

SUMMARY IN ENGLISH

On Monday 13 August 2018, the towing vessel LOKE with its associated barge was on voyage from Svinninge, north of Vaxholm, towards Stora Höggarn, an island located east of Lidingö in the Stockholm archipelago. The weather conditions were good, with weak winds and low sea. The crew on board consisted of the master and a deckman.

LOKE was connected on the port side to the barge. Thus, a push towing was performed. The interconnection to the barge consisted of a rope forward, and a chain amidships connected to the tugboat. At the departure the barge had an even floating position and the master estimated the freeboard¹ to about 30 cm. The barge had leakage in both of the forward smaller sections due to corrosion damages at the bottom of the hull. To keep away from penetrating water during the voyage, continuous bilge pumping was carried out in the forward smaller sections. The bilge pump was powered by electricity with a 230 volt supply from a portable generator placed on the barge's deck. Some of the barge's deck hatches were open during the voyage.

When the equipage had passed Vaxholm and approached Tenösund on a southbound course, the sea voyage had been going on for about three hours. The surrounding sea traffic was now a bit more frequent. When surrounding vessels approached the equipage, the master experienced that swell were coming from different directions. When the first major swell hit the barge, they rinsed over the barge's deck and over the generator that was in operation. This stopped the generator. At the same time, water from the swell were filling through the open deck hatches. The swell then continued to rinse over the deck repeatedly. As the generator had stopped, the barge's forward sections could no longer be bilge pumped. They were then water filled relatively quickly. The master tried to restart the generator, but without success. After a few minutes, the master experienced the situation as critical because the barge slowly began to cut down on the port side, and the barge's bow began to go under the water surface.

The master tried to loosen the connections to the barge, but the chain amidships could not be loosened. Thus, the barge also listed LOKE, which quickly began to fill with water. Then LOKE sunk relatively quickly, and shortly thereafter also the barge. The master and the deckman ended up in the water with the life jackets taken on.

Private individuals who had witnessed the accident alerted SOS Alarm who forwarded the alarm to JRCC. Shortly thereafter, the master and the deckman were rescued by private boats and then brought ashore to Vaxholm.

The Accident Investigation Authority decided to have the barge be salvaged. Thereafter, a stability study of the barge has been carried out. The purpose of the stability study has been to determine whether the barge with its damage case could reach an equilibrium position, or when otherwise the stability is lost.

¹ Freeboard – vertical distance from deck to water surface.

The cause for LOKE's sinking was that the tugboat was listed when the barge getting listed, and that caused LOKE to be filled with water through openings in the wheelhouse and the deck. Contributing have been that the tugboat's connections to the barge had no quick release system. The cause for the rapid water filling into the barge's hull and subsequent sinking, was that overflowing water on the barge's deck could enter through open or leaking deck hatches, which lead to that stability was lost. Contributing to the water penetration in the barge was also the corrosion damages in the hull that contributed to a continuous leakage into the hull at several locations, and that the bilge pump stopped functioning when the generator stopped due to overflowing water. An underlying cause of the accident is the lack of requirements that require eg. supervision or certification for barges of the kind in question. Contributing was also that the barge was not in seaworthy condition.

Safety recommendations

The Ministry of Infrastructure is recommended to:

- Establish a timetable for the completion of the regulatory work regarding supervision and other maritime safety requirements for barges dealt with in the memorandum Rule Simplification for Shipping (N2013/5746/MRT). (*RS 2019:03 R1*)