

NATF Redacted Operating Experience Report

Substation Employee Fall Incident

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Topic

Substation Employee Fall Incident

Description

An employee was seriously injured when he fell approximately 16 feet from the top of a transformer. The employee was attempting to align a manifold elbow flange when he lost his balance and fell to the ground. Though the injured employee was wearing a fall protection harness and lanyard, it was not attached to the transformer when the incident occurred.

Employees routinely disconnect fall protection lanyards when moving from one location to another (point-to-point transit) on top of transformers. Each time a fall protection lanyard is disconnected, this results in an opportunity to fail to reconnect the lanyard after the movement is completed.

Additionally, the top of a transformer has numerous tripping hazards, which could result in falls when working near the unprotected edges. The work practices employed when this incident occurred did not reduce or mitigate the situation.

A job hazard analysis was not performed for this work and a suitable alignment tool was not available at the work site. A job hazard analysis for performing work on the top of transformers would have identified the hazard and described the mitigating action required, thereby reducing the likelihood of the event.

The employee lost his balance when the tool he was using slipped out of a flange bolt hole while significant lateral force was being applied. The length, diameter, and taper of the tool in combination with the bolt hole diameter resulted in the tool being susceptible to slipping out of the hole when lateral force was applied due to insufficient pressure in the flange.

Lessons Learned

1. Work practices and methods can inadvertently introduce unmitigated error-likely situations. A formal job hazard analysis provides an opportunity to identify and employ work practices and methods that recognize and mitigate the hazards associated with specific tasks.
2. Ensure tools are specifically applicable to the work being performed.

Actions Taken

1. Work practices and expectations established to ensure fall protection lanyards are attached and formal peer check is used (3-way communication) by personnel working on top of transformers.
2. Conducted a formal job hazard analysis for working on top of transformers.
3. Identified and procured suitable tool for aligning flanges associated with transformer auxiliary systems.

Extent of Condition

Applicable to all personnel that perform work on top of transformers.

Photos from Incident



