

SAFETY ALERT



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Crane Hazards Identified by BSEE in Risk Based Inspections



BSEE and USCG Inspectors identified missing bolt from the boom heel section on platform crane, poorly maintained lifting equipment, and numbers faded off of a boom angle indicator during crane risk inspections.

The Bureau of Safety and Environmental Enforcement (BSEE) recently conducted a review on the latest compliance and incident data to identify safety trends throughout the Gulf of Mexico. The analysis pointed to a potential risk associated with lifting safety and cranes. Between January 2016 and December 2017, 178 crane incidents were reported to BSEE by 30 unique operators. Further, the Agency issued 103 crane-related incidents of non-compliance (INCs) during the same timeframe. To reduce the likelihood of future incidents or compliance issues, BSEE developed a protocol to conduct targeted Crane Performance Based Risk Inspections (PBRI) on 30 production platforms and 10 well operations in the Gulf of Mexico Region over a two day period.

At the completion of the inspections, BSEE further reviewed the results supplied by the districts and conducted additional reviews on Safety and Environmental Management System specific items – e.g., crane inspection (pre-use, monthly, quarterly, and/or annual) records, lifting Safe Work Practices, competency of riggers and crane operators, maintenance of lifting equipment (slings, rigging components, etc.), JSAs, etc.. The findings were:

- Approximately 12.5 percent of the facilities involved in the PBRI had documented incidents of noncompliance.
- BSEE was able to determine operators are conducting crane inspections in accordance with API RP-2D, Operation and Maintenance of Offshore Cranes, 6th edition; however, evidence suggested that the inspections are not effective in identifying all deficiencies and/or operators are not aggressively closing out noted deficiencies.
- During the Lifting Safety PBRI, BSEE inspectors were able to conclude that a majority of the operators subjected to the inspection had no method for following the manufacturer's recommendations for preventative maintenance, track maintenance records, or to replace lifting equipment (slings, components, etc.) on schedule.
- About 20 percent of the facilities inspected during the PBRI had no load-indicating system in place, or had no available record(s) of calibration.
- The inspections suggest that operators Safe Work Practices (SWP) with tag lines are not implemented, specific to line length/strength requirements, or personnel are not familiar with those that exist.

- Overall, training documents were readily available to BSEE Inspectors during the inspections to verify minimum requirements were being met; however, there was a noticeable gap on the determination of a crane operator, crane inspector, or rigger's competency after training.
- BSEE identified multiple facilities which lacked evidence of personnel that are knowledgeable of proper lifting signals as referenced in API RP 2D, Operation and Maintenance of Offshore Cranes, 6th edition.
- BSEE identified multiple facilities and operators which lacked personnel transfer procedures, specifically those that covered weather and sea conditions.
- During the PBRI, BSEE identified multiple facilities and operators which lacked evidence of companies informing their offshore personnel of the circumstances surrounding an accident or near miss information release by BSEE.
- Overall, simultaneous operations (SIMOP) plans were readily available to BSEE inspectors during the inspections; however, there was evidence to suggest multiple operators fail to address lifting operations within their SIMOPs plan.

BSEE regulation 30 CFR § 250.108 set the requirements for cranes and other material handling equipment for operators. Therefore, BSEE recommends that operators:

- Verify that all API RP 2D required inspections are being performed and ensure all associated equipment and systems are operating as intended. Further, operators should develop and maintain a crane maintenance tracker that clearly assigns an individual (or individuals) responsible for correcting the deficiencies.
- Review Section 5 of API RP 2D, Wire Rope and Sling Inspection, Replacement and Maintenance, and develop and/or implement a maintenance program that focuses on lifting equipment, such as slings, wire rope, etc..
- Although load indicators must not be used to test cranes, the readings should be recorded on each lift where load indicators are installed on the crane. Additionally, if load indicators are present, Operators should have calibration procedures in place.
- All lifts on the OCS should be evaluated for all risks, and the appropriate tag lines and use of tag lines should be reviewed. This includes defined length, strength, and diameter.
- Develop procedures, beyond requiring training certifications, to ensure understanding and competency for crane operators, riggers, and crane inspectors. These procedures should specifically address how an operator verifies lifting personnel have adequate retention of the required knowledge and skills to carry out their duties.
- Review the API RP 2D Figure 1: "Standard Hand Signals for Controlling Crane Operations" and verify those signals are implemented and understood by all lifting personnel on their facilities.
- Review BSEE Safety Alert 331 and develop/implement personnel transfer procedures as discussed the recommendations presented within the alert.
- Review how they disseminate safety and environmental information to direct and contract personnel to ensure all offshore personnel are knowledgeable on the hazards identified by BSEE.
- Review their SIMOP plans and address lifting operations where applicable.

A **Safety Alert** is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding an accident or near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.