

## MONTHLY SAFETY SCENARIO

NOVEMBER 2021

# Overflow while bunkering

It was morning in the middle of summer and a vessel was loading alongside on the starboard side.

The Chief Engineer had ordered a fuel truck to bunker marine diesel oil. The Second Engineer had asked one of the oilers to prepare the manifold for receiving fuel. The fuel checklist had been completed by the Third Engineer and all scupper plugs on deck were in place. However, there was no risk assessment for the bunkering operation and no toolbox meeting was held before the bunkering took place.

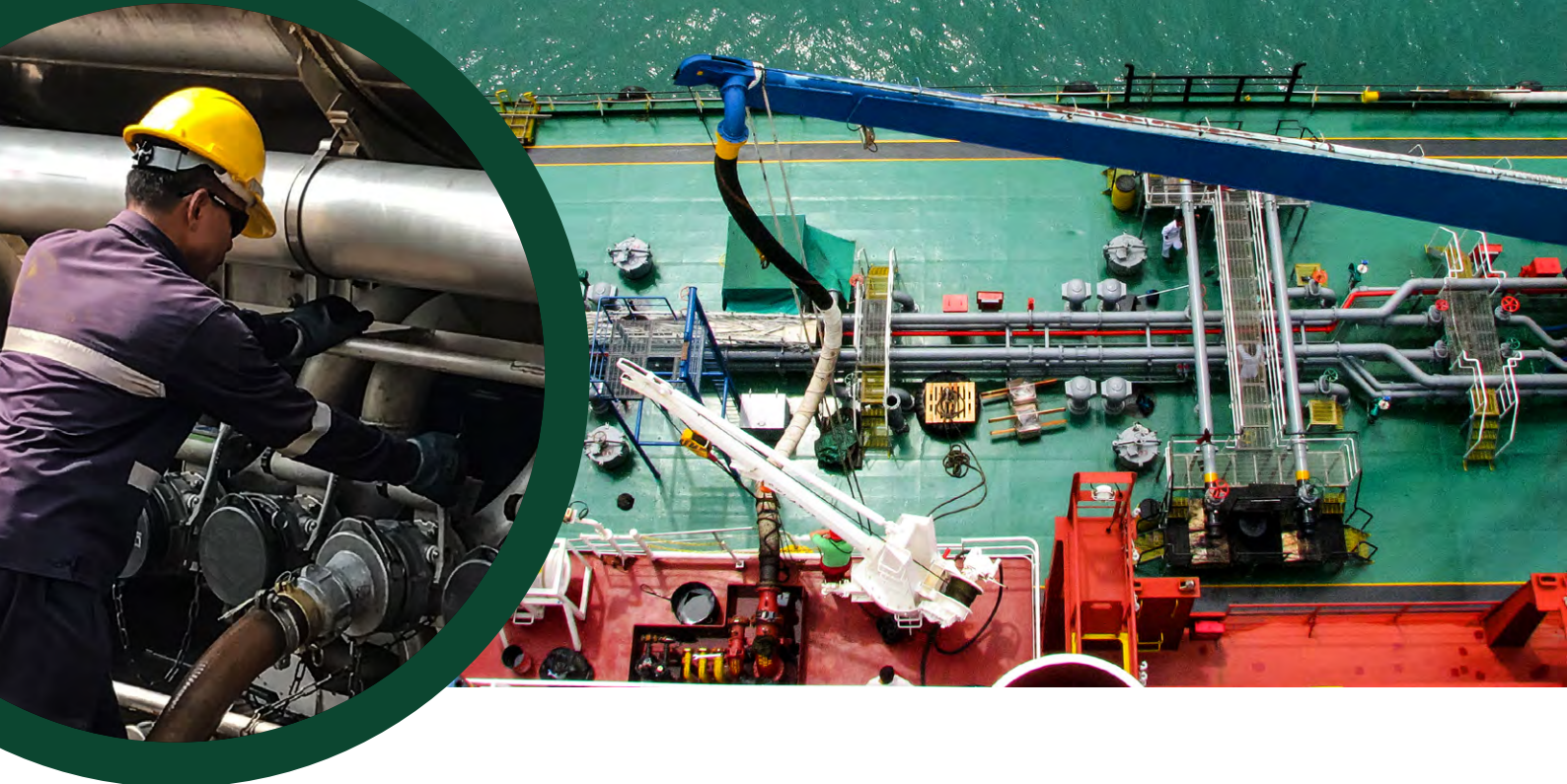
The bunkering began at 09.00 and the oiler and Third Engineer were monitoring the operation by the starboard side bunker station.

The Second Engineer was carrying out maintenance in the engine room. The Third Engineer was in radio contact with the Chief Engineer who was in the engine control room. As there was no radio contact with the truck driver ashore, the Third Engineer and the truck driver had agreed to use hand signals.

An hour later an AB was walking on the port side to the mess for a coffee break when he saw oil overflowing from the port side bunker station. He called on the radio that there was oil overflowing into the harbour and ran to the starboard side and informed the Third Engineer.

Oil was overflowing from a blind flange on the port side bunker station. The Third Engineer waved to the fuel truck driver to stop pumping, and he also pushed the emergency stop by the bunker station. The fuel truck driver stopped immediately. The Chief Engineer had heard the AB over the radio and closed the valves to the tank. He had not noticed anything unusual on the gauges and had not suspected that oil was overflowing. The Third Engineer and the oiler ran over to the port side with absorbent pads from the Shipboard Oil Pollution Emergency Plan (SOPEP) equipment. However, there was too much oil, and it was spreading into the harbour. Fortunately, there were favourable winds which pushed the oil back towards the vessel and berth.





The Master informed the VTS and coast guard about the oil spill. The local fire department arrived at the scene within 20 minutes and launched oil booms around the vessel. They worked all day and didn't finish until late in the evening. They continued the following morning and the task was completed by lunch time.

It was estimated that one tonne of fuel had escaped into the harbour.

When the engineers investigated the port bunker station, they found that bolts on the blind flange were loose. This allowed the oil to overflow. Both the port side and starboard side bunker lines are connected and there is no valve in-between; this is a common system. It is however very important to check that the flange bolts and valves for the bunker station not being used are closed and secured.

The bolts for the blind flange were re-tightened. The line was pressure tested and found not to be leaking. The oily water in the harbour was pumped into immediate bulk container (IBC) tanks which were supplied by the authorities. The vessel was fined and had to pay for the entire cleaning operation. The vessel was not detained and was allowed to sail after the hull had been cleaned.

## Questions

When discussing this case please consider that the actions taken at the time made sense for all involved. Do not only judge but also ask why you think these actions were taken and could this happen on your vessel?

1. What were the immediate causes of this accident?
2. Is there a risk that this kind of accident could happen on our vessel?
3. How could this accident have been prevented?
4. How do we monitor the bunkering operation?
5. Are our procedures efficient to prevent this from happening?
6. What SOPEP equipment do we have?
7. Is our SOPEP equipment sufficient?
8. How do we ensure that we open the correct valves?
9. Do we always ensure that valve flanges are secured for the unused bunker station?
10. Are our fuel valves marked in an efficient way?
11. Do we have a toolbox meeting before bunkering commences?
12. Do we have a risk assessment for bunkering?
13. Is it relevant to have a risk assessment or not?
14. What sections of our SMS would have been breached if any?
15. Does our SMS address these risks?
16. How could we improve our SMS to address these issues?
17. What do you think was the root cause of this accident?
18. Is there any kind of training that we should carry out that addresses these issues?