

SAFETY ALERT



Safety Alert No. 446

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Unsafe Working Practices Result in Crane Injury



Figure 1 – Example of how mid-section should have been rigged



Figure 2 – Boom connector pin



Figure 3 – Boom connector safety pin



Figure 4 – Boom section on injured person's (IP) leg

In May 2022, a lead mechanic suffered a severe leg injury while performing a boom tip changeout on an offshore pedestal crane. The injured person (IP) and his assistant deviated from the planned scope of work, failed to rig up the mid-section to the bridle (Figure 1) prior to removing the mid-section to boom tip connector pins (Figure 2), and failed to use boom connector safety pins (Figure 3). After removing the bottom right pin, both employees assumed the bottom left pin would be difficult to remove since it was bearing the weight of the boom section. When the IP struck the remaining connector pin, it unexpectedly ejected, causing the boom to drop and pinning the IP's leg against a sledgehammer and grating (Figure 4), and fracturing the IP's tibia.

Facility personnel used a pallet jack, a piece of two-inch pipe, and a two-by-four piece of wood to lift the boom tip and pull the IP from under the boom tip. They then applied a tourniquet to the IP to help stop the bleeding from the compound fracture.

The response of the facility personnel was critical in providing the IP lifesaving interventions until treatment could be provided at the hospital on shore.

The company's incident investigation found that the root causes were:

- A. The Job Safety Analysis (JSA) was only completed by one employee and did not include rigging up the mid-section to the bridle prior to removing pins or the use of safety boom connector pins. In addition, the IP signed off on the JSA without reviewing it.
- B. There was no requirement for onshore management or the crew to review the JSA before commencing work.

Therefore, BSEE recommends that operators and contractors consider the following:

- Reviewing their Safety and Environmental Management System (SEMS) policies and procedures and ensuring compliance with the JSA requirements.
- Reinforcing the use of Stop Work Authority (SWA) when the scope of work changes.
- Ensuring that employees understand the importance of staying out of the line of fire when working near heavy equipment and consider all pinch points when walking down the job.
- Verifying all safety equipment is available and in place prior to the job start.
- Providing specific written procedures to individuals disassembling cranes.
- Re-emphasizing that all individuals involved in a task should thoroughly review the JSA to verify all potential hazards have been addressed, including immediately before the job begins (e.g., during a toolbox talk).
- Ensuring specialized contractors create and maintain written procedures and checklists for common jobs that can be referenced during the JSA/hazard analysis process.
- Conducting drills based on realistic injury and first-aid scenarios and inspect medical supplies and kits at the facility level.
- Reviewing BSEE's District Investigation (once complete) at <https://www.bsee.gov/what-we-do/incident-investigations/offshore-incident-investigations/district-investigation-reports>.

– 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: Cranes, Personnel Safety