

Corroded pipe causing oil spill

The 15 year-old bulk carrier was having its third special survey completed in dry-dock. As usual there were also many other jobs being carried out at the time. One of these jobs was to replace a section of a de-aeration pipe in the cargo hold.

The Chief Officer had discovered during a cargo hold inspection a month earlier, that the de-aeration pipe seemed to be corroded. This pipe led from the sea chest, passing through the cargo hold and then through an HFO tank and finally out through the vessel's shell plate.

It was decided that the section of the pipe in the cargo hold should be replaced and that crossbars should also be fitted for protection against damage during cargo handling.

The Chief Officer did not think it was necessary to inspect the section of the pipe inside the HFO tank. There was no scheduled inspection of the HFO tanks during dry-docking.

This section of the pipe was replaced by the shipyard without any problems and the vessel left the shipyard after repairs were completed and sailed in ballast condition to the loading port.

The vessel arrived in the morning at the discharge port where it was planned that the vessel would receive bunker. A bunker barge came alongside and the first engineer completed the bunkering checklist. About an hour later the bunkering began. At this time the cargo operation had also commenced.

At lunchtime, one of the ABs discovered oil in the water, which he told the OOW about.

The OOW, who was in the cargo office, came out on deck to see what the AB was talking about. After a couple of minutes the OOW could see oil trickling down the side of the hull.



He went into the cargo office and made a general announcement about the pollution and on what side of the vessel the oil was escaping. Shortly after this he called the Master and informed him about the oil pollution. The Master informed the coast guard, harbour authorities and the DPA about the incident.

At this time the duty engineer also called the OOW and asked what was happening. The OOW told him about the pollution and asked if the bunkering had been stopped, to which the engineer said it had not. The OOW told him to stop bunkering immediately.

Straight after this the OOW ran out on deck again and the Master and Chief Engineer were already there. Oil was still trickling down the side even after bunkering had stopped. The Chief Engineer realised that the oil was escaping from the HFO tank, which was being bunkered and told the duty engineer to transfer all bunker from that tank into another empty HFO tank. When almost the entire bunker had been transferred the trickling ceased.

Shortly afterwards the harbour authorities arrived and placed oil booms and absorption

pads around the vessel. The booms unfortunately did not prevent all of the oil from escaping. There were two barriers, with the outer barrier consisting of oil booms, and the inner consisting of absorption pads.

When all the bunker had been transferred and the tank was safe for entry, it was decided to inspect the HFO tank. The crew entered the HFO tank and discovered that the de-aeration pipe was fractured.

The crew made temporary repairs to the pipe, but permanent repairs had to be completed at a shipyard.

It was discovered that the pipe in the HFO tank had been fractured when the section in the cargo hold had been replaced causing stress to the section in the HFO tank. This caused HFO to enter the fractured section causing pollution.

To be considered

- All pipes onboard the vessel should be included in the PMS and inspected at regular intervals to ensure there is no significant corrosion.
- There is a risk when a section of a pipe is replaced that this will cause fractures on the sections that have not been replaced.
- Pressure testing should be carried immediately after work has been carried out on any pipework. The thickness of the entire pipe should be measured.
- It is strongly advised that no pipes other than fuel pipes pass through bunker tanks. Other media passing through fuel tanks can lead to contamination of the bunker as well as contamination of other media.