



SAFETY RECOMMENDATION No: 66/2015

Text of Safety Recommendation:

Instruct their members to use a method to prevent the towing line from moving onto the tug's side bulwarks during harbour operations and to ascertain that the towline quick release mechanism arrangements on their tugboats have at least two handling positions, one being inside the wheelhouse.

No of Safety Investigation Report:

66/2015: Entanglement of the towline used for towing C/V "HAMMERSMITH BRIDGE", flag Panama, IMO 9395147 resulting to the death of the Motorman of T/B "CHRISTOS XXII", Flag Greece, IMO 7230135

(See the full Report [here.](#))

Safety Recommendation addressed to:

The tugboat and salvage associations

Date of publication:

10/07/2016

Comments-Remarks:

INFORMATION OF ACCIDENT

Type of vessel: T/B

Year of built: 1972

Entanglement of the towline used for towing C/V "HAMMERSMITH BRIDGE", flag Panama, IM9395147 resulting to the death of the Motorman of T/B "CHRISTOS XXII", Flag Greece, IMO 7230135.

Course of events

On the 8th of July 2015 at 07:48, the Motorman of port Tug CHRISTOS XXII was fatally injured during the towing operation of M/V HAMMERSMITH BRIDGE in the port area of Piraeus Container Terminal, Greece.

On the day of the casualty T/B CHRISTOS XXII was engaged as a stern tug in the unberthing operation of M/V HAMMERSMITH BRIDGE by pulling her stern away from the dock. Harbour Tug CHRISTOS XXVII was as well engaged in the operation, standing by at HAMMERSMITH BRIDGE port bow for additional assistance, if required.

CHRISTOS XXII had also assisted HAMMERSMITH BRIDGE during her berthing operation, on the previous day of the casualty, in the afternoon.

The Port Pilot boarded her at 07:00. At approximately 07:15, the unberthing operation commenced. CHRISTOS XXII provided a 60m tow line, the one end eye of which was secured onto its towing hook, whereas the other end of the towline was received by the ship using a 30m messenger line connected with a ship's heaving line. The towline's eye was placed on a bollard located at the starboard poop deck. At 07:28 CHRISTOS XXII was made fast and waited for further instructions and the unberthing maneuvers. By that time HAMMERSMITH BRIDGE was moored alongside by her port side. At 07:36 her mooring lines were released from the dock and CHRISTOS XXII started pulling the vessel's stern away from the berth. At the same time HAMMERSMITH BRIDGE bow thruster was operated in order to clear her bow while the Main Engine was running at Dead Slow Ahead and she moved along the berth towards the open sea. During that time none of the tugboat's crew was standing on her deck. Almost 5 minutes later, at about 07:43, the ship was cleared from the berth and her Main Engine was stopped, in order to release the tow line.



Figure 1: T/B CHRISTOS XXII.

The tugboat approached HAMMERSMITH BRIDGE aft by its stern, as the towing assistance was completed, in order to haul in the towline that was about to be slacked from the ship. Almost 3 minutes later, at approximately 07:45, HAMMERSMITH BRIDGE started maneuvering Dead Slow Ahead, although the towline hadn't been unfastened from her stern yet. Immediately the Master of CHRISTOS XXII advised the Port Pilot to stop the ship's movement and vessel's M/E was stopped. CHRISTOS XXII moved astern to approach HAMMERSMITH BRIDGE again and the towing line was being slackened progressively. The middle part of the towline got floating on the sea, whereas the part of the towline which was at the tugboat's deck had moved onto its starboard bulwark, due to the relative movement between the ship and the tug. At that time HAMMERSMITH BRIDGE aft unmooring team continued to lower progressively the towline by lowering the attached messenger line so as to control the towline's release until it reached the sea level.

The two ABs of CHRISTOS XXII seeing the towline's eye being lowered almost 3 to 4 meters below the

HAMMERSMITH BRIDGE's deck, assumed that it was ready to be released into the sea in order to be retrieved by them on the T/B main deck. Following, they went out on deck and attempted to pull the towline from the starboard bulwark back towards the tug's centerline, which is in position for heaving it in the tug. They started hauling in the towline manually as the tug was not equipped with a winch suitable for the task. The Motorman who was watching the two ABs went also out on deck to assist them, although it was not within his duties. He along with one AB entered the zone between the rope and the starboard bulwark so as to push the rope towards the tug's centerline. At that time and while the tug crew members were handling the towline, the floating part of the towline, due to the swirling water generated by the operating propellers of both the ship and the tug and their relative movement, got caught in the tug's starboard propeller and was entangled around it. The towline was instantly taut and consequently struck and dragged the AB and the Motorman on to the starboard bulwark against which they were compressed for a few seconds until the towline parted. The messenger line by which the towline was lowered by HAMMERSMITH BRIDGE also parted.

HAMMERSMITH BRIDGE Master was not informed regarding the casualty and at 07:48 the vessel maneuvered again at Dead Slow Ahead to exit the port area and depart for her destination.

The Motorman of CHRISTOS XXII was fatally injured whereas the AB who had also been trapped between the towline and the bulwark fainted but recovered after a while, without suffering any injury.

Consequences (to individuals, environment , property)

The Motorman, aged 43, suffered severe chest injuries, when the towline unexpectedly became taut and pinned him against the tugboat starboard bulwark. His heart and thoracic aorta were ruptured and both his lungs collapsed by the hit, resulting to his death.

The A/B, aged 45, who also got trapped between the towline and the bulwark, lost his senses for a few seconds only and fell on the main deck. He recovered without any other consequence for his health.



Figures 2,3: captures of the entangled rope on the tug boat's stbd propeller.

Probable cause

Inadequate planning and briefing among the parties involved in the operation of unberthing and tow assistance, as well as lack of proper communications during the process were identified as probable causes for the accident. At the same time, poor risk assessment and application of safety precautions on board, from the tug boat crew

and Master created the ground for unsafe conditions, which eventually led to the fatal injury of the motorman of the tug boat.

Conclusions

1. One tugboat A/B misjudged the hazardous deck areas and decided to enter the confined area between the pennant and the stbd bulwark of the tug, against the safety measures provided for towing operations. The deceased Motorman's decision to follow him inside that area which was an action inconsistent with his assigned duties was probably a result of his lack of experience regarding deck operations during towage and his reliance on his colleague's competence.
2. Taking into consideration that there was no winch installed for the fibre rope towline used in harbour operations and that the operation was executed with the use of the towing hook only, the tow line management on deck required the presence of crew on the deck for its handling during its retrieval.
3. T/B CHRISTOS XXII crew did not use any method to prevent the towing line moving onto the tug's beam.
4. There was no arrangement on the wheelhouse which would allow the activation of the towline's quick release mechanism by the tugboat Master.
5. The instructions given by the SMS Manual of CHRISTOS XXII, in force on the date of the casualty, in relation to towing operations, were not specifically adjusted to parameters related to the vessel's type (Tugboat).
6. T/B CHRISTOS XXII towing planning was not developed in full regard of all given or likely to be encountered parameters.
7. The control measures provided by the risk assessment procedure for T/B CHRISTOS XXII were not applied as appropriate.
8. The fact that the stern team of HAMMERSMITH BRIDGE was waiting for the approach of the tugboat, in order the towline eye to be delivered onboard the tugboat's main deck, despite the fact that CHRISTOS XXII was not equipped with a winch for such an operation, is indicative of the lack of the coordination between the two vessels regarding the release of the towline and also of the poor planning of the operation.
9. No briefing among the tugboat Master and the Master and Pilot of the Container Vessel regarding the release method of the towline had been conducted prior to the operation.
10. The tugboat crew and Master failed to apply safe working methods regarding the following items of the operation:
 - i. The crew failed to recognize the zone between the towline and the stbd bulwark as a dangerous zone.
 - ii. The crew failed to realize that the towline had not been completely released by the towed vessel and assess the ongoing situation.
 - iii. The tugboat's Master failed to prevent its crew's exit to the main deck while the tugboat's maneuvering for the retrieval of the towline had not been completed.
 - iv. The tugboat's Master failed to see that two crewmembers had entered the dangerous zone between the towline and the stbd bulwark and to order them to exit that area.
 - v. The communication between the working deck and the wheelhouse of the tugboat between its crew and Master was not conducted as appropriate during the operation.