

Case Study - Dragging anchor led to collision

Two bulk carriers were at anchor awaiting berthing instructions, with vessel A positioned approximately 0.6 to 0.7 nautical miles north-north-east of vessel B. Initially, weather conditions on the day were moderate, with wind speeds between Beaufort force 3 to force 5 overnight. However, conditions deteriorated significantly during the afternoon, with wind speeds intensifying to Force 8 to Force 9 from a northerly direction.

At around 16:30, the Officer of the Watch (OOV) onboard vessel A noted that the vessel started to slowly drag anchor. This initial dragging reduced the distance between the two vessels to approximately 0.54 nautical miles, prompting the Master of vessel A to place the main engine on 5 minutes' notice. No additional preventive measures were implemented.

Approximately one hour later, at 17:34, vessel A started to drag, quickly accelerating to a dragging speed of 1.0 knots and subsequently 2.0 knots towards vessel B. The crew attempted emergency measures, including preparing the main engine and heaving the anchor. However, delays in bringing the main engine into operation

and ill-considered manoeuvring worsened the situation. Ultimately, at 17:53, vessel A collided with vessel B, making contact on her port side amidships area.

Vessel B remained stationary and securely anchored throughout the event, having taken suitable precautions for the prevailing conditions. No proactive manoeuvres were made by the southern vessel, likely due to the limited time available to respond once the situation became apparent.

The collision resulted in significant damage, including breaches to ballast tanks on Vessel A and damage to the bow and starboard anchor of vessel B. Fortunately, there were no injuries or pollution incidents reported.

Heave up the anchor and leave the anchorage if these environmental loads are exceeded:

Sheltered waters:

- Current velocity: max. 2.5m/s
- Wind velocity: max. 25m/s.





- No waves (sheltered waters)

Outside sheltered waters:

- Current velocity: max 1.5 m/sec
- Wind velocity: max 11 m/sec
- Significant wave height max 2 m

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?

- Does our SMS address these risks?
- What immediate actions should be taken if anchor dragging is suspected?
- How can anchor watch practices be improved to prevent similar incidents?
- Why is proactive weather monitoring critical when at anchor?
- What are the procedures for preparing and testing the main engine readiness at anchor?
- How can effective communication with nearby vessels improve safety at anchorages?
- What specific signals or alerts should be made if a vessel begins dragging anchor?
- Under what circumstances should a secondary anchor be deployed?
- What role can tug assistance play in preventing collisions in anchorage areas?
- How frequently should weather forecasts and anchorage conditions be reviewed?
- Are our anchoring procedures sufficient to deal with problems like this?
- What are the environmental parameters for leaving the anchorage?
- Do we have Risk Assessment procedures onboard that address these risks?
- What is the maximum depth that our anchoring equipment is designed to anchor at?
- What specific techniques could help the bridge team maintain situational awareness, especially under high stress, strong currents, and nighttime transit conditions?
- What additional contingency plans or drills might strengthen a crew's ability to react to a situation like this?
- Which everyday practices onboard can we reinforce to handle abnormal conditions more safely?
- How can lessons from this event be transferred to other high-risk areas?
- What immediate, actionable steps can we take from today's discussion?