

Safety Alert

BSEE

U.S. Department of the Interior
Bureau of Safety and Environmental
Enforcement
Gulf of Mexico OCS Region

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Electric Line Failure from Corrosion Results in Injury

During well temporary abandonment operations, electric line (eline) was used to set a 1,000 pound cast iron bridge plug assembly (the assembly). When the assembly was approximately 6 inches from the deck, the eline parted near the rope socket. As the assembly fell, the Injured Person (IP), who was guiding the assembly to the well bore, was struck on the foot as a result of the IP being within the assembly's potential fall radius.

A BSEE investigation revealed the following:

- After the incident, the eline operator cut 1,500 feet of the eline off the drum and found the eline to be corroded and brittle with 5 out of the 18 wire rope strands broken.
- The approved BSEE Permit to Modify stated the assembly would be run with the workstring, but the assembly was actually run with eline.
- The Job Safety Analysis (JSA) was performed 9 hours prior to the job and did not identify all risks associated with the specific lifting operation; e.g., the job required a worker to be within the assembly's 9 feet potential fall radius but risk assessment of the assembly's potential fall hazard, and the eline's condition/capability for making the lift were not addressed.
- Findings from a third party lab's visual examination of the eline indicated corrosion and pitting, with the fractured outer wire strands distorted and bent in a way indicative of shear/overload fracturing due to corrosion. A scanning microscope examination also revealed the fractured surfaces were battered, abraded and corroded, also revealing shear/overload due to corrosion.
- The eline operator couldn't provide any standard operating procedures or long term preventative maintenance records for the eline unit.

Therefore, the BSEE recommends:

- Eline/wireline operators develop and maintain standard operating procedures and records for the eline/wireline units to include preventative maintenance protocol, visual inspection of the wire rope associated with these units and wire rope change-out records (similar to crane wire rope protocols). Lessees should request a copy of these eline/wireline procedures and records.
- Lessees and its contractors review Safety Alert No. 282 that discusses the need for workers to understand it is not the JSA Form alone that will keep them safe on the job but rather the process the JSA represents. It is of little value to identify hazards and devise proper controls if the controls are not put in place.

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