

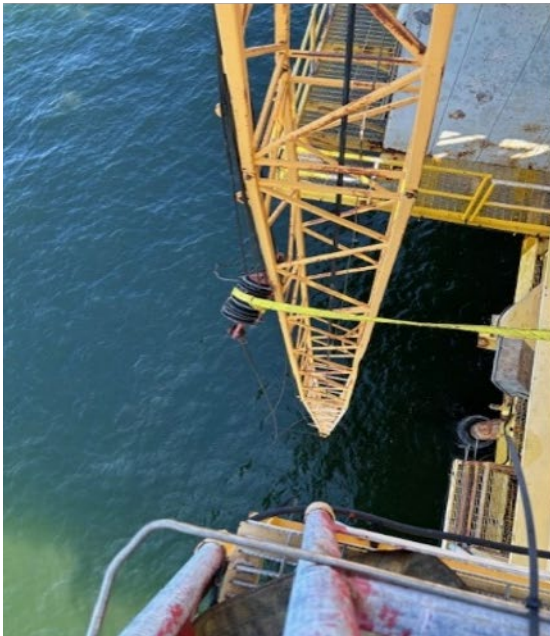


MARINE MINERALS ADMINISTRATION SAFETY ALERT

Safety Alert No. 522
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Crane Failures Highlight Crane Inspection Gaps



Incident 1: Platform crane fallen boom after boom cable separation caused by sheave bearing failure during an 8,000-pound dynamic lift.



Incident 2: Crane load block showing corroded sheave assemblies and wire rope — result of inadequate lubrication and bearing inspection, leading to cable tension loss and sheave ejection.

Background:

The Marine Minerals Administration recently investigated two platform crane incidents involving mechanical failures tied to inadequate maintenance and inspection of crane components.

Incident 1:

A platform crane was making an 8,000-pound dynamic lift from a contracted motor vessel to the platform when the crane failed. During the incident, the crane's boom cable separated, causing the boom to fall uncontrollably. The boom struck platform handrails

and the motor vessel below. No injuries were reported, but the incident damaged the platform handrails, crane, and motor vessel.

Incident 1 Findings:

- The crane suffered extensive damage after a boom cable bridle sheave bearing failed.
- Evidence indicated the bearing seized and could not spin freely as designed. Once seized, the bearing's inner race began to spin on the sheave pin, ultimately wearing through approximately 1/2 inch of the pin.
- The sheaves and bearing eventually locked up while the boom cable was still moving back and forth on the sheave. Because the sheave was made of silicon material, and softer than the crane cable, the cable cut into the sheave and wore over time until it parted.
- The third-party crane service company's training and inspection documentation did not require personnel to remove sheave pins to inspect sheave bearings or identify sheave pin wear.
- The operator's crane safe work practices and inspection guidance did not require sheave pin removal as part of crane inspections.

Incident 2:

In a separate incident, platform personnel were using a crane's load hoist line to lower a Job Safety Analysis (JSA), attached to a stinger, to a motor vessel crew before platform offloading operations. As the crane operator lowered the load block to the vessel, the crane cable suddenly lost tension. The crane cable and load block fell approximately 135 feet to the vessel deck.

During the incident, the dead-end sheave ejected upward from the load block and landed on the motor vessel deck. A deckhand strained his back while moving away from the falling cable and load block.

Incident 2 Findings:

- The crane's load block sheave pin bearing failed, creating excessive rotational force that sheared the dowel pin.
- The failed bearing allowed the sheave pin and retainers to rotate freely and dislodge from the block. The sheave pin backed out of the block, the sheave ejected, and the cable and block fell to the vessel deck below.
- The bearing failure was attributed to unchecked corrosion caused by an internal

debris restriction in the sheave pin's lubrication passage.

- The operator's crane inspection and maintenance documentation did not clearly require verification of adequate load block bearing lubrication or detailed retainer condition checks.
- Personnel were not adequately trained to identify or respond to signs of crane and load block mechanical distress, including block rocking, grinding or popping sounds, and reduced wire-rope tension.
- The load block remained suspended above the motor vessel deck. The injury could have been prevented if the crane operator had identified and mitigated the hazard by keeping the load block away from the vessel deck until necessary.

Therefore, MMA recommends that operators and their contractors, where appropriate, consider the following:

- Update third-party crane inspection criteria to require removal of sheave pins when needed to verify sheave pin condition, bearing integrity and signs of wear.
- Establish scheduled inspection intervals for sheaves, pins, bearings, load blocks and related components
- Train crane operators and other personnel to recognize and respond to early signs of mechanical distress, including unusual sounds, block movement, reduced cable tension, binding or other abnormal conditions.
- Follow safe lifting procedures, including minimizing the height of a load suspended over a motor vessel.
- Review mechanical integrity programs to verify crane maintenance and inspections are performed in accordance with the operator's SEMS plan, MMA/BSEE regulations, API RP 2D and manufacturer recommendation.
- Conduct lift planning before work begins, including review of drop zones, identification of safe zones and confirmation that all participants understand the work plan, hazards and stop-work expectations.

– MMA –

As of July 10, 2026, the Department of Interior has reunified the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement into the Marine Minerals Administration, which will oversee the responsible development of the nation's offshore energy and marine mineral resources with an integrated focus on safety, environmental protection and efficient oversight. For more information, visit [Transition to the Marine Minerals Administration | U.S. Department of the Interior](#).

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

