

MONTHLY SAFETY SCENARIO

SEPTEMBER 2021

Broken davit wire on rescue boat

The vessel was lying alongside at the first port of call since it had left dry dock. The Master decided to carry out a man overboard drill, as the weather was favourable, and as the davit wire for the rescue boat had been replaced while in dry dock, he wanted to ensure that all was in order. He told the Chief Officer to have the rescue boat ready for early afternoon.

Before going into dry dock the Chief Officer had ordered a new wire but the wire he received was of a smaller diameter than ordered. He assumed that the wire would be OK as it was just 2mm smaller than the original.

After lunch the rescue boat crew proceeded to the launching area. The Second Officer held a briefing with the rescue boat crew and all others involved. The rescue boat crew included the Second Officer and two ABs. The bosun was in charge of the davit winch and the Chief Officer was monitoring from the deck. The Master was monitoring from the bridge.

The crew boarded the rescue boat in the stowed position. They were wearing the correct safety equipment and

safety harnesses, which they secured to the rescue boat to prevent them from falling overboard.

The bosun started to lower the boat at slow speed, and when the davit was fully extended he increased to high speed.

The rescue boat's engine was started just before the rescue boat hit the water and the hook was released when the boat was in the water. The drill was uneventful and the boat returned to the hook to be hoisted back into position. The bosun raised the boat at high speed and when it was near the main deck he switched to slow speed. The crew did not disembark on the main deck, as the plan was to disembark when the boat was in the stowed position.

The bosun continued to hoist the boat at slow speed to the stowed position and expected that the proximity switch would shut down the motor before the davit arm made contact with the structure. Unfortunately the proximity switch





was not operational and so this did not happen and the motor applied even more power.

This sudden increase in power caused the wire to break and the boat to fall more than 20 metres into the water, taking the crew members with it.

One of the crew members was stuck in his safety harness underneath the boat and drowned. The other two crew members were seriously injured.

Upon investigation the following information was established:

1. The Chief Officer was unaware that the davit winch motor was too strong for the replacement davit wire.
2. While in dry dock an electrician had replaced the fuse in the circuit board of the davit winch motor. He had replaced the original fuse with a much higher amperage fuse.
3. It was also the case that the electronic proximity switch was not working. When the rescue boat had been washed down with the high-pressure hose, moisture had entered the system through the cover of the proximity switch, causing a short circuit.

The vessel's SMS states that the crew should always check that the proximity switch is working before they use the rescue boat. The proximity switch was not tested.

The proximity switch is intended to cut power to the winch motor when the boat is close to being in the stowed position. This is an emergency device to ensure that the winch motor does not put too much stress on the davit wire. It is essential for preventing possible catastrophic failure. The davit had only one proximity switch so there was no back-up.

This over-compensation might have been prevented if the correct fuse had been in place.

4. According to the manufacturer's manual, the winch operator should stop the winch before the proximity switch is activated. There were no marks on the davit to indicate to the operator when to stop.

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. Which sections of our SMS would have been breached if any?
5. Is our SMS sufficient enough to prevent this kind of accident?
6. If procedures were breached why do you think this was the case?
7. It is very important to monitor sensitive electronic equipment on deck and ensure that it is not washed down or painted over. Is this addressed on board our vessel?
8. Has the increased risk of electronic malfunction occurring because the vessel trades between tropical and colder climates been addressed?
9. Do you board the rescue boat in the stowed position or at deck level?
10. The risk of serious injuries increases substantially with the height from where a survival craft is launched. What is the height for our survival crafts?
11. Is this height a concern?
12. Do you check the davit proximity switch before the boat is used?
13. Are the davit limit switches included in the PMS?
14. Are you aware of the winch motor's capacity and the required diameter for the wire?
15. Do we have a risk assessment on board that addresses these risks?
16. Would a work permit have identified these risks?
17. Is there any kind of training that we should do that addresses these issues?