Missing gasket caused cargo hold flooding

When the container vessel arrived in port it was instructed to anchor and wait until its berth was available. While the vessel was waiting for the berth, the Chief Officer decided to carry out a routine ballast tank inspection. The 2nd completed a Permit for entry into confined/ enclosed space and also did the inspection.

The company has a requirement for carrying out detailed risk assessments but no specific requirement when this should be done. In this case, the officers did not think it was necessary. According to the company's SMS it is the responsibility of the Chief Officer to verify that the hatch is properly secured when the job is completed.

The following day the vessel berthed and cargo operation commenced. During loading the vessel carried out a normal ballast operation for stability reasons. The cargo operation was completed in the evening and the vessel sailed for the next port.

About 24 hours after the ballast operation had been completed, the Chief Officer discovered that one of the cargo holds had been flooded with more than one meter of water. Prior to this there had been scheduled inspections but they had failed to discover any water.

The vessel was fitted with both cargo hold bilge alarms and high-level alarms. These were monitored from the bridge. There was no bilge alarm until 10 hours after the flooding. The bilge alarm is included in the list of Monthly inspection of critical equipment which had not been completed correctly, as it had been inspected a couple of days previously and found at the time to be in good condition. The bilge sensor was actually broken and heavily corroded, which takes a long time to happen. There was a failure in the visual inspection and no proper soundings were taken. If this had been done it is likely that the flooding would have been discovered earlier.

The crew discharged the water using the ballast pump, bilge pump and a portable bilge pump. Afterwards the crew inspected the cargo hold and discovered that the tank which had been inspected was missing a gasket to the manhole. The ballast tank was pressure tested and it was discovered that water was leaking from the manhole. A gasket was refitted and the ballast tank was pressure tested again and no leakage was discovered.

The flooding caused extensive damage to almost 30 containers. ■

Discussion

Go to the “File“ menu and select “Save as...“ to save the pdf-file on your computer.

You can place the marker below each question to write the answer directly into the file.

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. Do we have a risk assessment for this kind of job?

5. If we do, could this risk assessment be improved?

6. Would a work permit be required for this job?

7. What are our procedures for inspecting ballast tanks?

8. What sections of our SMS or PMS would have been breached if any?

9. Does our SMS or PMS address these risks?

10. How could we improve our SMS and PMS to address these issues?

11. What do you think was the root cause of this accident?

12. Is there any kind of training that we should do that addresses these issues?

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