



Safety Alert No. 482

April 4, 2024

Contact: [bseepublicaffairs@bsee.gov](mailto:bseepublicaffairs@bsee.gov)

Phone: (800) 200-4853

## **BSEE Risk Based Inspection Identifies Welding and Burning Hazards**

In September 2023, the Bureau of Safety and Environmental Enforcement (BSEE) carried out [Performance-Based Risk Inspections \(PBRIs\)](#) for 22 production and well operation sites in the Gulf of Mexico. An analysis of compliance and incident data since 2022 uncovered multiple high potential fires associated with welding and burning operations leading to these on-site targeted inspections of 13 production facilities and nine well operation facilities operated by 11 distinct operators. An evaluation of those inspections identified several critical issues requiring attention to ensure the safety and integrity of ongoing operations.

The PBRIs revealed instances where fire protection barriers (e.g., tarps, curtains, and blankets) were either inadequately placed or damaged, posing a risk to the safety of welding and burning operations.

In one incident, evidence suggests hot slag from a cutting torch pierced the underside blanket barrier of the living quarters building. The residual heat likely caused the wood subfloor to ignite (Figure).



*Figure: Fire spread to the living quarters following the removal of the heliport substructural frame using cutting torches.*

The PBRI identified the following concerns:

- Hot work was being conducted in areas located within 35 feet of equipment containing hydrocarbons.
- Inadequate housekeeping practices were observed, with flammable sources like cardboard boxes found within 35 feet of hot work areas, posing an additional risk to safety.
- Tools for prevention, such as fire extinguishers and portable gas detectors, were not properly identified as necessary.
- Operations were taking place without an approved Safe Welding Plan, indicating a need for comprehensive safety measures and planning.
- Offshore personnel were not following safe welding and hot work procedures. For example, one procedure requires the designated person-in-charge to personally verify the individual performing the burning had been trained to safely operate the oxygen/acetylene burning equipment. BSEE found at least one instance of this not having occurred.
- Frequency of training for hot work and/or welding was inconsistent. BSEE was unable to determine from the Safe Welding Plans or Safety and Environmental Management System (SEMS) Training Element if operators required individuals serving as welders to be trained and qualified to the appropriate industry standards and codes (e.g., American National Standards Institute, American Welding Society, American Society of Mechanical Engineers etc.), relative to the specific type of hot work tasks being performed.
- Hot work permits and Job Safety Analyses (JSAs) listed the same person to perform fire watch and perform the hot work.

**BSEE recommends that operators and their contractors, where appropriate, consider doing the following:**

- Taking all necessary precautions to control, remove, or otherwise correct any hazardous oil and gas accumulation or other safety, health, or fire hazard.
- Inspecting the rating, current condition, and placement of fire protection barriers to mitigate the potential risk caused by hot work, including personal protective equipment.
- Reviewing and mitigating any hazards associated with welding and burning operations, which warrant a heightened level of planning specific to the task's risk.
- Reviewing training and competency requirements for hot work, ensuring these meet industry standards.

- Ensuring employees can understand and perform their jobs in a safe and environmentally sound manner.
- Ensuring all hot work operations are inspected by the person in charge prior to commencement of work and ensuring adequate supervision and fire watches are in place throughout the duration of the work.
- Adhering to all applicable planning and procedures for safe welding and hot work.
- Requiring all operations and contract personnel attend and participate in pre-job JSA meetings and ensuring the supervisors of all phases of the work know and understand the complete scope of the job.
- Ensuring compliance with *30 CFR, Section 250.46, Safe and Workmanlike Operations*.

PBRIs are a component of BSEE's Risk-Based Inspection (RBI) Program and performed in addition to BSEE's annual inspection program. The RBI Program uses a systematic approach, employing both a quantitative risk model as well as subjective performance and risk-related intelligence information, to identify higher-risk facilities on which to focus inspections and resources. For PBRIs, BSEE specialists review key performance indicators, like compliance and incident data, to identify any trends indicating risk associated with widely-employed procedures or equipment that warrant the attention of focused inspections. PBRIs are narrow in focus (for example: gas releases; lifting incidents; compressor fires; etc.), and cover multiple facilities, operators, and districts in a two-to-three-day window. The findings are used to inform the entire industry and thereby have far-reaching effects leading to continuous improvement.

Learn more here: [Risk Based Inspection Program | Bureau of Safety and Environmental Enforcement \(bsee.gov\)](https://www.bsee.gov/rbi)

– 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, Fire