



Anchor awareness

In the current trading environment with the ongoing COVID-19 pandemic and worldwide economic downturn, the period spent waiting at anchorage outside ports around the world may increase for some ships. Lost and dragging anchors are the root causes of many groundings and collisions occurring while waiting at anchorages, and ship operators, Masters and crew need to be aware of the risks involved and thoroughly assess the limitations of a vessels' anchoring equipment.

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The key to ensuring that a vessel is safely anchored, and remains safely anchored, is the leadership and judgement shown by the Master. A significant factor in most anchoring incidents remains the failure of Masters to appreciate at an early stage that a dangerous situation is developing and to take early and decisive action.

Risks and limitations of a ship's anchoring equipment

Most of the P&I claims received by Gard related to anchoring equipment are due to the loss of anchors at designated anchorages where the authorities require the lost items to be found and removed, thereby resulting in a “wreck removal” case. Anchor losses can be due to technical or equipment failures, such as heavily worn brake band linings; corrosion of chain links; spile pins of D-shackles falling out due to not being correctly secured; problems with chain stoppers and tensioning devices, etc.

The more serious and very costly cases occur when a ship drags its anchor in strong currents or bad weather, and where this leads to collisions with other nearby anchored ships, groundings and loss of the ship, pollution or damage to cables and pipelines on the seabed.

A “dragging anchor” means the ship drifts without holding power, even though it has been anchored. It is important to note that it can take some time for the crew to realize the anchor is dragging and the ship drifting. Once realized, it will take time to weigh (lift) the anchor, start the engines and restore the ship to full maneuverable condition, a period the ship may run dangerously close to other ships or structures, or into shoal water.

Environmental risk factors, such as weather, strength of the currents and depth of water, play a significant role in the loss and dragging of anchors. The anchoring equipment is not designed to stop a ship from drifting or hold a ship off a fully exposed coast in bad weather. Climate changes and extreme weather events are becoming more frequent and may occur in locations previously known to be benign and safe.

One of the key findings in casualty investigations is the importance of the crew being aware of the environmental loads their anchoring equipment is designed for. If these limits are not considered during shipboard anchoring operations, there can be significant damage to the ship – even beyond the loss of the anchor and the chain.

If a ship is at anchor in ballast condition, the Master should bear in mind that wind forces acting on his ship may be much larger than during loaded condition as a larger ship side area is now exposed. Ships in ballast will also be more vulnerable if they need to move away in bad weather, as both the steering and the propulsion may be affected.

Class societies make it clear (DNVGL-RU-SHIP Pt.3 Ch.11 Sec. 1) that the use of the anchoring equipment is only for the temporary mooring of a ship in moderate sea conditions, within a harbor or a sheltered area, when awaiting berth, undergoing maintenance or receiving bunkering, etc.

Recommendations

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Most anchor losses are preventable if proper maintenance and handling procedures

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are followed.

Know when to leave the anchorage - If a ship is anchored in an area exposed to weather, it is necessary to have a policy as to when to leave. There have been cases where Masters have been under commercial pressure not to leave an anchorage, and disasters have followed because the Master was tempted “to wait and see until the morning”, although the weather forecast was bad.

Know the limitations of the anchoring equipment - Masters must be particularly aware when anchoring close to shore in poor weather or in poor holding ground. In making the decision whether to stay or leave, the Master should also be aware of the limitations of his anchoring equipment. Some Masters may not have full knowledge of these limitations; however, they are laid down by the class societies in their rules for calculating the dimensions, weights and strengths of the anchoring equipment. With the mentioned limitations in mind, it can be seen from instances of ships dragging anchors in bad weather that Masters have at times placed too much trust in their ship’s anchoring equipment. Today’s weather forecasts are usually very reliable and Masters should more often choose to weigh anchors and go out to sea in time if heavy weather is forecast.

Training and mentoring of crew - Anchoring a vessel safely should be an uncomplicated operation. However, it can only be carried out safely with proper planning, a properly instructed bridge team, and when positive on-board management and leadership are shown. Owners and managers should ensure that such knowledge is transferred to junior officers through structured training and by making that knowledge available. Good seamanship and the practice of good seamanship are best learnt on the job whilst at sea. Good anchor watches must be maintained which include the use of navigation equipment in setting up anchor watch alarms. Extra precautions such as additional cable paid out and having engines on immediate notice should also be considered.

Gard has previously, together with DNV-GL and The Swedish Club, published a free to download and share [anchor awareness campaign](#) identifying the most frequent technical and operational issues, and steps crews and operators can take to address them.

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