



SAFETY RECOMMENDATION No: 22/2013

Text of Safety Recommendation:

Inform their members regarding the importance of keeping watertight and weathertight openings of Tugboats in the closed position when engaged in towing operations and advise the conduct of tests of towline release mechanism by the tug's crew prior to towing operations.

No of Safety Investigation Report:	04/2013: Foundering of tug boat "ARTEMIS V" by M/V "JSM" (See the full Report here.)
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Safety Recommendation addressed to:	Tug boat and Salvage Associations
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Date of publication:	17/11/2014
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Comments-Remarks:

INFORMATION OF ACCIDENT

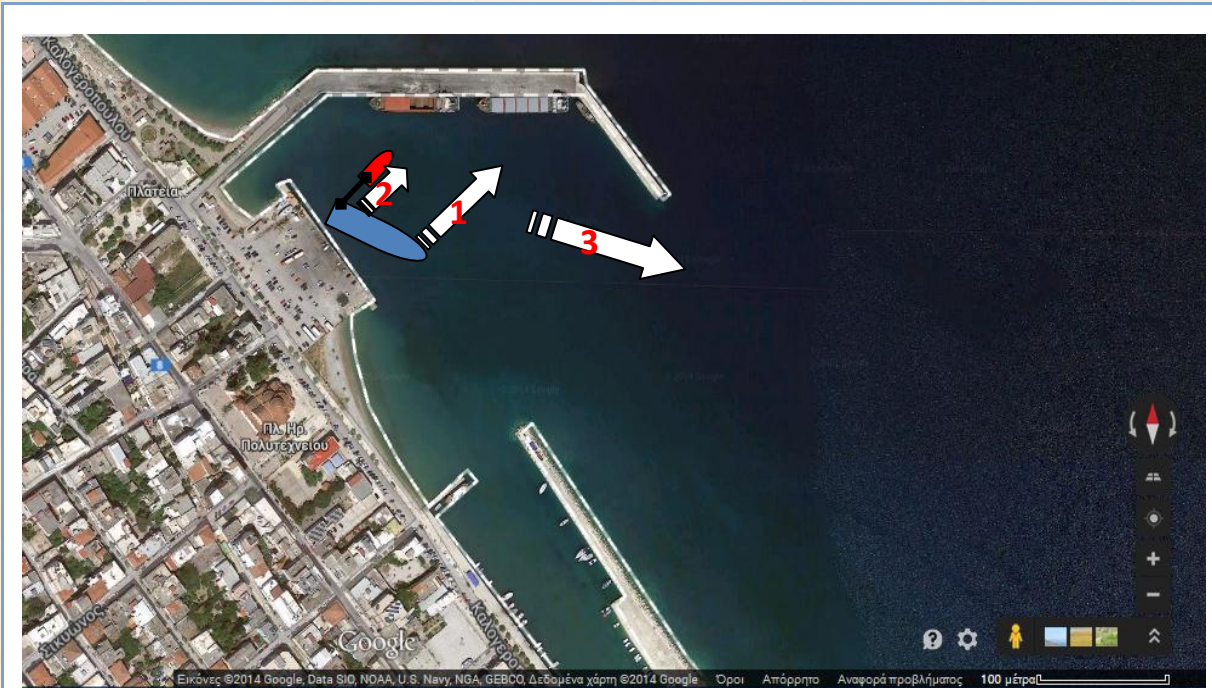
Type of vessel: Tug boat / General Cargo

Year built: 1973 / 1977 (respectively)

Foundering of tug boat and death of a seaman

Course of events

The M/V arrived safely in port with the assistance of tug boat. At the departure process of M/V from the port with the help of tug boat, the tug boat received a towline from the port aft quarter of the ship. The weather conditions according to the official weather forecast were quite good, with winds S 3-4 Bf, slightly overcast with visibility 3 to 5 n.m. A pilot did not exist at the port, thus the movements were planned entirely by the master of the ship.



Picture 1: Schematic illustration of the maneuvering as planned by the Master of JSM (blue vessel):

- (1) casting the bow off the dock by vessel's lines,
- (2) sheering vessel's stern off the dock by ARTEMIS (red boat), so that JSM was able to head to port exit,
- (3) JSM exits from the port with her means.

(The dimensions of vessels and towline are not scaled. Map Source: Google Maps, <http://maps.google.com/>)

The M/V cast off her bow from the pier by using the stern spring (aft spring line) and according to the plan the stern would be drawn away by the tug boat. However, according to the master of the M/V the tug boat pulled more power than expected the stern of the M/V resulting in giving her a heading which posed a risk of grounding or crashing on the jetty of the fishing shelter of the port.

The increase of speed by the M/V, with heading hard to port in order to prevent the hazardous situation, as the tug boat did not release the towline, created increasing list to the starboard of the tug boat (athwartships forces on the tugboat – high risk situation "T"), so that the tug boat suffered water ingress and consequent sank. The M/V continued her movement and left the port after collecting the towline, which was self-released by the hook of tug boat due to buoyancy.

From the crew of three (03) on the tug boat, the two seamen (02) (engineer, O/S) abandoned the tug boat when she listed and were rescued. The skipper remained in the wheelhouse and emerged on the surface after the sinking, was carried ashore unconscious and later on he was proclaimed dead, due to drowning.



Picture 2: Schematic illustration of the maneuvering of JSM (blue vessel):

- (1) casting JSM bow off the dock by vessel aft spring line,
 - (2) sheering JSM stern off the dock by ARTEMIS V (red boat), causing a rapid turn of JSM bow to starboard and towards the dock, rendering ship's position in a hazardous situation in relation to her safe exit from the port.
 - (3) JSM exit from the port with her own means while pulling ARTEMIS V as she was being dragged on sea bed.
- (The dimensions of vessels and towline are not scaled. Map Source: Google Maps, <http://maps.google.com/>)

The tug boat was salvaged and refloated some days later.

Extent of damage

The drowning of the skipper of the tug boat, and the founding of the tug boat.

Probable cause

According to the collected data, it is presumed that the planning of the departure process of the M/V was incomplete and there was not adequate communication and briefing between the M/V and the tug boat. Also, risk assessment process was not carried out by the M/V or the tug boat.

Additionally the weathertight - watertight openings of tug boat were left open during the towage, while the arrangement for releasing the tug's tow line was only operated from inside the wheelhouse and was not ergonomic and especially for use in hazardous or emergency situations precarious list of the boat. Thus the release of the tow line was not performed when the tug boat suddenly developed increasing list.



Picture 3: Arrangement of the quick release mechanism of ARTEMIS V. The releasing phases prior to activation (on the left) and past activation (on the right). 1: Hook fastening arm, 2: Towing hook, 3: Release wire from the coupled jointed arm to the bridge.

Lessons to be learned

The Tug boat and Salvage Associations should inform their members regarding the importance of keeping watertight and weathertight openings of Tugboats in the closed position when engaged in towing operations and advise the conduct of tests of towline release mechanism by the tug's crew prior to towing operations.



Picture 4: The lever release of the immediate release system of the tugs to the steering space of tug boat.