Bureau of Safety and Environmental Enforcement

SAFETY ALERT

Safety Alert No. 519
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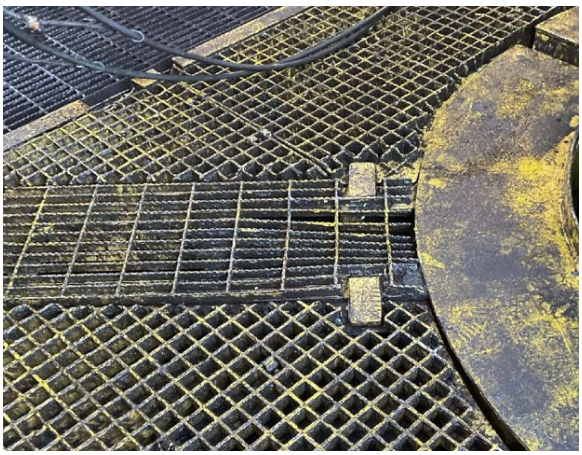
Contact: bseepublicaffairs@bsee.gov
Phone: (800) 200-4853

Verify Riser Fin Retention Systems Before Prompts Riser-Handling Operations

Resting spot of one fallen fin.



Impact location on drill floor.

Background:

The Bureau of Safety and Environmental Enforcement recently investigated a near miss incident during riser-handling operations. While rig personnel were pulling a slick riser joint and lowering it toward the riser skate, a thermoplastic riser fin detached and fell approximately 70 feet, striking the spider platform on the drill floor.

The crew stopped riser movement and conducted an immediate safety assessment. During the assessment, the crew found that the impact had displaced the hole cover. A drill crew member re-entered the area and repositioned the hole cover to restore open hole protection.

After the hole cover was secured and the drill floor was cleared, riser-handling operations resumed. As the driller continued to lower the slick joint to the riser skate, a second thermoplastic riser fin detached and fell onto the riser skate.

No personnel were in the drop zone during either event; however, crew members had been in the area less than one minute before the second fin detached. Each fin weighed approximately 61 pounds, and each fall involved an estimated 4,276 foot-pounds, or 5,798 joules, of kinetic energy. This amount of force could have caused a fatal injury if personnel had been in the impact area.

Findings:

- The fin retention system was not tensioned to Original Equipment Manufacturer, or OEM, specifications, and required torque verification steps were not completed or documented before use.
- Post-installation verification, including the required 48-hour re-torque, was not performed, leaving the retention system vulnerable during riser handling operations.
- Refurbishment work performed during condition-based maintenance did not meet Original Equipment Manufacturer requirements. The deficiencies were not clearly communicated or detected during acceptance checks.
- The legacy single-bolt tensioner system remained in service despite previous recommendations to replace it with an upgraded design.
- Entering the red zone to reposition the displaced hole cover immediately after the first dropped fin momentarily exposed personnel to a second dropped-object hazard.
- Checklist use and adherence to procedures were inconsistent. Missing documentation, including unsigned or incomplete verification checklists, meant critical installation steps could not be confirmed.
- Previous dropped-fin events in 2016, 2020, and 2025 occurred across multiple rigs, indicating a recurring industrywide vulnerability.

To help prevent similar incidents in the future, the Bureau of Safety and Environmental Enforcement recommends that operators and their contractors, where appropriate, do the following:

- Verify and document torque values for all riser-fin securing systems according to Original Equipment Manufacturer specifications, and ensure all required verification steps, including the 48-hour post-installation re-torque, are completed before deployment or handling.
- Implement manufacturer-recommended design improvements when performance concerns or upgrade advisories are issued.
- Reinforce procedural discipline by consistently applying established work practices and verification requirements.

- Strengthen vendor quality assurance and acceptance controls to ensure refurbishment and maintenance activities meet Original Equipment Manufacturer requirements before equipment is accepted and placed into service.
- Integrate dropped object risk assessments into riser-handling operations and verify that all attached components are properly installed and secured before lifting, lowering, or transferring equipment.
- Review previous dropped-fin events across all rigs and apply lessons learned to strengthen fleetwide procedures and vendor oversight.

– BSEE –

A Safety Alert is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding a potential safety issue. It also contains recommendations that could assist avoiding potential incidents on the Outer Continental Shelf.

Category: Personnel Safety, Cranes/Lifting