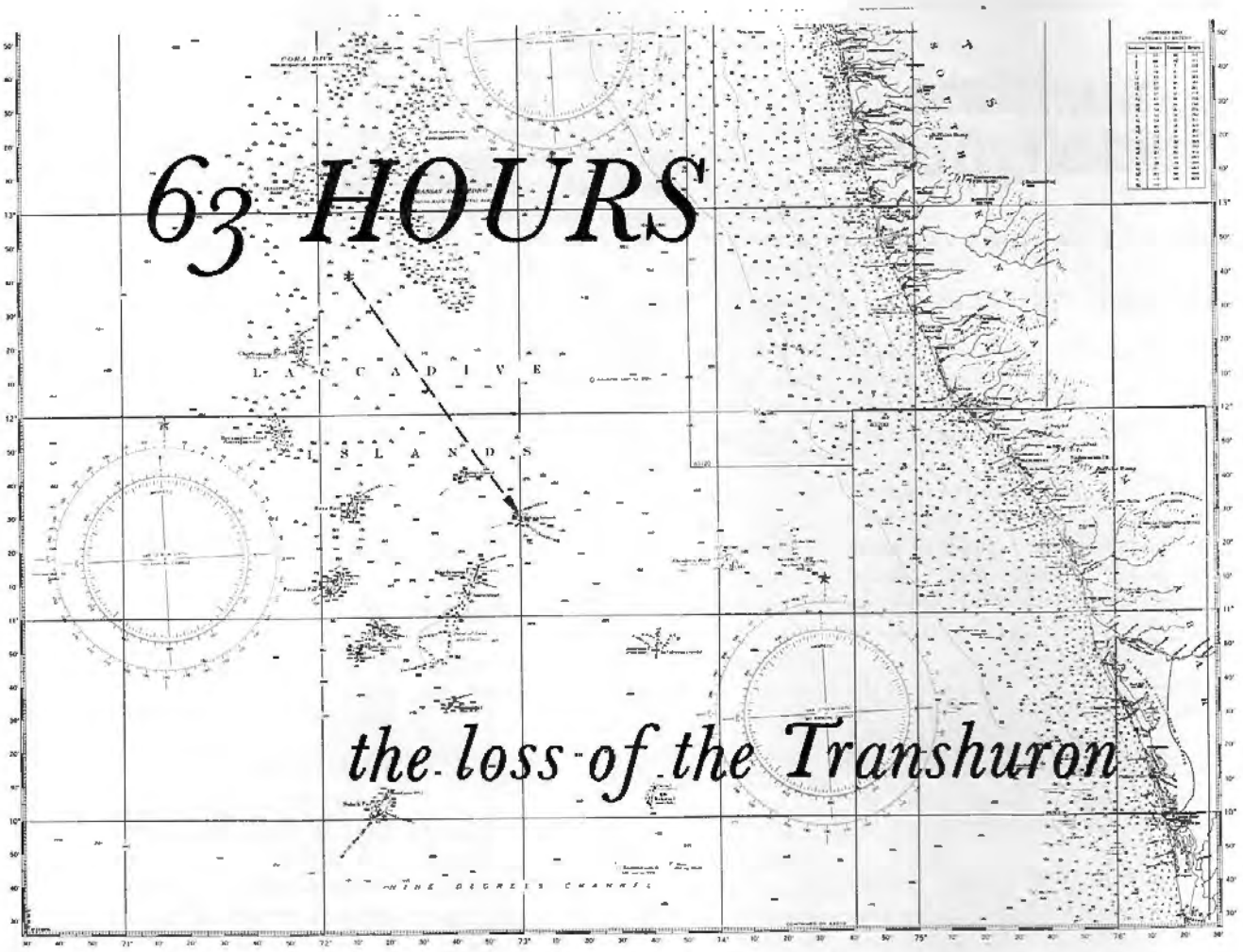
HIGH AND DRY

A rebuilt ocean-going ship is scheduled to be put into operation next month at College Station, Texas. That probably is not surprising, except that you may not have known that there is a port at College Station, Texas. That's the unusual part—there isn't. In fact the nearest port is 100 miles away, in the Galveston Bay area.

A large part of the ship has been reerected on dry land at a 60-acre training site just south of the main campus of Texas A & M University. The facility will be the site of a marine firefighting and emergency training course conducted by the Fire Protection Training Division of the Texas A & M University System.

The 1-week course will be offered 40 times each year, with enrollment limited to 30 persons per session. The first class is scheduled for Nov. 8–12, 1976. Two more sessions are scheduled in December, and 1977 classes will begin Jan. 10. Tuition has been set at $312 per student.

Nearly two-thirds of each class will be devoted to field exercises designed to give students an opportunity to get practical, hands-on experience. The course curriculum will cover all aspects of fire protection, including fire prevention, fire suppression, damage control, and rescue.



63 HOURS

the loss of the Transhuron

In the early morning hours of 24 September 1974, the SS *Transhuron* was underway in the Arabian Sea bound from Bahrein, in the Persian Gulf, to the Philippines. On charter to the Military Sealift Command, the T–2 tanker was loaded with 117,251 barrels of Navy Special fuel oil owned by the U.S. Government and consigned to Defense Department facilities at Subic Bay.

The main propulsion plant of the *Transhuron* was Westinghouse steam turbo-electric. The main switchboard was installed athwartships, with the auxiliary generator control components and the distribution panels on the starboard side, and the cubicle for the main propulsion control desk on the extreme port side. Next to the propulsion control desk, to the right, was the cargo pump control panel. At the usual full sea speed of 86 r.p.m. the voltage in the main propulsion circuit would be 2200, and the current approximately 1000 amperes a.c.

At about 0315 on 24 September 1974, the Third Assistant Engineer on watch smelled something burning as he returned to the main control flat after making an inspection round. As he was looking for the source he heard a series of sounds like explosions and then saw flashes and fire behind the main propulsion control desk. He started toward the controls, but the flashes and fire were coming from under the control levers and he was afraid of getting burned. Although he made no attempt to activate the general alarm, he did try to contact the Chief Engineer by telephone but got no answer. There was no phone in the First Assistant Engineer's room, so the Third Assistant ran up and knocked on his door. When informed of the situation, the First Assistant immediately dressed and went to the engineroom. He had to go via the steering engineroom and the fireroom because of heavy smoke in the upper engineroom. On his way back, the Third Assistant checked the Chief Engineer's room, but the Chief was not there.

At about 0315 on 24 September 1974, the Chief Engineer was

awakened by the ringing of the telephone in his room, but when he answered there was no response. He then smelled smoke, so he put on a pair of trousers and shoes and went to the engineroom. By that time there were flames and dense smoke at the main propulsion desk.

The main propulsion control desk has three levers. The starting lever controls the direction of rotation and the speed control lever operates the turbine-governor control, varying the amount of steam to the main generator turbine. An emergency speed-control lever is located to the right of the speed lever. Its purpose is to control the steam flow irrespective of the governor setting, and to limit it if operating conditions require. During heavy storm conditions it may be desirable to adjust this lever in order to prevent fluctuation of steam demand from the boilers.

Excitation for the fields of the main generator and main motor is provided by generator units on the auxiliary generator sets. An excitation selector switch on the control desk determines whether excitation is obtained from the port or starboard bus and exciter. This switch includes a small interlock lever adjacent to the switch handwheel which must be depressed, causing the field breaker to be tripped, before the handwheel can be moved.

The main propulsion control circuit may be de-energized by any of the following methods: operate the speed and starting control levers, depress the excitation selector switch interlock lever, or operate the emergency trip lever shutting off steam to the main generator turbine.

The Chief Engineer moved the speed-control lever to idling speed and tried to bring the starting lever to the "off" position, but found it would not move. No attempt was made to de-energize the propulsion control desk by any of the alternate means available. He then left the engineroom to activate the CO_2 firefighting system at the control station in the port passageway on the main deck level. This station controls a bank of seven 50-lb. cylinders of CO_2. A valved manifold directs CO_2 via branch lines to the "main switchboard" (main propulsion control desk), cargo pump cubicle, main generator, and main motor. A cable pull located to the right to the manifold will discharge one cylinder through any or all branch lines, depending on which directional valves are open. A cable pull located to the left of the manifold will discharge the remaining six bottles through whichever branch lines are open. Also, if the left cable pull is actuated first, all seven bottles will be discharged simultaneously. There was no indication that CO_2 was being discharged when the Chief Engineer attempted to activate the system. Coast Guard investigators could not determine if the system had been properly operated.

At about the time the Chief Engineer was operating the CO_2 controls, the First Assistant appeared on the scene and they both went to the engineroom and found the fire still in progress. The Chief Engineer then ordered the semiportable CO_2 unit placed in operation. This unit is located in the fireroom and consists of two 50-lb., CO_2 cylinders and a length of hose on a reel. There is a shutoff valve at the end of the hose with a horn-shaped nozzle attached to the valve. When the First Assistant and the oiler on watch attempted to operate the system, the hose burst in way of its connection to the shutoff valve at the horn and the horn separated from its threaded connection at the valve and blew off. When the hose burst, it began to whip and the first Assistant fell backwards and lost his grip on the valve. The hose whipped about until the CO_2 discharge ceased while the First Assistant stayed down for safety. Also, at this time the main propulsion control desk was still energized.

It was then decided to fight the fire with portable 15-lb. CO_2 extinguishers. Crewmembers who had arrived on scene were directed to pick up CO_2 extinguishers from other parts of the vessel and bring them to the engineroom. It was then decided that for the safety of personnel going behind the switchboard to fight the fire, the board should be completely de-energized by securing the auxiliary generator. This was done, and the emergency generator was started at 0345 to provide lighting through the emergency circuits. The First and Third Assistant Engineers then went behind the switchboard and extinguished the fire with portable extinguishers.

Immediately after the fire was extinguished, the Chief Engineer surveyed the damage and decided that the propulsion control unit was completely destroyed, and that there was no possibility of effecting emergency repairs to make the main propulsion unit operable. He reported this to the Master. At 0520, a radio message was sent to the vessel operators, Hudson Waterways Corp., as follows:

URGENT SHIPTRAMP
NEW YORK

URGENT FIRE HAS DESTROYED 2300 VAC CONTROL BUSS STOP SHIP NOT OPERABLE CHIEF ENGINEER NOTIFIES MASTER TO REQUEST TUG ASSISTANCE IMMEDIATELY STOP POSITION BY DR 12–41N 72–09E 232215Z COLOMBO 530 MILES PLEASE ADVISE IMMEDIATELY VIA RADIO COCHIN/VWN.

MASTER

The message was sent via the coastal radio station at Cochin, India.

After the fire, at about 0430, the First Assistant Engineer went to the lower engineroom to secure some valves and noticed a stream of water shooting straight up from the air conditioning plant, which was located on a flat below main switchboard. The water was coming from a threaded hole in the top of the cooling water header of the freon condenser and

was going up against the overhead, which is the deck of the main switchboard. He then noted that the pipe nipple and pressure gauge that had been connected to that opening in the header had apparently broken off. The assembly was lying on top of the header. He shut the appropriate valves in the cooling water system and the flow of water from the opening ceased.

Examination of the nipple indicated that it was a standard 3/8"x4" pipe nipple of ferrous material identified as black iron. A pressure gauge was screwed onto the threads at one end. The threaded part of the end opposite the gauge had wasted away completely, except for a portion of one thread, and the inside of the nipple was fouled with heavy corrosion. The header to which the gauge assembly had been attached was made of non-ferrous material, identified as cast bronze. The gauge connection was located directly under the propulsion control desk, and in line with an opening in the switchboard deck through which the main propulsion cables pass. The deck is approximately 6 feet above the gauge connection. The First Assistant replaced the wasted nipple with a brass nipple, and reinstalled the pressure gauge.

At 1050, the auxiliary plant and No. 2 auxiliary generator were placed in operation and all services, with the exception of main propulsion, were restored.

The Second Mate got a star fix during his 0400-to-0800 watch on 24 September which indicated the vessel's position as 12–36N, 72–10E. At 0732, this information was sent by radio message to Hudson Waterways. Deck and engineering watches were maintained as the vessel drifted in a southeasterly direction. The vessel's position was checked frequently by celestial navigation, and was verified from information provided by other vessels passing in the vicinity. Offers of assistance from passing vessels were declined.

At 0912 on 24 September, the following radio message with amplifying information concerning the propulsion casualty was sent to Hudson Waterways:

URGENT SHIPTRAMP
NEW YORK

REFER WESTINGHOUSE INSTRUCTION BOOK 8345 PART FIVE PAGES 502 503 AND 512 FIGURES PC–1 PC–2 CPC–1 AND CPC–2 STOP WESTINGHOUSE PROPULSION CONTROL DESK AND PUMP-MOTOR POWER SUPPLY CONTROL UNIT COMPLETELY DESTROYED STOP FIRE CAUSED BY PLUG BLOWING OUT OF THE AIR CONDITIONING CONDENSER DIRECTLY BELOW THE 2300 VAC CONTROL DESK.

MASTER

The following messages were also sent to Hudson Waterways, at the times indicated:

1252 24 SEPT
URGENT SHIPTRAMP
NEW YORK

NOON POSITION 240705Z 12–27N 72–21E SINCE LAST STARS MESSAGE HAVE DRIFTED 14 MILES 2.3 MPH COURSE 129 WEATHER NWLY 6 SWELL 7 FEET WILL KEEP YOU INFORMED URGENTLY REQUEST ADVICE

MASTER

1938 24 SEPT
URGENT SHIPTRAMP
NEW YORK

241400Z DR 12–18N 72–32E NO SUN NO STARS ESTIMATE DRIFTED 14 MILES SINCE NOON STOP WIND NW 7 SEA NW 8 FEET SWELL NW 10 FEET

MASTER

0905 25 SEPT
SHIPTRAMP
NEW YORK

URGENT 250300Z DR 12–02N 072–35E DRIFTING 146 TRUE TWO KTS WIND NW 6 SEA NW ROUGH SWELL NNW HEAVY 10 FEET FREQUENT RAIN SQUALLS WITH REDUCED VISIBILITY STOP APPROX 23 MILES NORTH CHETLAT ISLAND

MASTER

1012 25 SEPT
SHIPTRAMP
NEW YORK

URGENT CORRECTED 250410Z POSITION 12–06N 072–35E DRIFTING 146 TRUE 1.4 KTS WIND NW 6 SEA NW ROUGH SWELL NNW HEAVY 10 FEET FREQUENT RAIN SQUALLS WITH REDUCED VISIBILITY STOP APPROX 25 MILES NW CHETLAT ISLAND

MASTER

On 25 September the vessel's radio operator was advised by the operator at Cochin that India did not give special priority to messages classified "Urgent." They were relayed along with regular traffic. He omitted the word "urgent" from subsequent messages, but kept it in the text in the hope that it would serve to alert the people who handle incoming messages at Hudson Waterways.

At 1600, 25 September, the following message was received from Hudson Waterways:

MSG NR 1 NY CK 106 24 1155
MASTER TRANSHURON WGUN
COCHIN RADIO/VWN

KEEP ADVISED YOUR POSITION STOP CAN POSSIBLE EMERGENCY REPAIRS BE MADE STOP DID SALT/WATER AIR CONDITION CONDENSER CAUSE FIRE STOP DID CONTROL DESK CUBICLE SHORT AND BLOW OUT WHAT PARTS STOP DID CONTROL DESK CUBICLE PARTS AND WIRING BURN WITH FIRE AND FOR HOW LONG STOP WAS COTWO USED TO PUT OUT FIRE STOP REQUIRE DETAILS AS POSSIBLE ON DAMAGE TO PARTS WIRING AND BUSS BARS STOP ADVISE IF DAMAGED PARTS AND WIRING CAN BE REPAIRED OR PARTIALLY RENEWED OR IF COMPLETE REPLACEMENT CONTROL DESK CUBICLE PANELS IF REQUIRED STOP ANSWER IMMEDIATELY AND START MESSAGE WITH URGENT.

SHIPTRAMP

Following receipt of the above, the following messages were sent to Hudson Waterways on 25 September:

1645 25 SEPT
SHIPTRAMP
NEW YORK

BOMBAY FCC DISALLOWS MY SENDING URGENT MESSAGES STOP POSITION 251030Z 12–01N 72–41E REUR 25TH ANSWER FOLLOWS STOP FIFTH MESSAGE SINCE BREAKDOWN REQUIRE ASSISTANCE.

MASTER

1835 25 SEPT
SHIPTRAMP
NEW YORK

URGENT EMERGENCY REPAIRS IMPOSSIBLE STOP NIPPLE BLOWOUT ON

TOP OF AIR CONDITIONING CONDENSER CAUSED SALT WATER TO ENTER THRU BOTTOM OF PROPULSION CONTROL DESK STOP CONTROL DESK CUBICLE SHORTED AND BURNED FOR APPROXIMATELY ONE HOUR FIVE MINUTES BEFORE BEING EXTINGUISHED BY PORTABLE CARBON DIOXIDE FIRE EXTINGUISHERS STOP REFER ORIGINAL MESSAGE WESTINGHOUSE PROPULSION CONTROL DESK AND PUMP MOTOR POWER SUPPLY CONTROL UNIT COMPLETELY DESTROYED STOP ALL WIRE BUSS BARS CONTACTORS METERS RELAYS TRANSFORMERS HOLDING COILS ETC DESTROYED STOP STARBOARD BOILER AND OUTBOARD AUXILIARY GENERATOR FURNISHING LIGHT AND POWER STOP NO INJURIES

MASTER

At about 0000, 26 September 1974, communications were established with a passing Norwegian tanker, *Texaco Brittania,* which advised that their position was 11°47.5′N, 72°47.5′E, with Chetlat Island bearing 220°T at 7.7 miles. At daybreak Kiltan Island was sighted, cross-bearings were taken, and at 0620 the vessel's position was plotted as 11°42′N, 72°50′E, with Chetlat Island bearing 269° at 8 miles, and Kiltan Island bearing 144°T at 15 miles. The vessel was drifting 154°T at 1.5 knots. At 0811, the following message was sent:

0811 26 SEPT
SHIPTRAMP
NEW YORK

URGENT 260120Z POSITION 11–42N 072–50E DRIFTING 154 TRUE SPEED 1.5 KTS STOP CHETLAT ISLAND 269 TRUE 8 MILES OFF STOP KILTAN ISLAND 144 TRUE 15 MILES WIND NW6 SWELL 8 FEET REQUIRE IMMEDIATELY RESPONSE FROM YOU OR WILL TAKE PERSONAL ACTION.

MASTER

At 0730, 26 September, the vessel's position had been plotted at 11° 39′N, 72°54′E. Bearings on Kiltan Island during the 3 hours following indicated little change, and at approximately 1100, the Master ordered the Radio Officer to transmit an urgent "XXX" signal. The following message was transmitted at 1103:

XXX XXX XXX URGENT MESSAGE—TO ALL SHIPS

URGENT SS TRANSHURON/WGUN TANKER LOADED DIESEL OIL ADRIFT X ANY VESSEL WITHIN 50 MILES OF POSITION 260600Z 11–35N 72–57E ANSWER GIVING YOUR POSITION X BEARING 325 TRUE FROM KILTAN ISLAND APPROX SIX MILES DEAD SHIP REQUIRE TOW.

MASTER

The message was acknowledged immediately by about 15 vessels. Two of the vessels were about 110 miles distant, and the rest were at various distances from 500 to 600 miles. One of the nearer vessels, the SS *Antilla Bay,* advised that she was proceeding to *Transhuron's* position at 15 knots. The "urgent" message was also repeatedly broadcast by bridge personnel over the VHF radio, Channel 16, but there was no response. At 1145 the following message was sent:

URGENT SHIPTRAMP
NEW YORK

260600Z POSITION 11–35N 72–57E DRIFTING DOWN ON KILTAN ISLAND NOW APPROX SIX MILES OFF BEARING 335 STOP BEARING UNCHANGED SINCE LAST MESSAGE ANCHORING GROUND BY CHART UNKNOWN SAILING DIRECTIONS GIVE SHOAL REEFS ONLY STOP DECISION MADE TO CALL FOR SHIP ASSISTANCE

MASTER

Due to the vessel's continuous drifting toward Kiltan Island and its proximity to the island, the Master decided to send an "all ships" distress message. At 1245, the Radio Operator actuated the auto-alarm and then transmitted the following message:

DISTRESS MESSAGE—TO ALL SHIPS

SS TRANSHURON/WGUN LOADED TANKER CARGO DIESEL OIL ADRIFT REQUIRE TOW IMMEDIATELY POSITION 11–34N 72–57E 260700Z BEARING 325 APPROX FOUR MILES FROM KILTAN ISLAND ANY VESSEL WITHIN 50 MILES PLEASE ACKNOWLEDGE.

MASTER

Numerous ships and shore stations replied. The Radio Operator collected "ship position data" and submitted it to the Master, who selected the nearest vessel, the SS *Toshima Maru,* about 45 miles away. The *Toshima Maru* advised that she would arrive in *Transhuron's* position at 1600. The other vessels were dismissed. At about 1430, radio/voice contact was established on VHF, Channel 16, and at about 1500, *Toshima Maru* advised that they had a solid radar contact with *Transhuron.*

During the afternoon, the *Transhuron* crew unshipped the starboard anchor in preparation for using the anchor chain in a tow line rig. The anchor had been tied off with wire on the previous day. Also, the Lyle gun was broken out and set up on the hatch cover of the dry cargo hold forward.

At 1600, *Toshima Maru* arrived on scene. At that time the *Transhuron* was an estimated 2 miles from Kiltan Island, and drifting down on it portside-to. *Toshima Maru* maneuvered to approach *Transhuron* from the starboard quarter. At 1702, she came along *Transhuron's* starboard side, about 200 feet off, and a few minutes later fired a line. The shot fell short. *Toshima Maru* sheared off sharply to the right and increased speed. They advised by radio that the Third Officer had been injured when the gun fired, and they were going to the nearest port to get him to a hospital. The Master of the *Transhuron* told the Radio Operator to try to hold *Toshima Maru* by any means, as they were now very close to the island. At about 1728, a message was sent to *Toshima Maru* requesting a tow for just a mile, in order to clear the island. *Toshima Maru* repeated that they were going to take the injured man to a hospital. The Master of the *Transhuron* then sent another message requesting a tow for 1/2 mile from the island because the lives of 35 men were at stake; *Transhuron*

could then wait for help from another ship.

At about 1755, *Toshima Maru* replied to the effect that they would make one more attempt, and that only to pull *Transhuron* away from the island. They also advised that their line-throwing gun was now broken, so *Transhuron* should send them a line. *Transhuron* replied that they would immediately make ready to shoot a line from the stern. At that time the Master ordered the Chief Mate to shift the Lyle gun to the stern. *Toshima Maru* began another approach, coming up on *Transhuron*'s starboard quarter.

As the Chief and some crewmembers were in the process of moving the Lyle gun to the stern, they heard a "crunching" noise as the hull began scraping bottom. The Chief Mate reported this to the bridge and the Master ordered him to walk out the port anchor. A radio message was sent to *Toshima Maru,* requesting them to come closer and prepare to receive the line, and advising that *Transhuron* had started touching bottom at 1800. At 1805, a lead-line sounding indicated 6 fathoms in way of No. 9 port. An entry was made in the deck log indicating 5 shots of chain at the water's edge and the vessel aground at 1812.

Transhuron grounded on a heading of 210°T, in position 11°29.9′N, 72° 59.7′E, off the northwestern point of Kiltan Island, about 500 yards from shore. The depth of the water ¾ mile from shore along the course that *Transhuron* was drifting is approximately 170 fathoms. During the next 350 yards it shoals to 9 fathoms, and then is 4 and 5 fathoms for the next 500 yards to the position of the stranding. The Master, who had read the description of the steeply sloping reefs of the Laccadive Islands in H.O. 63, *Sailing Directions for West Coast of India,* elected not to lower the port anchor as the vessel neared the island, for fear of jeopardizing the possibility of being towed clear of the reefs by *Toshima Maru.*

The vessel was pounding and scraping on the bottom due to the swell, and within a few minutes a large amount of oil appeared on the water in the forward area of the vessel. In the engineroom, water was coming in forward through the top of the cofferdam between the engineroom double bottoms and the pumproom. The engineroom was also flooding in way of the after starboard double bottom tanks.

As the pounding of the vessel increased there was some concern that it might break up. The Master told the Chief Mate to muster the crew and let them decide if they wanted to be put aboard the *Toshima Maru,* or go to the island. Due to the fact that they would have to contend with heavy sea and swells to get to the *Toshima Maru,* the crew elected to go ashore. At 1930, two boats were away to Kiltan Island. The Master, Chief Engineer, Chief Mate, First Assistant Engineer, and Radio Operator remained aboard the vessel. The engineering plant was secured and the emergency generator was supplying power for the emergency circuits. The following message was sent at 2006, 26 September:

SHIPTRAMP
NEW YORK

DISTRESS SOS ABANDONED SHIP 261355Z MASTER CHIEF MATE RADIO OPERATOR CHIEF ENGINEER FIRST ENGINEER ABOARD ALL OTHER CREW MEMBERS OFF IN BOATS TO KILTAN ISLAND STOP PLEASE MAKE TRANSPORTATION ARRANGEMENTS STOP ENGINEROOM HOLED TAKING ON WATER BADLY MIDSHIP TANKS GIVE OFF MUCH OIL VESSEL POUNDING STOP ABOVE OFFICERS DISEMBARK IN MORNING 27TH.

MASTER

Both boats made it safely to shore where they were assisted by the inhabitants and quartered in a police complex until the 28th, when they were taken by an Indian navy vessel to Cochin. At Cochin, they were interviewed by an official of the India Government Mercantile Marine Department, who was conducting an inquiry ordered by the Indian government. They were then repatriated to the U.S.

The following messages were sent on 27 September, at the times indicated:

0740 27 SEPT
SHIPTRAMP
NEW YORK

URGENT FIVE OFFICERS STILL ABOARD STOP VESSEL LIES ON CORAL REEF OIL CONTINUES ESCAPING FROM VARIOUS TANKS MOST ANXIOUS TO RECEIVE YOUR PLANS ON REPATRIATING CREW ONLY POWER EMERGENCY GENERATOR TWO DAY SUPPLY THEN DEAD SHIP NO COMMUNICATIONS FROM THEN ON AND ISLAND LOOKS DESOLATE STOP YOU MUST

GENERAL

8A-2 The Laccadive Islands, meaning the hundred thousand isles, consist of a group of coral atolls and a few detached reefs and banks, lying about 200 miles off the Malabar coast.

These islands lie on extensive coral shoals with an area of 2 or 3 square miles each. No parts of these formations are more than 10 or 15 feet high. The outer edges, which generally enclose a regularly formed lagoon, are higher than the body of these shoals. In the lagoon it is calm, even in the worst weather. The tide runs out of the lagoon through breaks in the edges, which are large enough to admit light-craft in the natural harbor. The receding tide leaves the outer edge of the reef nearly dry.

The atolls stand on the verge of steep coral reefs, and, because of the great depths in their vicinity, sounding is no guide as to their proximity. Great caution should, therefore, be taken when approaching them in thick weather.

As these islets and islands are low, with coconut trees only 60 to 80 feet high, and not discernible from any great distance, they should be avoided. There are, however, some wide and safe channels between them.

Fresh water, reported wholesome but slightly brackish, may be obtained under the surface of these islands by breaking through a layer of coral from 12 to 18 inches deep and removing the sand.

The conditions in the islands especially favor the growth of coconuts, which are their staple product. Lime and bread fruit trees flourish and some vegetables are grown. Cattle, goats, foul, and cats are on all the inhabited islands. Turtle and fish are plentiful.

The Laccadive Islands are divided into a northern and southern group. The former, known as the Amindivi Islands, consist of Kiltan, Chetlat, Cardamum, and Amini Islands. The latter, known as the Cannanore Islands, consist of Androth, Pitti, Agatti, Kavaratti, Suheli Par, Kalpeni, and Minicoy Islands.

The Laccadive Islands are administered as a Union Territory by the Administrator whose headquarters are at Calicut.

— H.O. 63, Sailing Directions for West Coast of India

COMMUNICATE IMMEDIATELY VIA COCHIN RADIO/VWN.

MASTER

1556 27 SEPT
SHIPTRAMP
NEW YORK

ALL MEMBERS OF CREW UNDER SEMIARREST EXCEPT FIVE OFFICERS WHO REMAINED ABOARD PER MY WIRE 261455Z STOP THEY LEAVE ISLAND ON INDIAN NAVAL VESSEL AT 1800 LOCAL 27TH BOUND FOR COCHIN STOP BEYOND MY POWER TO PREVENT THIS AS LOCAL OFFICIALS OBEYING ORDERS FROM HIGHER AUTHORITY STOP SUGGEST YOU CONTACT DEPARTMENT OF STATE STOP NAVY TUG SCHEDULED ALONGSIDE TOMORROW AT DAYLIGHT

MASTER

At 1750 on 27 September, the following message was received from Hudson Waterways:

MASTER
TRANSHURON/WGUN

URGENT TUG CHALLENGER LEAVING BOMBAY EARLY FRIDAY MORNING AND WILL ARRIVE YOUR POSITION WITHIN FORTY-EIGHT HOURS REVERTING WITH TUGS CALLSIGNS ETC STOP SEND YOUR POSITION EVERY 12 HOURS STOP NO OTHER TUG AVAILABLE FROM SINGAPORE TO PERSIAN GULF STOP WE ARE DOING UTMOST EXPEDITE TUG ASSISTANCE

SHIPTRAMP

On the morning of 28 September an Indian naval vessel appeared on scene. *Transhuron* was boarded and permission was requested and granted for an underwater survey. Divers surveyed the bottom and at 1130 completed the survey and reported that the vessel was aground at the bow and at the stern, and that there was a continuous crack from Nos. 2 to 8 tanks alongside the keel. The naval commander in charge stated that there was no hope; the ship was a total loss. At about 1200, it was noted that the anchor chain had parted and was hanging loose. At 1315, the following message was sent:

SHIPTRAMP
NEW YORK

URGENT INDIAN NAVY SUBMARINE DIVERS INSPECT VESSEL FIND FROM NO. 2 FORWARD TO BOW VESSEL ON BOTTOM AND FROM NO. 8 TO STERN POST ON BOTTOM STOP FORWARD OF NO 8 TO NO 2 CONTINUOUS CRACK AND STEADY SEEPAGE STOP NAVY CAPTAIN SAYS QUOTE NO HOPE SHIP TOTAL LOSS UNQUOTE DO EVERYTHING POSSIBLE TO EVACUATE FIVE REMAINING OFFICERS ABOARD STOP TUG CHALLENGER ARRIVING 29TH 1000 LOCAL.

MASTER

The weather worsened during the latter part of the 28th, and at about 2130 the vessel started to move and continued so for about 7 hours. It shifted position about 200 yards to the east.

> 8A-1 KILTAN ISLAND (11°29'N., 73°00'E.) well covered with trees, is one of the northern group of the Laccadive Islands. It is steep-to on its eastern side but is fringed by a reef on its western and southern sides. This reef extends about 700 yards from its western side and 200 yards southward from its southern side. Shoal water extends about 1/4 mile southward and 300 yards westward from the reef.
>
> Close southward of the northwestern point of the island is a boat passage leading through the fringing reef to the landing place. About 1,400 yards farther southward is another passage through the reef, in which at times it is smoother than in the northern opening.
>
> A light is shown near the northwestern extremity of the island.
>
> A stranded wreck lies about 600 yards NW of the light structure.
>
> A light is also shown near the southern extremity of the island.
>
> Two patches of discolored water, about 900 yards apart and of a light greenish-brown color, were reported (1919) about 45 miles north-northeastward of Kiltan Island.
>
> — H.O. 63, Sailing Directions for West Coast of India

At about 0300 on 29 September, the Philippine tug *Challenger* appeared on the scene, and at 0800, the officers prepared to abandon ship. The swells were 12 to 15 feet high, running alongside the ship. The hydraulic start mechanism for the motor of No. 1 lifeboat had blown a seal ring in the hand pump during a routine engine starting test before the grounding, so the oar-propelled No. 3 lifeboat was used.

The Master, Chief Mate, Chief Engineer, and Radio Operator boarded the lifeboat, while the First Assistant Engineer remained aboard the vessel to operate the winch to lower the lifeboat. The Master and Chief Mate took positions in the forward end of the boat, and the Chief Engineer and Radio Operator were in the stern. As the boat was lowered, it was carried up and down by the swells.

The lifeboat was equipped with Rottmer releasing gear which releases the falls at both ends of the boat at the same time. The lever to operate this gear is located just forward of midships in the boat, and when operated it rotates shafting connected through universal joints to hook locks at the bow and stern. The hooks are fitted with preventer bars to prevent the falls from accidentally becoming detached when the boat is waterborne and there is no weight on the falls. However, if the preventer bars are rotated up 90°, the falls can be released if slack.

As the boat was moving up and down on the swells, the Radio Operator released the falls at the after end. The boat, attached at the forward end only, assumed a nearly vertical position with the action of the sea, and started to slam against the side of the vessel. The Chief Mate was unable to release the falls at the bow and as the boat dropped after a particularly large swell, the bow of the boat in way of the releasing gear fastening tore out, and the boat was free. The men unshipped the oars and rowed the boat clear of the ship, where they were taken in tow by a motorboat from the *Challenger,* and then were taken aboard the tug.

When the First Assistant Engineer observed the difficulty releasing the forward falls, he ran and got a fire axe and was in the process of cutting the falls when the bow of the boat tore out. As the lifeboat departed, he went to the upper bridge deck of the forward house, port side, and launched the inflatable liferaft by rolling its container over the side. When the container was in the water, he pulled the painter to trip the CO_2 cylinder. The raft inflated properly and then came free of the painter at its connection to the raft and sailed away under the influence of the wind and sea.

He then went up to the bow, where there was the least oil on the water, and awaited the return of the boat from the *Challenger*. The boat approached to within about 30 feet and the First Assistant jumped into the water and was taken aboard. The *Challenger* then took the group to Cochin. Enroute, the following message was transmitted to the tug owners in Manila, for relay to Hudson Waterways:

2 MT CHALLENGER/DVDB CK 61
29 SEPT 74 100LT
RUSH RUSH CAPT BELLA
LUSTEVECO MANILA

MASTER S/S TRANSHURON REQUEST PASS FOLLOWING MESSAGE TO SHIP-TRAMP NEW YORK X QUOTE MASTER AND FOUR OFFICERS ABANDON SHIP 0830 LOCAL STOP NO HOPE TOTAL LOSS CARGO TOTAL LOSS STOP 28 MEN STILL ON KILTAN ISLAND MUST BE EVACUATED STOP YOU MUST PHONE COCHIN AGENT AND MAKE ARRANGEMENTS TO EVACUATE THESE MEN STOP ABOARD MT CHALLENGER. UNQUOTE.

RE FINDOR

Upon receipt of information concerning the stranding, Hudson Waterways engaged the services of a salvage company to conduct a survey. A survey party boarded the vessel on 12 October 1974, and found little pollution and only a small amount of oil leaking from underwater on the starboard side. The island has a bank about 4 feet high on the side nearest the vessel, and there was an oil mark on it for about 3/4 mile. No evidence of oil was found elsewhere on the island or in the water. The weather decks and superstructure of the ship were covered with oil from the action of the sea. Oil was also in the internal spaces where portholes and doors had been left open.

The vessel was found hard aground at position 11°29.9′N, 73°00.1′E, on a heading of 300°T., and with a 1.5° list to starboard. Soundings indicated that cargo tanks 3, 4, 7, 8, and 9 Port, 4 through 9 Center, and 3 through 9 Starboard were leaking. The after pumproom, engineroom, engineroom double bottom tanks and the after peak tanks were also leaking.

The engineroom and shaft alley were flooded to within about 4 feet of the main control platform. No cracks were found in the ship's sides from the waterline to the main deck, and the vessel was not breaking up. Soundings taken around the vessel suggested that it was hard aground from the after part of No. 2 cargo tanks to the stern. Soundings of the cargo tanks indicated that of the 117,-251 barrels of cargo, approximately 89,723 barrels remained on board.

Concerned because the vessel posed a pollution threat, the government of India took the necessary action to have the cargo removed and stored in tanks ashore. On 6 December 1974, it was reported that the transfer had been completed, and the vessel abandoned.

Conclusions

The conclusions of the Coast Guard Marine Board of Investigation which was convened to examine the causes of the casualty were as follows:

1. The cause of this casualty was the loss of main propulsion power. Contributing to the stranding were:

(a) Delay by the Master to take independent action to obtain assistance from those vessels offering or capable of rendering help.

(b) Delay of communications between *Transhuron* and Hudson Waterways.

(c) Failure of *Toshima Maru's* line-throwing gear.

(d) Action of *Toshima Maru* after the gun failed.

[The Commandant did not concur with parts (c) and (d) of this conclusion, stating that "there is insufficient evidence to support the implication of contributory cause."]

2. The loss of main propulsion power was due to a fire in the main propulsion control desk, caused by the action of sea water directed on to high voltage components in the control circuitry. Contributing to the fire were:

(a) Failure of a pipe nipple in a gauge connection in the circulating water header of the freon condenser of the air conditioning unit.

(b) Wasting of the material of the pipe nipple due to the connection of dissimilar metals in a salt-water environment.

(c) Location of the air conditioning unit under the main switchboard and the proximity and alignment of the gauge connection to the opening in the deck of the main propulsion control desk.

(d) The opening in the deck of the main control desk.

3. Contributing to the extent of damage caused by the fire were:

(a) Failure of the engineer on watch to take immediate action to de-energize the propulsion control desk. The damage was further aggravated by the failure of the Chief Engineer to de-energize the control desk following his arrival on scene. No amount of CO_2 from all available sources would have been effective while the circuitry remained energized.

[Commandant's comment: ". . . It must also be noted that in addition to the engineering watch and the chief engineer, the first assistant engineer failed in his attempts to de-energize the main propulsion control panel upon his arrival. The prolonged delay in securing excitation to the main propulsion cubicle significantly contributed to the extent of damage."]

4. The fire was successfully extinguished after the main switchboard was completely de-energized.

5. Emergency repairs were beyond the independent capability of the ship's crew.

6. Difficulty encountered during launch of No. 3 lifeboat was caused by the failure of the crew to use proper procedures and operate the release lever for simultaneous release of the falls at both ends of the boat.

7. Cause of the loss of the liferaft is unknown. The most likely causes are:

(a) vandalism;

(b) painter not properly secured to raft.

8. Cause of the failure of the hose of the B–V semi-portable CO_2 extinguisher is unknown. There are no regulations which specify periodic testing

of hoses for semi-portable CO_2 fire extinguishers.

9. The installation of the air conditioning unit was not in compliance with existing regulations.

[Commandant's comment: ". . . not concurred with. Title 46 CFR 56.50–1(d) states that piping shall not be run over or in the vicinity of switchboards or other electrical equipment if avoidable. In this instance the piping run was installed on the flat below the switchboard and therefore was not 'in the vicinity' and not prohibited by regulations. The intent of this regulation was to minimize the possibility of water damage to electrical switchboards or equipment caused by drippage from small water leaks. This regulation was not meant to prevent damages from total failures of piping or fittings as was the case in this casualty."]

The Commandant further concluded that:

(a) There is evidence of negligence on the part of the Third Assistant Engineer, in that he failed to notify the bridge watch of the fire, failed to ring the general alarm bell, failed to take any action to secure the excitation to the field of the main generator and main motor and failed to take any action to fight the fire.

(b) There is evidence of negligence on the part of the First Assistant Engineer and Chief Engineer, in that they failed to secure the excitation to the field of the main generator and main motor in a sufficient amount of time to prevent the near total destruction of the main propulsion cubicle.

(c) There is evidence that the action on the part of the Master, in permitting his vessel to drift without propulsion for 63 hours into a vicinity of small islands, amounted to gross negligence and a complete disregard for the safety of his vessel and crew. No action was taken to insure the safety of the vessel and crew by requesting assistance from the numerous vessels offering support which were in the area, even though the Master had no positive assurance that the tug he requested from the operating company was enroute until after the grounding occurred. Assistance was sought by the Master only after there was insufficient time to allow for a safe and timely rescue. There is also evidence of negligence on the part of the Master in that he failed to adequately supervise the launching of the No. 3 lifeboat.

Recommendations

The Board of Investigation recommended:

1. That the Coast Guard take necessary action to immediately disseminate (prior to the formal release of the report) the basic facts concerning the cause of this casualty to the marine industry, including those involved in approval and inspection, to re-emphasize the hazard of piping in way of electrical equipment, and the need for shielding or other precautionary measures.

2. That the Masters of vessels emphasize knowledge of the operation of firefighting, lifesaving, and all other emergency equipment during drills.

3. That Coast Guard personnel, as part of the routine inspection procedure, insure that crewmembers indicate knowledge of the proper operation of installed firefighting systems.

4. That the Coast Guard give consideration to amending applicable regulations to require that hoses of semi-portable CO_2 fire extinguishers be tested at the time of each inspection for certification.

5. That the regulations in Title 46 CFR 111.30–1(c) be amended to include a requirement for the shielding of switchboard openings in the base and sides, in addition to the existing requirement for a drip-cover over the top.

6. That the Coast Guard conduct a survey of the establishments that service inflatable liferafts to determine if there is evidence of a significant problem due to vandalism involving the painters and if so, pass the information to the raft manufacturers for consideration relative to design modification.

7. That further investigation be conducted concerning the violation of regulations relative to the air conditioning unit installation, including the circumstances which permitted the installation.

Commandant's Action

1. The recommendation that this report be given immediate dissemination in the marine field prior to formal release of the report is concurred with. A synopsis of this report will be published in the PROCEEDINGS OF THE MARINE SAFETY COUNCIL.

2. The recommendation that the masters of vessels emphasize knowledge of the operation of firefighting, lifesaving, and all other emergency equipment during drills is concurred with. Regulations that require this conduct on the part of the master are contained in 46 CFR 35.10, 46 CFR 78.17–50, and 46 CFR 97.15–35.

3. The recommendation that Coast Guard personnel, as a part of the routine inspection procedure, insure that crewmembers indicate knowledge of the proper operation of installed firefighting systems is concurred with. An integral part of vessel inspection is the witnessing of fire drills conducted by the crew and test of firefighting equipment. Additionally, exams for licensing and certification are being expanded to include additional questions on firefighting and emergency equipment.

4. The recommendation that the Coast Guard give consideration to amending applicable regulations to require that hoses of semi-portable CO_2 fire extinguishers be tested at the time of each inspection for certification has been considered. Regulation changes will be proposed which will require hoses on semi-portable CO_2 systems to be periodically tested or replaced. Also steps have been taken to alert field units to the possible dangers of hose failures on these systems.

5. The recommendation that the regulations in 46 CFR 111.30–1(c) be amended to include a requirement for the shielding of switchboard openings

(Continued on page 179.)

Heritage

At 2:00 a.m. on July 31, 1916, a violent explosion ripped through the shipping terminal at Black Tom's Island, New Jersey, a major storage point for war-bound explosives located across the Hudson River from New York City. Though no official cause of the explosion was established, sabotage was widely suspected.

This incident prompted Congress to pass the Espionage Act of 1917 which delegated to the Coast Guard the job of protecting the ports and waterfronts of the United States. Although the end of World War I also ended the Espionage Act the Coast Guard continued its program of port security and it was to play an important role in the next war.

The presence of mind of a young Coast Guardsman in a difficult situation was the means of apprehending one of the few groups of enemy agents to be landed on the shore of the United States during the Second World War.

On the night of June 13, 1942, John C. Cullen, seaman second class, left the Amagansett Coast Guard station on the lonely eastern end of Long Island, for the 6-mile patrol to the eastward. The weather was thick, visibility poor. He had gone only about 300 yards when he saw three men, one of them in civilian clothes and the other two in bathing suits. The man who was dressed was on the shore, the other two were in the water up to their knees.

Cullen called out demanding that the strange party identify themselves. The man on shore started toward the Coast Guardsman. Disregarding a second challenge, he continued to advance until Cullen reached into his hip pocket for a flashlight. The foremost man saw the motion and apparently thinking the Coast Guardsman was reaching for a gun, cried out, "Wait a minute. Are you of the Coast Guard?"

The saboteurs then identified themselves as fishermen from Southampton who had run aground. They refused Cullen's offer to take them to the station to wait for daybreak.

One more man in a bathing suit came up through the fog dragging a bag, which he said contained clams. Cullen knew there were no clams in the area for miles around, but pretended to accept the statement. His gullibility appeared to influence the Nazis. A friendly voice replied: "Why don't you forget the whole thing. Here is some money—one hundred dollars." Cullen refused and was promptly offered three hundred dollars, which he accepted. The stranger gave him the money, demanding that Cullen look him straight in the eyes.

As Cullen explained to his superiors later, he said he was afraid he might be hypnotized. The stranger insisted, so Cullen braced himself and looked at him. The stranger kept repeating, "Would you recognize me if you saw me again?" When Cullen finally said "No," the man appeared satisfied.

Cullen started away and as soon as he was enveloped in the fog he raced to the Coast Guard station and told Carl Ross Jenette, who was officer in charge, what had happened. Jenette telephoned the alarm to his superiors, reaching Warrant Officer Oden and Warren Barnes, C.B.M., at the latter's home nearby.

Meanwhile Jenette had gathered three other men and armed them all with .30 calibre rifles. They hurried to the spot on the beach but they could find no trace of the landing. Jenette posted Cullen and two other men on guard, and, with the fourth, started to explore the dunes.

Within 15 minutes after he had received the alarm, Barnes was on the scene. As he arrived at the spot he saw, through a rift in the fog, a long, thin object about 70 feet long and about 150 feet offshore. Cullen is reported to have heard the noise of Diesel engines just offshore. Barnes, fearing a landing, distributed his men behind sand dunes with orders to resist as best they might, but fog swallowed up the ship and the noise died away.

At this point, a seaman summoned Cullen back to the station, where he gave a more detailed report to Oden who was in charge of the Amagansett station. As soon as he could, Cullen started back to the landing spot. On the way, he encountered Jenette's searching party. They saw a light on a distant dune, but when they got there they could find nothing in the dark.

Cullen and Barnes returned to the station where Cullen insisted on getting the bribe money out of his hands. Barnes made out a receipt for the money, and it was at that time they discovered that it consisted of two $50 bills, five $20 bills and six $10 bills—$260.

They returned to the search of the dunes and again heard the chugging of engines. The vessel seemed to be heading in an easterly direction.

Throughout the night the Coast Guard men searched. The first alarm had been relayed to Army and Navy stations and before dawn soldiers joined the search.

At dawn Cullen and Barnes found some cigarettes of German manufacture half buried in the sand. About the same time Seaman Brooks discovered a furrow in the sand caused by a dragging object. The searchers followed the furrow to a spot in the sand that seemed wetter than others, as freshly disturbed sand looks. If they had arrived a few minutes later, the wetness of the spot would have evaporated in the morning sun and might never have been found. Some distance off, possibly arranged as a marker, a searcher discovered a pair of wet bathing trunks.

Coast Guardsmen poked a stick into the wet spot and felt something hard. They dug and in a few minutes came upon four cases, two heavy and two light. The cases were of wood and bound with marlin that made a handle. They ripped off some of the wood of one case and found an inner case of tin.

Barnes, meanwhile, had found another wet spot and had dug up some German clothing which included two German dungaree outfits, a reversible civilian overcoat, overshoes and an oversea cap with a swastika.

At the station a seaman opened one of the tins with a can opener and found a large number of what appeared to be pen and pencil sets. A larger box was filled with loose powder and glass tubes—all of which was doubtless material for incendiary bombs.

With the saboteurs in hiding at some unknown point ashore, the investigation came under the jurisdiction of the FBI. The FBI eventually captured the four suspects and they were tried. The testimony of Cullen led to the conviction of the four, who were later executed.

The task of insuring the security of our ports is still carried out by the Coast Guard but hopefully there will not again arise a situation such as the one faced by John Cullen that foggy night in 1942. ⚓

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63 HOURS

(*Continued from page 177.*)

at the base and sides, in addition to the existing requirements for a drip-cover over the top, is concurred with. A regulation change will be proposed to require the shielding of switchboards from the top, bottom, and sides to provide protection from accidental spillage or piping failures.

6. The recommendation that the Coast Guard conduct a survey of the establishments that service inflatable liferafts is concurred with. Information concerning sea painter deterioration and bridle-to-painter connections as well as vandalism will be solicited. This information will be evaluated, and if changes are needed appropriate action will be taken.

7. The recommendation that further investigation be conducted concerning the violation of regulations relative to the air conditioning unit's installation, including circumstances which permitted the installation, is not concurred with. There is no evidence to support the conclusion that the original installation of the air conditioning unit was in violation of regulations.

8. The following additional action will be taken:

(a) A separate investigation under Suspension and Revocation Proceedings will be initiated with regard to the actions of the Master, the Chief Engineer, the First Assistant Engineer, and the Third Assistant Engineer during the events which led to this casualty.

(b) A copy of this report will be sent to the Federal Communications Commission for their consideration regarding the delays relative to the handling of urgent message traffic.

The preceding was adapted from the Coast Guard Marine Board of Investigation report and the Commandant's action on that report. At the time of this writing, the National Transportation Safety Board had not completed its action on the casualty, and therefore the full text of the report is not yet available. A summary of the NTSB action, as well as procedures for ordering copies of the full report, will be published in a future issue of the PROCEEDINGS. ⚓

Nautical Queries

The following items are examples of questions which will be included in the new First and Chief Engineer and Chief Mate and Master multiple choice examinations.

Engineers

1. A reverse action proportional controller in a pneumatic control system will

A. open on air failure
B. go to mid-stroke if air pressure fails
C. close on air failure
D. lock in position if air pressure fails

2. The mode of control employed by an alarm circuit is a

A. single speed floating control
B. proportional speed floating control
C. two position control
D. reset control

3. Which objects shown in blueprints always have center lines?

A. Triangular shapes
B. Flat objects
C. Round objects
D. Irregular shapes

4. The most important property of a lubricant subject to hydrodynamic action in a journal bearing is the lubricant

A. demulsibility
B. fluid velocity
C. viscosity
D. fluid flow

5. The work capacity of a governor denotes the governor's power which directly affects the

A. speed droop
B. uncorrected speed regulation
C. governor promptness
D. engine speed deviation

Deck

1. While steaming at a speed of 14.75 knots, your vessel consumes 311 barrels of fuel per day. What will be the daily consumption if speed is increased to 15.3 knots?

A. 332.6 bbls
B. 334.6 bbls
C. 347.1 bbls
D. 557.3 bbls

2. Your vessel is floating in water of density 1010. The fresh water allowance is 8 inches. How far below her marks may she be loaded so as to float at her mark in salt water of density 1025?

A. 3.2 inches
B. 4.8 inches
C. 6.4 inches
D. 8.0 inches

3. The Inland Rules differ from the International Rules in regards to fog signals for vessels

A. underway
B. aground
C. being towed
D. all of the above

4. On a vessel of 12,000 tons displacement, a tank 60 feet long, 50 feet wide and 20 feet deep is half filled with fresh water (SG 1.000) while the vessel is floating in salt water (SG 1.026). What is the reduction in metacentric height due to free surface?

A. 0.97 foot
B. 1.01 feet
C. 1.35 feet
D. 1.44 feet

5. The center of volume of the immersed portion of the hull is called the:

A. center of buoyancy
B. center of flotation
C. center of gravity
D. tipping center

Answers

Engineers

1. C 2. C 3. C 4. C 5. C

Deck

1. C 2. B 3. D 4. D 5. A

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard.* Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Saturday, Sunday, and holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

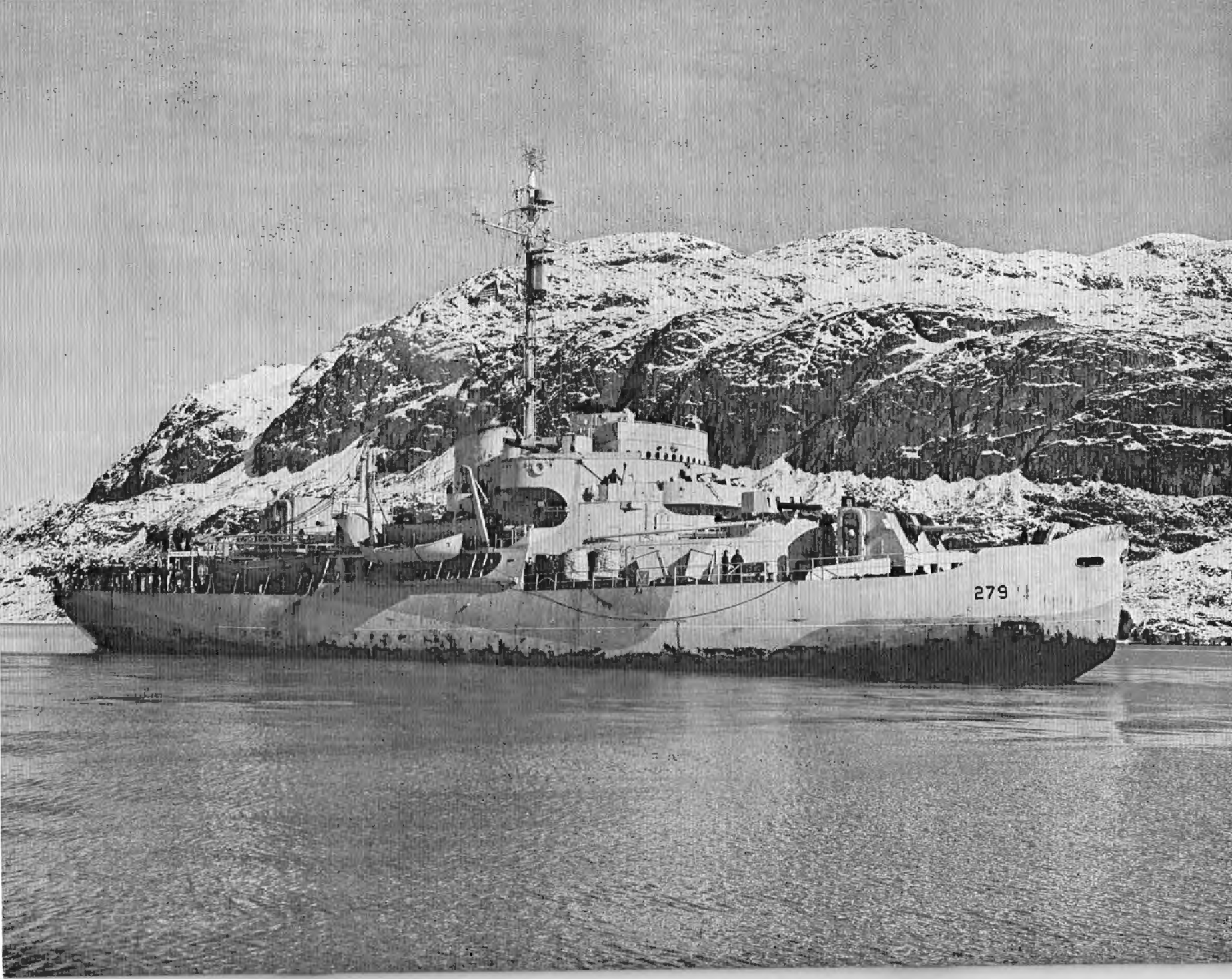
The Federal Register will be furnished by mail to subscribers, free of postage, for $5.00 per month or $50 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

CG No.	TITLE OF PUBLICATION
101	Specimen Examinations for Merchant Marine Deck Officers (Chief Mate and Master) (1–1–74).
101–1	Specimen Examinations for Merchant Marine Deck Officers (2d and 3d Mate) (5–1–75).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (4–1–72). F.R. 7–21–72, 12–1–72, 11–14–74, 6–18–75.
*115	Marine Engineering Regulations (6–1–73). F.R. 6–29–73, 3–8–74, 5–30–74, 6–25–74, 8–26–74, 6–30–75.
123	Rules and Regulations for Tank Vessels (1–1–73). F.R. 8–24–73, 10–3–73, 10–24–73, 2–28–74, 3–18–74, 5–30–74, 6–25–74, 1–15–75, 2–10–75, 4–16–75, 4–22–75, 5–20–75, 6–11–75, 8–20–75, 9–2–75, 10–14–75, 12–17–75, 1–21–76, 1–26–76, 2–2–76, 4–29–76.
169	Rules of the Road—International—Inland (8–1–72). F.R. 9–12–72, 3–29–74, 6–3–74, 11–27–74, 4–28–75, 10–22–75, 2–5–76, 3–1–76, 6–10–76.
*172	Rules of the Road—Great Lakes (7–1–72). F.R. 10–6–72, 11–4–72, 1–16–73, 1–29–73, 5–8–73, 3–29–74, 6–3–74, 11–27–74, 4–16–75, 4–28–75, 10–22–75, 2–5–76.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (6–1–75).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3–1–73).
176	Load Line Regulations (2–1–71). F.R. 10–1–71, 5–10–73, 7–10–74, 10–14–75, 12–8–75, 1–8–76.
182	Specimen Examinations for Merchant Marine Engineer Licenses (Chief Engineer and First Assistant (1–1–74).
182–1	Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (4–1–75).
184	Rules of the Road—Western Rivers (8–1–72). F.R. 9–12–72, 12–28–72, 3–8–74, 3–29–74, 6–3–74, 11–27–74, 4–16–75, 4–28–75, 10–22–75, 2–5–76, 3–1–76, 6–10–76.
190	Equipment Lists (5–1–75). F.R. 5–7–75, 6–2–75, 6–25–75, 7–22–75, 7–24–75, 8–1–75, 8–20–75, 9–23–75, 10–8–75, 11–21–75, 12–11–75, 12–15–75, 2–5–76, 2–23–76, 3–18–76, 4–5–76, 5–6–76, 6–10–76, 6–21–76, 6–24–76.
*191	Rules and Regulations for Licensing and Certification of Merchant Marine Personnel (6–1–72). F.R. 12–21–72, 3–2–73, 3–5–73, 5–8–73, 5–11–73, 5–24–73, 8–24–73, 10–24–73, 5–22–74, 9–26–74, 3–27–75, 6–2–75, 7–24–75, 8–13–75, 12–11–75, 7–26–76.
*200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5–1–67). F.R. 3–30–68, 4–30–70, 10–20–70, 7–18–72, 4–24–73, 11–26–73, 12–17–73, 9–17–74, 3–27–75, 7–28–75, 8–20–75, 12–11–75, 5–6–76.
227	Laws Governing Marine Inspection (7–1–75).
239	Security of Vessels and Waterfront Facilities (5–1–74). F.R. 5–15–74, 5–24–74, 8–15–74, 9–5–74, 9–9–74, 12–3–74, 1–6–75, 1–29–75, 4–22–75, 7–2–75, 7–7–75, 7–24–75, 10–1–75, 10–8–75, 6–3–76.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (4–1–73). F.R. 12–22–72, 6–28–73, 6–29–73, 8–1–73, 10–24–73, 12–5–73, 3–18–74, 5–30–74, 6–24–74, 1–15–75, 2–10–75, 8–20–75, 12–17–75, 4–29–76, 6–10–76, 8–5–76.
258	Rules and Regulations for Uninspected Vessels (5–1–70). F.R. 1–8–73, 3–2–73, 3–28–73, 1–25–74, 3–7–74.
*259	Electrical Engineering Regulations (6–1–71). F.R. 3–8–72, 3–9–72, 8–16–72, 8–24–73, 11–29–73, 4–22–75.
268	Rules and Regulations for Manning of Vessels (12–1–73).
293	Miscellaneous Electrical Equipment List (7–2–73).
*320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7–1–72). F.R. 7–8–72.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9–1–73). F.R. 1–25–74, 3–18–74, 9–20–74, 2–10–75, 12–17–75.
329	Fire Fighting Manual for Tank Vessels (1–1–74).
439	Bridge-to-Bridge Radiotelephone Communications (12–1–72). F.R. 12–28–72, 3–8–74, 5–5–75.
467	Specimen Examinations for Uninspected Towing Vessel Operators (10–1–74).

CHANGES PUBLISHED DURING AUGUST 1976

CG–257, Federal Register of August 5.

*Due to budget constraints or major revision projects, publications marked with an asterisk are out of print. Most of these pamphlets reprint portions of Titles 33 and 46, Code of Federal Regulations, which are available from the Superintendent of Documents. Consult your local Marine Inspection Office for information on availability and prices.


279