# Shifting cargo and deck spill during heavy weather

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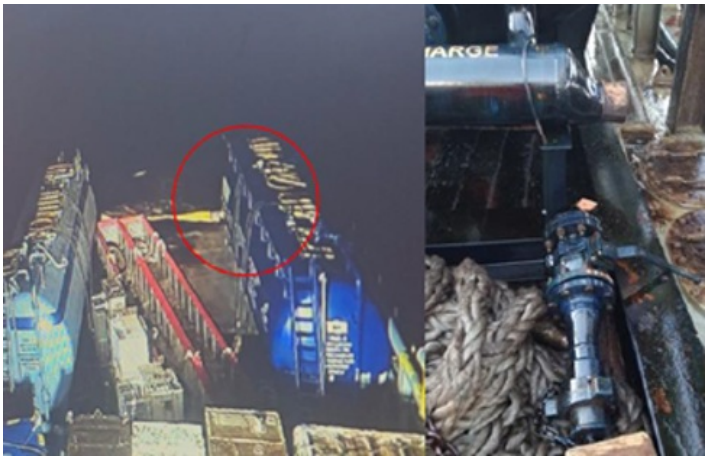
**A sodium chloride brine storage tank shifted approximately 0.5m during heavy weather conditions.**

## What happened?

While transiting to an offshore field in heavy weather conditions (winds 35-39 kts, swell 4-6m), the vessel experienced heavy rolling and pitching. Although deck cargo was reported as secured, a sodium chloride brine storage tank shifted approximately 0.5m. The tank struck the crash rail, causing the manifold valve to fail and resulting in a limited brine spill onto the main deck. The crew took immediate action to stop the leak, re-secured all deck cargo, and notified the relevant authorities. Limited environmental impact was observed.



*Permanent brine tank shifted (right corner, left image), damaging the valve (right image) and causing a leak.*

## Why did it happen?

- Heavy weather caused excessive rolling and pitching. Dynamic vessel motions led to slackening of lashing chains.
- The cargo securing arrangements were not sufficient for the weather conditions.
- The tank manifold valve was exposed and vulnerable to impact - not protected.

## What do we learn?

- Cargo securing should be able to withstand extreme and forecasted weather, not just normal sea conditions.
- Heavy tanks require additional and redundant lashings when heavy weather is expected.
- Vulnerable fittings such as manifold valves should be protected or shielded from impact.
- Review weather risk assessments before transit, with consideration for speed reduction, course change or other operational changes.
- How do we safely monitor cargo when it is unsafe to go on deck? Prompt crew response and effective communication can significantly reduce consequences and escalation.