

Date Tue, 25 Jan 2000 100423 -0700
From Meredith Brown racer@lanl.gov
Subject: Yellow Alert- Safe Stand-off Distance

Project Hanford Lessons Learned

Title- Yellow Alert- Trailer Parked Under Power Line Violates Safe Stand-off Distance

Date December 20, 1999 Identifier 1999-RL-HNF-0055

Lessons Learned Statement- OSHA minimum safe distances from high voltage power lines for unqualified personnel, for material storage, and for equipment movement are not all the same. Those limits are established to minimize hazards from contact with energized power lines and from induced currents and arcing. Violating those distances places personnel and equipment at serious risk. HNF-PRO-088 requires Electrical Utilities to be notified at least 48 hours before moving any equipment taller than 14 feet (4.8m) under overhead power lines.

Discussion of Activities- An employee climbed the ladder of a transport trailer parked directly under a 230,000-volt power line to look at a Multi-Canister Overpack (MCO). The worker felt a tingling sensation as he climbed the ladder. He was not trained to work near power lines. He mentioned the tingling sensation to a co-worker who in turn informed the Operations Shift Manager.

Analysis- Investigation revealed violation of HNF-PRO-088 which requires notifying Electrical Utilities 48 hours before moving equipment taller than 14 feet (4.8m) under overhead power lines. OSHA Standard 1910.333(c)(3)(i) prohibits unqualified persons from coming closer than 16 feet from an energized 230-KV power line. OSHA Standard 1910.269(k)(2)(i) prohibits storing material or equipment closer than 16 feet from an energized 230-KV power lines. The high voltage power line is approximately 31 feet above ground level and the top of the MCO on the trailer is 17 feet, 6 inches high. This resulted in the employee and the positioning of the MCO trailer violating the safe approach distance of 13 feet, 6 inches.

Recommended Actions- Facilities with overhead power lines should ensure their personnel are familiar with requirements for moving and storing equipment under power lines and that they know the safe stand-off distances from power lines. Facilities may want to mark the ground under power lines or post signs to indicate safe working distances under the lines. Personnel should be warned that a tingling sensation and hair "standing up" when in the vicinity of energized high-voltage power lines are danger signs and the employee should move away quickly.

Priority Descriptor YELLOW/Caution
Work / Function Training and Qualification, Driving, Procedure Adherence
Hanford Functional Categories N/A
Hazard Electrical/NEC
ISM Core Function Analyze Hazards, Perform Work
Originator Fluor Daniel Hanford, Inc. Submitted by Jim Mathews, (509)373-4598

Contact Project Hanford Lessons Learned Coordinator; (509) 373-7664; FAX 376-5243; e-mail PHMC_Lessons_Learned@rl.gov

Authorized Derivative Classifier Roger Terry (509) 372-3343

Reviewing Official John Bickford

Keywords power line, high voltage, induced voltage

References

OSHA Subpart R 1910.269(a)(2)(ii)(c)

OSHA Subpart R 1910.269(k)(2)(i)

Occurrence Report RL--PHMC-SNF-1999-0026