The Swedish Club

MONTHLY SAFETY SCENARIO

MARCH 2021

Engine failure caused grounding

A bulk carrier loaded a cargo of soya beans in a North American port, prior to travelling to Asia.

When loading was completed the vessel anchored to wait for a favourable tide. At midnight the vessel departed and headed through the fairway. A pilot was on board, and a pilot briefing had been carried out with the Master.

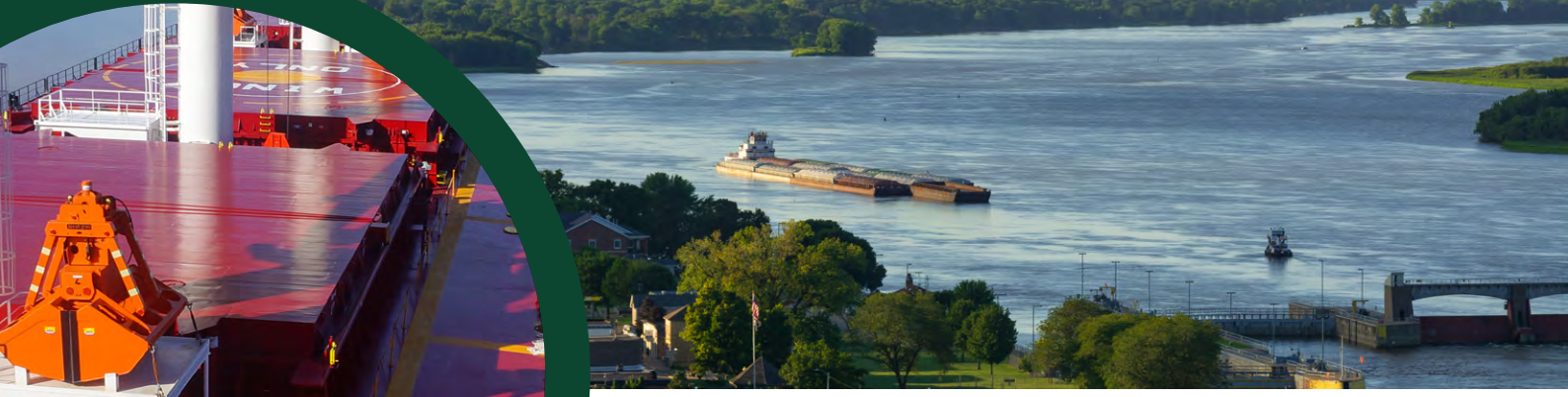
Alarms sounding

After two hours a main engine slowdown alarm was triggered due to a loss of cooling water in the main engine. The Master ordered half head but there was no response from the engine.

An alarm then sounded in the engine control room, which had been triggered by one of the main cooling fresh water pumps stopping. The Chief Engineer ran out of the engine control room to the main engine and saw that cooling water was coming out of a crack on one of the cylinder cover jackets. The Chief Engineer alerted the Master.

The Master ordered the starboard anchor to be dropped. He ordered dead slow astern, then full astern, but still nothing happened. The vessel was now drifting towards the port side of the river.

Two minutes later, the main engine expansion tank low level alarm sounded. The engineers then closed the cooling water inlet and outlet valves of the effected cylinder unit. Because of the excessive loss of cooling water, the high cooling water temperature alarms sounded for all cylinders.



Unable to prevent grounding

Although the starboard anchor had been dropped it could not prevent the grounding which happened minutes later.

Following the grounding the Chief Officer checked all the ballast tanks for any water penetration. There were no damaged tanks, but the hull was dented. The coast guard also boarded the vessel and carried out an inspection to see if there was any pollution, which there was not.

The vessel received tug assistance and returned to the loading port for more detailed inspections.

Locating bolts overtightened

It was later found that the cracks were caused by overtightening of the locating bolts during the last cylinder cover overhaul. The manufacturer had issued a service letter which included a warning for overtightening the screws. This is a delicate process that need to be done correctly.

Questions

1. 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?
2. What were the immediate causes of this accident?
3. Is there a risk that this kind of accident could happen on our vessel?
4. How could this accident have been prevented?
5. Are our procedures effective enough to prevent this from happening?
6. Is there any kind of training that we should do that addresses these issues?
7. Do we ensure that we use original parts for our equipment?
8. How do we ensure that all relevant service letters are included in our maintenance procedures?
9. How do we ensure that all pertinent crew are aware of new service letters?
10. Does our SMS address these risks?
11. What sections of our SMS would have been breached if any?
12. How could we improve our SMS to address these issues?
13. What do you think was the root cause of this accident?