

Injury during mooring operation

It was early morning and the vessel was approaching the port. There was no wind or currents. On the stern was an AB preparing the mooring ropes. The stern lines were put partly around a bollard with a bight at a right angle to the normal pull direction.

After the AB had prepared the mooring lines, the 3rd Officer joined him. They talked for a while before the berthing operation began. First the spring lines were sent ashore and made fast. The Master was on the bridge and he put the engine pitch to zero, which didn't mean full stop but that the vessel had a slight forward moment. The rudder was hard to starboard as the vessel was berthing port side alongside. After the spring lines were secured the heaving line was connected to both stern lines.

The Chief Officer, who had been by the manifold, came to the stern to assist and took charge of the mooring winch. The 3rd Officer walked to the stern railing by the fairlead.

The linesmen shouted that they were ready to receive the stern lines, so the AB started to lower the stern lines to the water. He was facing the mooring winch and had his back to the 3rd Officer by the railing. He let the mooring lines run out at a very high speed.

Suddenly the 3rd Officer started to scream. The AB turned around and could see the 3rd Officer was caught between the mooring line and the fairlead. The mooring line was now coming out very quickly and was cutting into the 3rd Officer's leg.



The mooring line's speed was now so fast that it cut through the officer's clothes and he was bleeding badly. The mooring line was actually cutting through the 3rd Officer's leg and it was cut off just below the knee.

The Chief Officer realized that the mooring rope was stuck in the propeller and screamed over the VHF to the Master to stop the engine. The master pushed the emergency stop and the propeller stopped.

The 3rd Officer was still standing but in severe shock and he finally collapsed. The Chief Officer ran over to give first aid and the gangway was rigged. A first aid team from shoreside came onboard and helped. It took about 30 minutes for an ambulance to arrive and take the Officer to hospital.

Consequences

The 3rd Officer survived, but is now disabled and can never work at sea again. ■

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.



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 send mooring lines ashore?

5. Do we consider the risk of the stern lines getting caught in the propeller?

6. What sections of our SMS would have been breached if any?

7. Is our SMS sufficient to prevent this kind of accident?

8. If procedures were breached, why do you think this was the case?

9. Do we have a risk assessment onboard that addresses these risks?

10. Could our risk assessment be improved?

11. Are the snap back zones clearly marked?

12. Could they be improved?

13. Do our stern lines float?

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

Issues to be considered

- The vessel had a risk assessment for the mooring operation, but it didn't include the risk of the mooring line getting stuck in the propeller, as the mooring line should be floating in normal circumstances. This time the mooring line was lowered too quickly and ended up under the surface. The propeller blades are only 2 meters below the surface so the lines were sucked into the propeller, which caused the accident.
- Another risk was that the mooring line was partly around the bollard, with a bight and a right angle to the normal pull direction. This arrangement caused the snapback zone to cover the entire area between the bollard and railing. When the rope ran out rapidly and got caught in the propeller it snapped back to where the 3rd Officer was standing. The Officer was actually not inside the normal snapback zone. This shows the importance of everybody involved in the operation to be aware of the risks of potential snap back zones. Mooring a vessel is a normal operation, but the risks need to be evaluated every time, as it is a risk operation.