The Swedish Club

MONTHLY SAFETY SCENARIO

JANUARY 2026

Case Study - Leaking Cargo Hold Hatch

In late November, a geared bulk carrier was loading grain at a U.S. West Coast port, with Asia as the discharge destination. Prior to commencement of loading, the cargo holds were inspected and passed by a surveyor in accordance with current USDA/FDA standards. The vessel's crew had also prepared the cargo holds and hatch covers in line with ISM requirements and industry guidelines, which included cleaning the hatch coaming channels, and hose testing of the hatch covers. No signs of water ingress were detected during the pre-loading inspection.

During the first day of loading, intermittent rain showers occurred. The master ordered the hatch covers to be closed and secured in accordance with customary practice and safety management procedures. Once the rain stopped, the hatches were reopened. Upon completion of loading the master signed clean bills of lading. Fumigation was carried out by a certified contractor in line with IMO Recommendations on Fumigation (MSC.1/Circ. 1264/Rev.2, 2021), and the hatch covers were sealed with modern self-adhesive barrier tape.

The vessel's charterer, who had contracted weather-routing services, alerted the master to several depressions forming in the North Pacific. Based on routing advice, the vessel proceeded on a southerly course to avoid the strongest swells. Despite this, after three days at sea the vessel encountered very heavy weather conditions with sustained northerly winds of Beaufort force 10 and significant wave heights exceeding 8 metres. The vessel pounded heavily into the seas, shipping green water on deck. As a result, the protective hatch sealing tape was washed away. The master adjusted the route further south until the storm subsided two days later.

Upon arrival at the discharge port, inspection revealed seawater traces on the inner hatch coaming plating of cargo holds 1 and 2. The forward location of these holds made them more exposed to shipping seas during the storm. Cargo damage was confirmed: grain beneath the hatch panels on the starboard side had suffered wetting and mould damage. A joint survey was conducted, including ultrasonic and chalk testing of the hatch cover arrangements.

The ultrasonic test showed that the cross-joints between forward and aft hatch cover panels of hold no. 1 were leaking. In addition, chalk tests on hold no. 2 confirmed poor compression between sealing rubbers and the cross-joint compression bars.
The surveyor noted that several gasket sections were aged and should have been renewed. Sealing rubbers require replacement of entire lengths once deteriorated as isolated patch repairs are no longer regarded as acceptable. The remaining cargo holds were in satisfactory condition and discharged without incident.

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. Does our SMS address these risks?
2. What sections of our SMS would have been breached if any?
3. What procedures do we currently follow before departure to verify that hatch covers are weathertight, and how can we make these checks more reliable?
4. Do all officers understand how to carry out an ultrasonic hatch cover test, and how does it differ from a water hose test?
5. Why are cross-joints considered the most vulnerable part of a hatch cover system, and how do we best inspect them?
6. How do we record gasket replacements, cleat adjustments, and test results in our Planned Maintenance System (PMS)? Is there anything we could improve?
7. If rain occurs while loading grain or other hygroscopic cargo, what steps should we take to protect the vessel's and owner's interests.?
8. In advance of forecast heavy weather, what additional actions should the crew take to verify the seaworthiness of the vessel? Should additional inspections or log entries be made during/after heavy weather?
9. How effective is hatch sealing tape (Ram-nek or modern equivalents), and should we ever rely on it against water ingress?
10. Are all deck officers and ratings familiar with signs of gasket wear or hatch cover malfunction? What further training would be needed?
11. If seawater ingress is suspected during the voyage, what immediate actions should the crew take? Who should be informed, and how should this be documented?
12. What additional training or practical drills could help the crew be better prepared?
13. What support do we need from management (additional training, updated procedures, more resources) to strengthen our procedures?
14. What immediate, actionable steps can we take from today's discussion?