U.S. Department of Homeland Security

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MEMORANDUM

From: P. Troedsson, CAPT
CG GP Astoria

Reply to Attn of: LTJG Groncki (503) 861-6331

To: COMDT (CG-711)
Thru: CG ATC

Subj: RESPONSE BOAT MEDIUM HELICOPTER OPERATIONAL TEST AND EVALUATION

1. The Response Boat Medium Helicopter Operational Test and Evaluation was conducted at Cape Disappointment, Washington on October 14th and 17th. Representatives from Station Cape Disappointment and Air Station Astoria were present to test and evaluate the operational hoisting performance of the Response Boat Medium. A variety of hoisting scenarios were conducted from an MH-60J helicopter to include dead in the water hoists and underway hoists at various altitude and speed combinations. The MH-60J crews completed a total of 13 hoists. Specific results are attached as enclosure (2). Digital photos were taken to provide an aerial perspective and develop a power point format in enclosure (3) to highlight items of concern.

2. Thank you for the opportunity to provide input during the Operational Test and Evaluation process. We sincerely hope our efforts result in effective risk mitigation for helo and boat crews. Enclosure (3) is specifically designed to facilitate standardized training at small boat stations and air stations alike. Should you have any questions, my point of contact is LTJG Mike Groncki at (503) 861-6331.

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Enclosures: (1) Response Boat Medium Helicopter Operational Test and Evaluation Report
(2) Response Boat Medium 45602 Evaluation Form
(3) Digital photos in power point format highlighting areas of concern

Copy: COMDT (CG-731, CG-1131)
CGGD13 (dr)
Station Cape Disappointment

HELICOPTER OPERATIONAL TESTING AND EVALUATION REPORT

1. Safety. On 14 and 17 October 2008 helicopter and Response Boat Medium crews met at Station Cape Disappointment to discuss the test agenda for 45602, identify snag hazards, and determine testing termination criteria. Weather conditions during testing were winds at 10 KTS and 1-2 FT swell. Detailed hoist briefings were conducted prior to all hoisting evolutions. Dry runs were conducted at different altitudes and speeds. All hoists were safely completed with adequate clearance from the vessel's mast. A detailed description of potential snag hazards and areas of concern are contained in the attached presentation. The tow bit proved to be the most obvious snag hazard, although it is also the easiest to avoid. Along the underside of the top rail numerous tie down rings presented multiple snag opportunities. The concentration of engine fittings and the dewatering can on the port side of the lazarette was determined to be the most dangerous snag hazard. Additional areas of concern were the lifering mounts on both sides of the deck railing; the tow line reel on the starboard side of the lazarette; light shields and equipment spars on the mast.

2. Recommendations. The following recommendations should be considered to reduce the mishap potential when conducting hoisting operations. Both crews felt that bow hoists would be unsafe due to the limited deck space. The bow is also limited by the weapon mount located in the center of the deck. Hoisting to the swim platform of the vessel is unacceptable due to inaccessibility and snag hazards of the D rings and rails.

a. The most stable underway hoists were attained at speeds above 10 KTS and at altitudes between 30 and 40 FT. Delivery to the port side of the deck offers the most desirable target area. Delivery to the starboard side of the deck is acceptable but undesirable during basket hoists due to the direction of travel of the basket in relation to the towing bit. If the basket is delivered to the starboard side, the open bail of the basket could be dangerously exposed to the towing bit in the event the helo moves back and to the left, a maneuver commonly executed during aborted hoists. At speeds less than 6 KTS, the RB-M experienced heading swings up to 15 degrees. Hoisting at altitudes greater than 60 FT may result in the pilot losing sight of the vessel. Hoists below 30 FT run the risk of the aircraft making contact with the mast. The RB-M crew working on deck reported experiencing very little effect of the rotor wash as compared to the 47' MLB.

b. The traditional dead in the water techniques, "dot the I" and "cross the T", proved to be effective with the ideal hoisting altitude between 30 and 40ft. The RB-M can be maneuvered with the rotor wash by pushing the bow or the stern in the desired direction. Reaction of the RB-M while steering the vessel with the helo's rotor wash was predictable and stable.

c. Care must be taken during bare hook deliveries to not allow the hook to the strike the deck and roll into position where it could become entangled in the pump, engine room fittings and/or the tow line reel. For this reason, we recommend discharging static electricity with the static wand or delivering the hook with trail line as a risk mitigation strategy.

3. Training/Operational concerns. The RB-M 45602 proved to be a stable platform to hoist to; however crewmembers need to be aware that at slow speeds the vessel will experience heading deviations of up to 15 degrees or more. During one DIW evolution, the coxswain demonstrated that he could counteract the rotor wash by controlling the vessel in the docking mode. Small boat crews should understand that counteracting natural vessel movement will diminish the realism of a hoist to an actual DIW vessel in return lessening the training value for the helo crew.

Enclosure: (1)

OPERATIONAL TEST AND EVALUATION SHEET

TEST VESSEL NAME: 45602

1. Obstacles: note mast height/antenna locations:
Mast is approximately 22 FT above the water line and is the tallest obstacle.

2. Stern hazards: note well-deck area dimensions/tow bridle location.
Deck area is large; approximately 8 FT x 8 FT. Top of hatch without non skid becomes extremely slick when wet. Tow bit located on top of the lazarette on the aft portion of the stern. Dewatering can located on the port side of the lazarette. Tow line reel locate on the starboard side of the lazarette. Tie downs and cleats located on both sides of the vessel as well as the railing on the stern. Life rings located on both sides of the vessel.

3. Does vessel have sufficient area/safety equipment to conduct bow hoists?
Not recommended due to limited deck space, snag hazards and weapon mount.

4. How does rotor wash affect vessel/spin rate during DIW hoist evolutions?
Moving the concentration of the rotor wash off to either side of the vessel caused the bow or stern to rapidly swing in the opposite direction. The vessel increased forward speed to 3 KTS when the rotor wash was kept at the stern.

5. Location of mast; is it oriented towards the stern?
Mast is located near the center of the vessel. No interference noted during hoisting operations.

6. What hoisting altitude do you lose visual reference/ go lost target?
Aircrew lost visual reference with the vessel when the aircraft was between 50 and 60 FT.
Optimal hoisting altitude is between 30 and 40 FT.

7. Vessel stability during rough water ops?
Weather conditions during testing were: winds; 10 KTS: seas; 1-2 FT swell (insufficient time to conduct rough weather testing).

8. How are communications during hoisting?
When helo is overhead, communication between boat crew was difficult.

9. Noted potential snag hazards during hoisting operations.
Tow bit located on top of the lazarette on the aft portion of the stern. Dewatering can located on the port side of the lazarette. Tow line reel locate on the starboard side of the lazarette. Tie downs and cleats located on both sides of the vessel as well as the railing on the stern. Life rings located on both sides of the vessel. Light shields and equipment spars located on the mast.

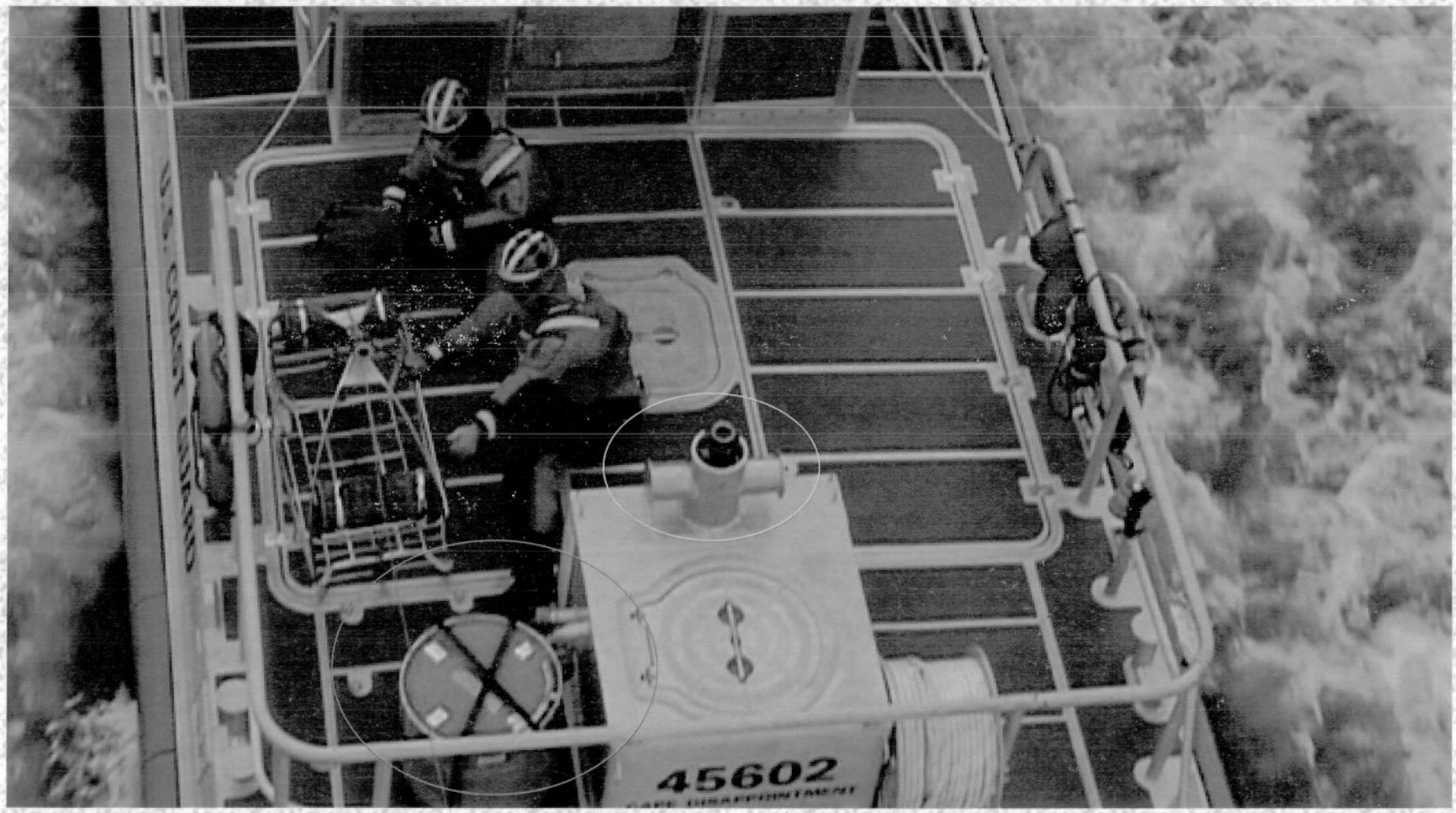
Recommendations: Hoisting at altitudes between 30 and 40ft were most effective. Underway hoists at speeds of 15 KTS provided the best stability. Heading swings up to 15 degrees were experienced below 5 KTS. DIW hoisting techniques know as "dot the I" and "inverted J" proved to be effective.

Response Boat Medium 45602

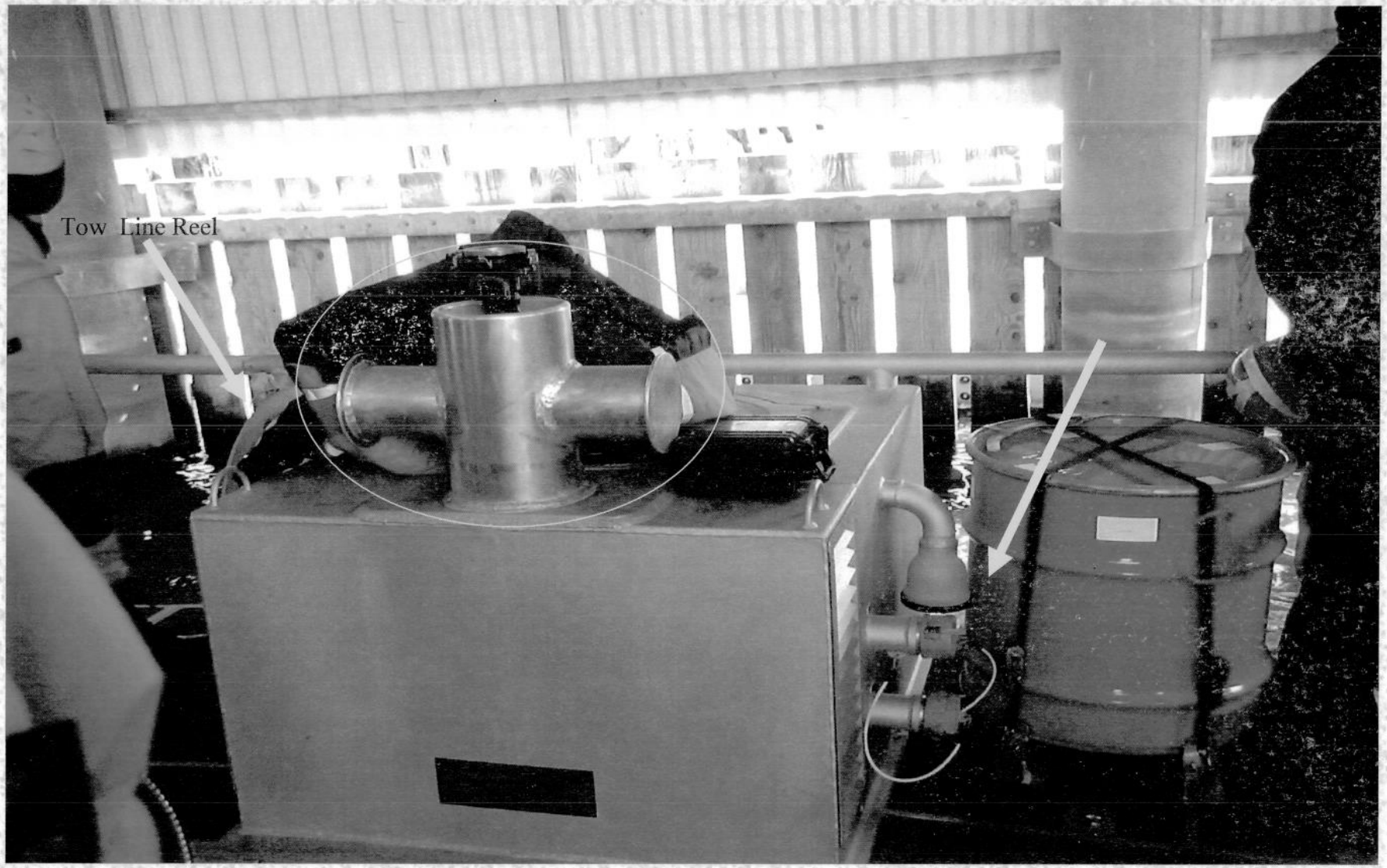
Helicopter Interface Evaluation

ENCLOSURE (3)

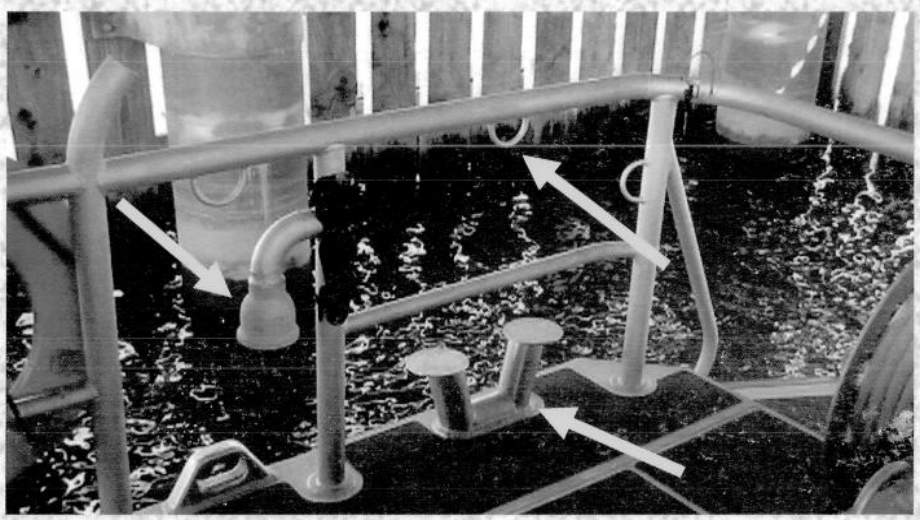
RB Medium 45602

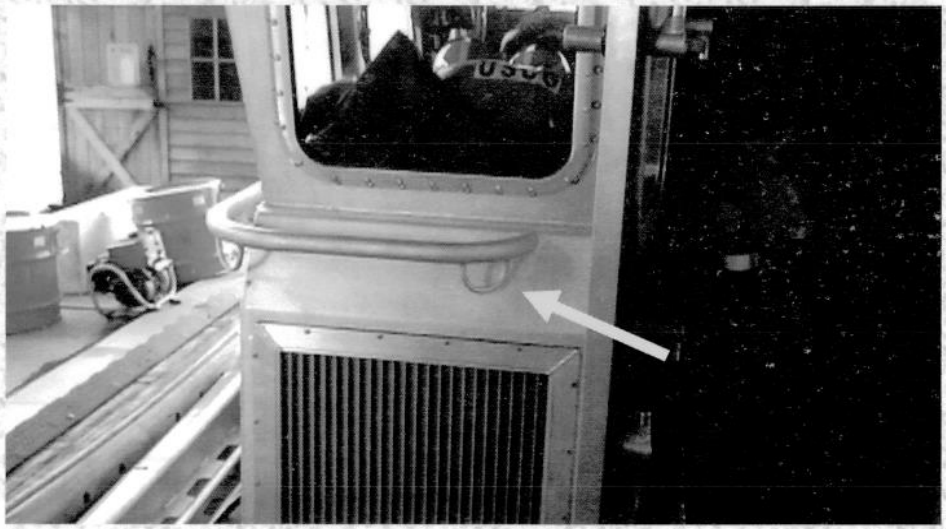


RB Medium 45602

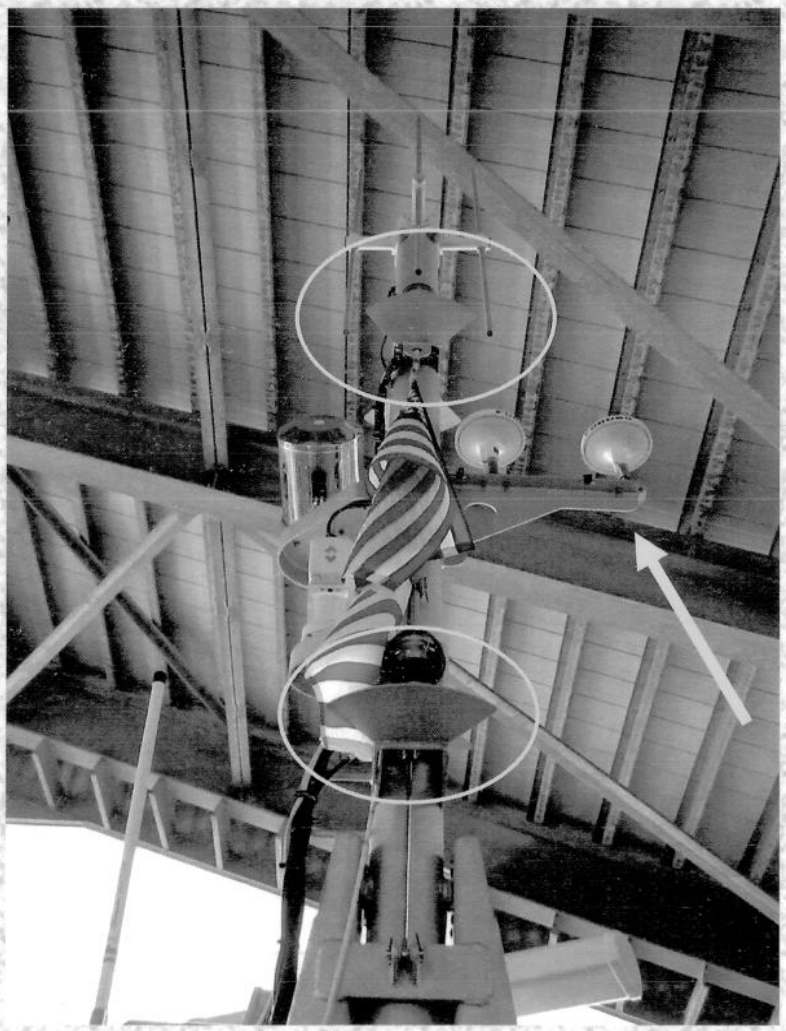


RB Medium 45602





RB Medium 45602



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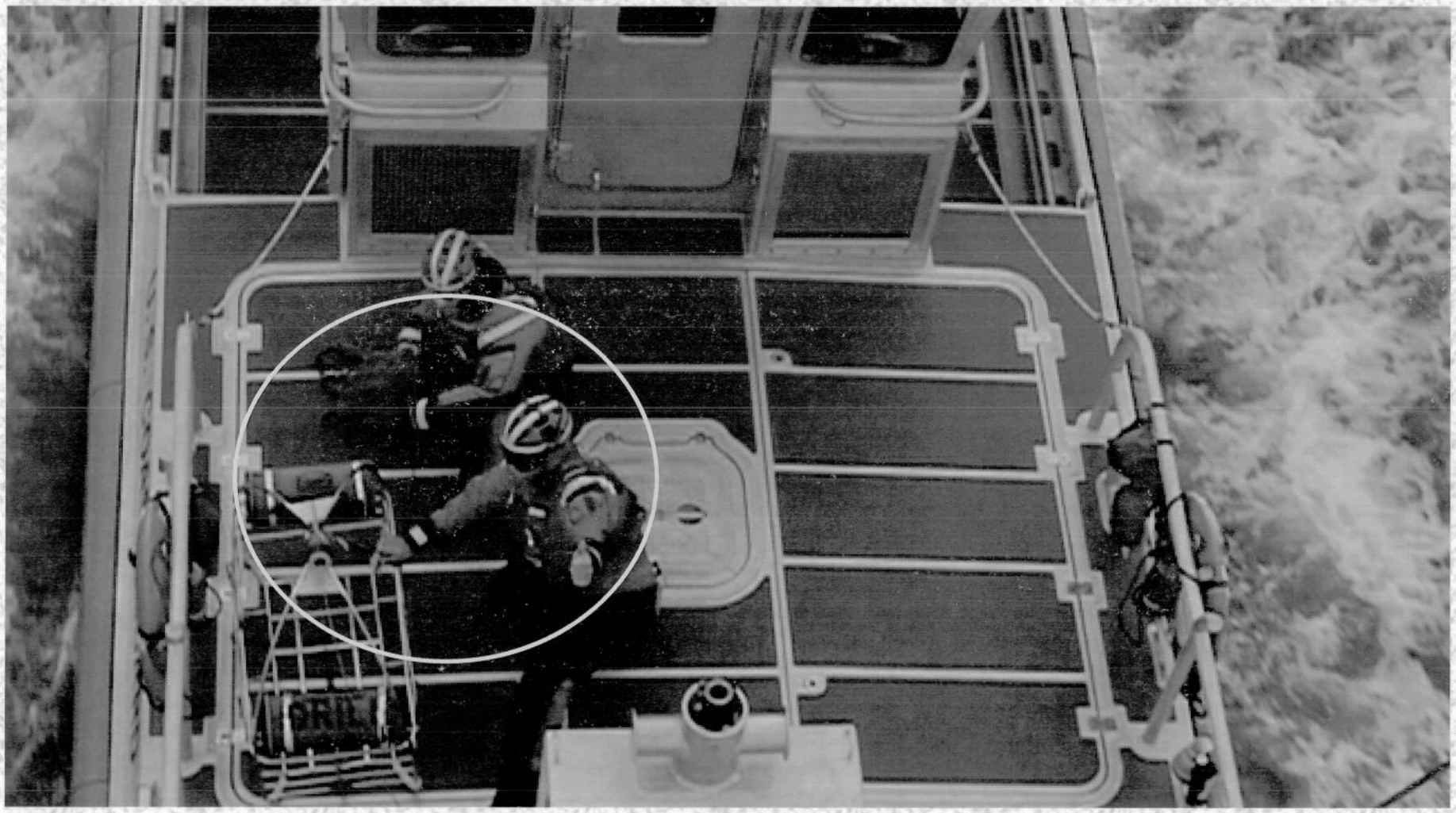

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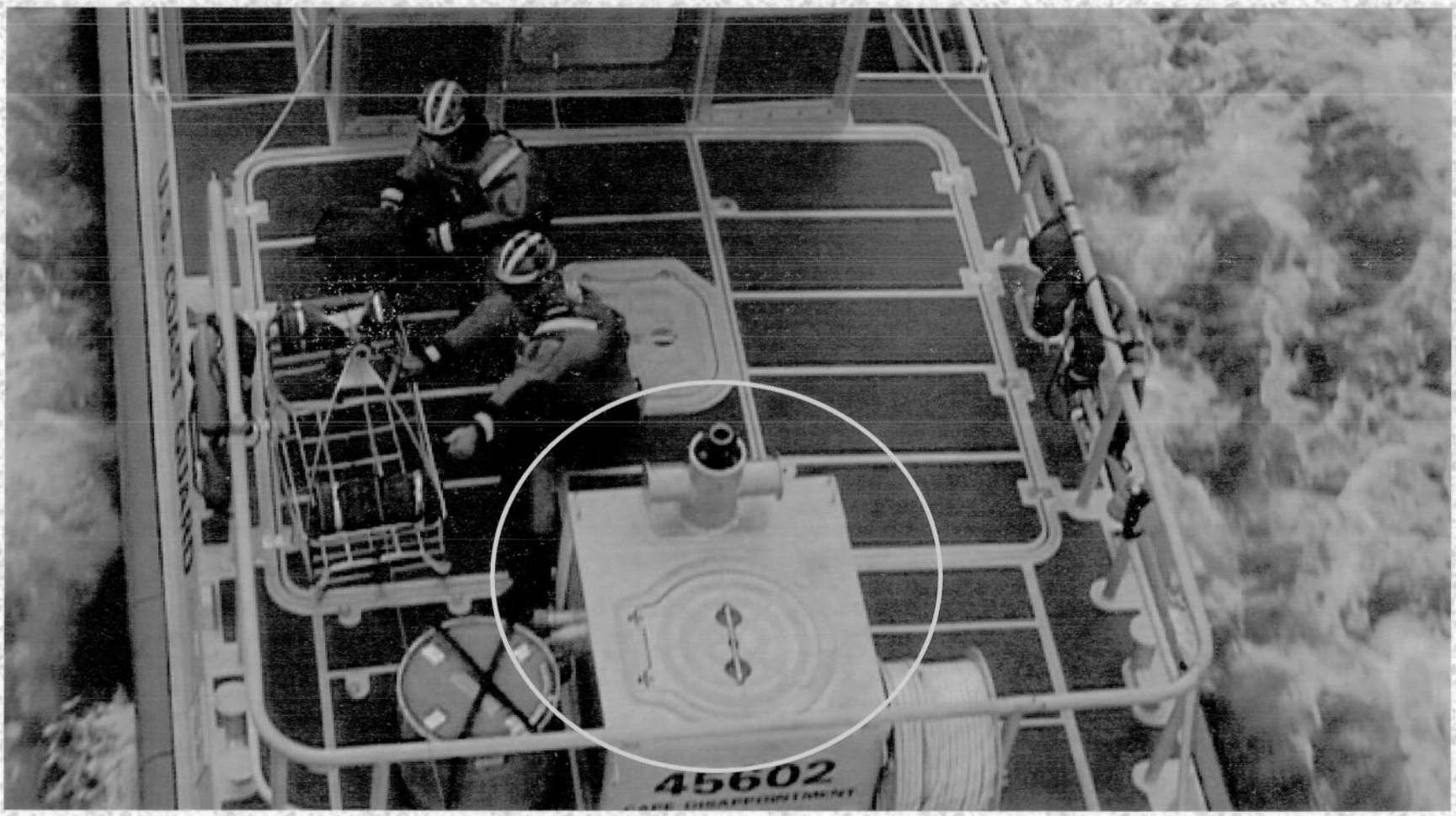

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