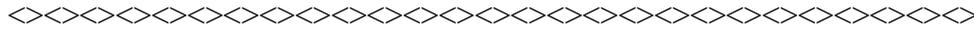


Date sent: Tue, 11 Aug 1998 12:03:39 -0400
From: "Eubanks, Cynthia M. (EUB) " <eub@bechteljacobs.org>
Subject: Yellow Alert: 440-Volt Breaker Fault Near-Miss

The following Bechtel Jacobs Company, LLC Lesson Learned Yellow Alert is being distributed to communicate a near-miss incident that occurred at the East Tennessee Technology Park (ETTP). This alert is a reminder to carefully review all subcontractor work plans prior to commencing field activities and to emphasize to all employees and subcontractors their stop work authority when an activity is not covered in a work plan. If you have any questions, please contact Joanne Schutt at (423)574-1258, [e-mail=s6u@ornl.gov](mailto:s6u@ornl.gov) .

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TITLE: 440-Volt Breaker Fault Near-Miss

IDENTIFIER: Y-1998-OR-BJCETTP-0701

DATE: July 22, 1998

LESSONS LEARNED STATEMENT: Project Managers should carefully review all subcontractor work plans prior to commencing field activities. All subcontractors should be reminded of the need for thorough work planning, including hazard analyses, to encompass all activities performed. Employees should exercise their stop work authority when an activity is not covered in a work plan. Work should not continue until an activity hazard analysis has been performed and incorporated into the work plan.

DISCUSSION: A subcontract worker was using a garden-type sprayer to spray solvent on an energized 440-volt breaker box in an effort to remove surface radioactivity from the outer surface of the box. The worker had been scrubbing the exterior of the box but was having some difficulty removing one spot of contamination on the upper exterior corner. The worker left the immediate area of the breaker, but during the spraying process, enough of the liquid solvent had entered the breaker to cause a fault in the area of the lugs on the top of the breaker. This resulted in severe arcing that was witnessed by another worker in the vicinity. The arcing caused by the fault burned a 1-inch by 6-inch hole in the front cover of the breaker box. No one was injured as a result of this event, as the employee performing the task was a safe distance from the breaker when the breaker faulted, however, a potential for serious injury existed.

A fire extinguisher was utilized to extinguish smoldering insulation material. The Shift Superintendent was notified and immediately responded to the incident scene. The Shift Superintendent notified the Fire Department Shift Commander to respond to the scene.

The subcontractor immediately stopped and suspended this work activity pending evaluation of the incident and submittal of an approved restart plan to Bechtel Jacobs Company LLC.

ANALYSIS: A meeting was held with the Bechtel Jacobs Company, LLC, project team members and facility manager, subcontractor supervision, and safety and health contacts from both Bechtel Jacobs Company and the subcontractor. This group re-evaluated the subcontractor's existing procedures/processes involving lockout/tagout (LO/TO) and Work On or Near Energized Circuits. The objective was to understand the incident that occurred and prevent recurrence. Recommendations were communicated to the subcontractor for incorporation prior to resumption of work on the specific project and for future projects to prevent recurrences of this type. The subcontractor incorporated these recommendations (including revisions to associated procedures), and the submitted Restart Plan was accepted.

A causal analysis of the event was performed, with the direct cause of the event determined to be Inattention to Detail. The operator and supervisor should have realized that there was no Activity Hazard Analysis (AHA) for this work. Communicated expectations to the subcontractor and implementation of the approved restart plan should prevent recurrence.

The root cause was Work Organization/Planning Deficiency. During the work planning process, this specific activity (decontamination of building columns and walls) was overlooked. Therefore, an AHA was not developed and communicated to the workers. Both the supervisor and the worker should not have proceeded with this activity.

The subcontractor also was reminded of the emphasis which should be placed on conducting daily pre-work briefings and proper training for employees, insuring work activities are performed as planned and in compliance with the safety, health, and environmental regulations.

RESOLUTION/RECOMMENDED ACTIONS: To prevent recurrence, the following action plan was developed.

1. Communicate expectations to the subcontractor for incorporation in the work Restart Plan, which shall include the following as a minimum. Project oversight personnel shall field verify that these actions are being implemented:
 - a. Prior to commencing decontamination activities on walls and columns, all associated electrical circuits will be de-energized in accordance with approved Lockout/Tagout procedures.
 - b. No liquids shall be used for decontamination on or above electrical devices.
 - c. All personnel will be excluded from the immediate area during re-energizing of these electrical circuits. The exclusion area must extend a minimum 10 ft. from the electrical device.
2. Review Restart Plan submitted by the subcontractor to ensure incorporation of expectations from Corrective Action No.1.
3. Issue a DOE-Wide Lessons Learned, that includes distribution to all Project Managers, as a reminder to carefully review all subcontractor work plans prior to commencing field activities and to fully implement related company procedures.

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Performance/Quality Assurance
VALIDATOR: J. R. Frantz, (423) 574-6557, Field Services
CONTACT: Joanne E. Schutt, (423) 574-1248
NAME OF AUTHORIZED DERIVATIVE CLASSIFIER: D. A. Coleman
NAME OF REVIEWING OFFICIAL: John F. Preston
PRIORITY DESCRIPTOR: Yellow/Caution
KEYWORDS: 440-volt, breaker, arc, near-miss, breaker fault
REFERENCES: Occurrence Report: ORO--BJC-BJCETTP-1998-0001, Critique: CR-98-016
"440 Volt Breaker Fault in K-1401"
DOE FUNCTIONAL CATEGORY: Occupational Safety and Health
LMES FUNCTIONAL CATEGORY: SH - Safety and Health
HAZARD CATEGORY: Electrical/NEC
WORK ACTIVITY: Decontamination & Decommissioning, Waste Remediation, Radiological

FOLLOW-UP ACTION: Information in this report is accurate to the best of our knowledge. As means of measuring the effectiveness of this report please notify Joanne E. Schutt at 423/574-1248, e-mail at s6u@ornl.gov of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.

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