

MONTHLY SAFETY SCENARIO

MAY 2023

Leaking gasket caused cargo damage

The crew were washing down the main deck on the containership. Both fire pumps in the engine room were running and the valves were closed to increase the water pressure to the anchor hawser. The water pressure increased when the valves on the main fire line were closed.

When the washing down was completed, all valves were closed, leaving the pumps in operation.

The vessel entered port the next day. During cargo operations the stevedores noticed water in cargo hold 1. The Master immediately sent the crew to investigate the other holds as well. It was noted that there was about 20cm of water in cargo hold 2.

The Master asked the Chief Engineer to locate the leak. The Chief Engineer discovered that the high-level bilge alarm had been activated repeatedly, but the duty

engineer had only acknowledged the alarms without investigating the cause. The duty engineer had assumed that the alarms were triggered by rain.

The crew found that water was leaking from the fire lines (port and starboard side) to the void spaces adjacent to all cargo holds and then through openings in longitudinal bulkheads, to cargo hold 1 and 2.

The main fire lines extend from the engine room, through the void spaces to the forecastle. The void spaces are on the port and starboard sides of the vessel, below the main deck and adjacent to cargo holds 1, 2, 3 and 4.

The void spaces adjacent to holds 3 and 4 were watertight and so in the case of any overflow from the void space adjacent to cargo holds 3 and 4, water would flood the





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main deck through air pipes. Water from the void spaces adjacent to holds 1 and 2 would flood the cargo holds through openings in the longitudinal bulkheads.

It was found that the rubber gaskets on the main fire line had started to leak and so water had filled the port side void space adjacent to hold 2 and the starboard side void space adjacent to hold 1. Once water reached the level of the lower edge of the openings in the longitudinal bulkheads, it started to flood the holds.

Discussion

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 is the risk of this type of accident happening to our vessel?
2. What are our procedures for washing down?
3. What are our procedures for closing and opening valves?
4. Is there any task that could be added to the PMS to ensure this do not happen?
5. Is there a requirement to check gaskets?
6. What are our procedures when we hear a bilge alarm?

7. How do we ensure that alarms are investigated?
8. Is there any training that could address these issues?
9. How could this accident have been prevented?
10. What sections of our SMS were breached if any?
11. Is our SMS sufficient to prevent this accident?
12. If procedures were breached why do you think this was the case?
13. Do we have a risk assessment onboard that addresses these risks?
14. How can we learn from this?