safety

Electrical line contact during trenching operations
Investigation Lessons Summary

sharingtheexerience

Incident: Electrical high-voltage shock

Country: United States

Type of incident: HiPo

Tr@ction no: 2012-IR-42643492

Business entity: BP Wind

Date of incident: Oct 23, 2012

Location of incident: Mehoopany, PA

HiPo notification date: Oct 25, 2012

What happened? : A contract crew was installing the electrical collector system for a wind farm. The driver of the trenching machine digging a trench to lay the cable in severed a privately owned underground energized 7.2 kV cable. There was potential for exposure to an electrical shock to the driver, a team member who entered the trench after the cable was cut, and a backhoe operator working nearby. There were no injuries as a result of this incident.

What went wrong? :

The electrical energy was not switched off before work commenced.

The cable routing information was not available from the owner or the local utility. The contractor relied solely on electronic detection data for identification and marking of the underground lines. The execution of this marking was less than adequate.

Communication between the foreman and the driver failed to make clear the danger of trenching in the area the marking was not adequate.

Summary of local action:

The following corrective actions were implemented by the site team.

1. Perform 100% electrical line detection ahead of the trenching machine.
2. Update the Ground Disturbance Permit to include requirements for the type of markers, electrical lockout isolation, verification of isolation, and BP notification for approval when near any electrical ground disturbance.
3. Contractors to be retrained on the content and use of the Ground Disturbance Permit.
4. Contractor to train their employees on their Excavation Safety Policy.
5. Develop and communicate a written site safety plan for any detected lines before work commences.
6. Employees and management of employees working around or on energized electrical equipment to have electrical training to understand the dangers of energized electrical system exposure.

Key learning to share

1. Ensure that ground disturbance permits include requirements for type of markers, electrical lockout isolation, as well as verification of electrical isolation.
2. Employees and management of employees working around or on energized electrical equipment should have electrical training to understand the dangers of energized electrical system exposure and how to mitigate the risks of potential electrical energy.

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