

MONTHLY SAFETY SCENARIO

SEPTEMBER 2023

Loss of anchor in bad weather

The vessel was waiting for its berth to become available, so the decision was made to anchor. A pre-anchor briefing was held on the bridge, regarding how many shackles should be used and different tasks allocated to the crew during the anchoring operation.

One week earlier the bosun had inspected the windlass including the brake linings and had reported that all was in good condition.

The weather forecast warned about rough weather the following day. The Master informed the bridge team that he would make a final decision later.

The anchoring party consisted of the Chief Officer, bosun and two ABs. The bosun was controlling the brake and the Chief Officer was reporting to the bridge, and giving orders to the bosun and ABs.

This was the first time the crew had anchored at this anchorage.

The vessel approached the dedicated anchor position which the VTS had given them. When the vessel had stopped the Chief Officer ordered the bosun to walk the anchor out using the windlass motor. When the anchor was about half a shackle above the seabed it was let go.

During the night the weather deteriorated and the OOW realised that the vessel was dragging. He called the Master who came up on the bridge. The weather was now rapidly worsening, and the Master woke up the Chief Officer and told him to assemble the anchor party and heave up the anchor.

The weather had now increased to Beaufort 8 and the bow was slamming because of the large waves. Suddenly, while the anchor was being heaved up the windlass motor stopped, and smoke was seen coming out of it. It became obvious that the motor could not be fixed straight away. At the same time the weather was deteriorating even further so it was





decided that the anchor chain should be cut. After the chain had been cut the vessel left the anchorage and drifted at sea instead.

The vessel was not allowed to continue its journey until the anchor and chain had been replaced. The vessel had a spare anchor but the operation to replace it and the chain took several days. The port authorities also demanded that the anchor should be recovered. A salvage company was hired to retrieve the lost anchor and chain.

Through the International Association of Classification Societies (IACS), classification societies have reached a consensus on a standardised set of criteria for anchoring equipment (UR A1) and incorporate this into their Class Rules.

The anchoring Equipment Number (EN) calculations, as found in UR A1, are based on the following assumed environmental load conditions:

Current velocity: max. 2.5m/s
Wind velocity: max. 25m/s
No waves (sheltered waters)

For ships with an equipment length greater than 135m, an alternative UR A1 environmental condition may be considered:

Current velocity: 1.54m/s
Wind velocity: 11m/s
Significant wave height 2m

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. What is the risk of this type of accident happening to our vessel?
3. Are our anchoring procedures sufficient to deal with problems like this?
4. Is maintenance for anchoring equipment in the PMS sufficient?
5. What are the environmental parameters for leaving the anchorage?
6. What is the maximum depth that our anchoring equipment is designed to anchor at?
7. How could this accident have been prevented?
8. What sections of our SMS were breached if any?
9. Is our SMS sufficient to prevent this accident?
10. If procedures were breached, why do you think this was the case?
11. Do we have risk assessment procedures on board that address these risks?
12. Would a work permit have identified these risks?
13. What do you think is the root cause of this accident?