

TECHNICAL ARTICLE

BSEE's New Approach to Inspections

The Bureau of Safety and Environmental Enforcement (BSEE) has been the authority for regulatory standardization and enhancement for the oil and gas exploration and production activities in the Outer Continental Shelf (OCS) since 2011.

As a part of their regulatory remit, BSEE is undertaking inspections to ensure the integrity of the structures and processing equipment on the OCS are properly maintained to continue safe operations with no harm to the environment. As a part of this undertaking both scheduled annual inspections, and periodic and unannounced inspections are performed.

In recent years, the BSEE Safety Inspection Program section has been developing a risk-based approach to augment these inspections. The new approach enables BSEE to focus on more targeted inspections, as based on historical data and information from the industry. The program will focus on analyzing inspection and Incident of Noncompliance (INC) data to identify trends and areas of concerns, develop risk profiles, prioritize inspection programs and protocols, and transfer knowledge and findings to the industry through safety alerts. This is envisioned to be a progressive and proactive approach to minimize any unforeseen incident by identifying and managing common issues leading to failures.

The pilot project, completed in late 2017, focused on the inspection of equipment leading to gas release events. The findings were released in January 2018 through a Safety Alert published by BSEE¹. The highlights from the safety alert are as follows:

- Lack of proper maintenance and testing, and/or lack of documentation on the frequency and results of inspections.
- Safe Work Practices do not fully cover pressurized welded enclosures and are not available to offshore personnel.
- Multiple job safety analyses had potential non-compliances with 30 CFR 250.1911 or 250.1928.
- Lack of training and/or evidence of training of personnel in gas detection.

The associated recommendations are:

- Development and implementation of daily and weekly inspection protocols to check for common gas releases based on incident data from flotation cells, thief hatches and produced water treatment units.

¹ Mathews, J., Gas Release Hazards Identified by BSEE. Safety Alert No. 328. BSEE. January 5, 2018. (<https://www.bsee.gov/safety-alerts/safety-alert-328-gas-release-hazards-identified-by-bsee>)

- Development and implementation of monthly, quarterly and annual inspection protocols for the testing and maintenance of handheld gas detecting units to include:
 - Documentation of inspection/test date, personnel information along with a signature, serial number or another form of equipment identification/verification number and a description of the inspection/test.
- Review of OCS facilities to ensure all area classification signs are properly marked and the potential hazards are identified.
- Review of all safe work practices to ensure they reflect current practices and are available to all personnel involved in operations.
- Verify training of personnel in the work practices and develop training material through original equipment manufacturer participation, if needed.
- Documentation of installation date, manufacture date and identification information for boom, main, auxiliary and pendant cables
- Inspection and lubrication of sheaves
- Ensuring that wire rope sizes and sheave sizes are compatible
- Loads should be verified to be centered, balanced and secured prior to initiation of the lifts.

It is anticipated that this risk-based approach will continue to be developed by BSEE as they look at further targeted assessment areas. In this way, it is ultimately expected that operators will eventually be guided towards a strategy that requires the use of common risk-based practices across all aspects of integrity program management for OCS structures and their associated process equipment.

The second project carried out in early 2018 focused on lifting and crane operations and the findings were released in February 2018 in a separate Safety Alert². The recommendations from the safety alert include the following:

- Proper planning prior to lifts should include review of drop zones, identification of safe zones while the lift(s) occurs and verification of that all participants are trained in the work practices to perform the lifts and perform inspections.
- Mechanical integrity programs should include crane maintenance and inspections, and be performed per the Operator's SEMS plan, BSEE regulations and API RP 2D. Special consideration should be given to:
 - Accessibility and inspection of a crane's boom hoist lock pawl cylinder assembly
 - Outer diameter measurements of boom, main, auxiliary and pendant cables

² Mathews, J., Potentially Catastrophic Crane and Lifting Incidents. Safety Alert No. 329. BSEE. February 20, 2018. (<https://www.bsee.gov/safety-alerts/safety-alert-329-potentially-catastrophic-crane-and-lifting-incident>)