

Date: Wed, 10 Feb 1999 10:32:14 -0600
From: Meredith Brown <racer@lanl.gov>
Subject: Red Alert: Fall Protection

Title: Subcontractor Ironworker Falls from Steel Beam

Date: February 8, 1999
Identifier: 1999-OAK-LBNL-0001

Lesson Learned Statement: A subcontractor working on the second story steel frame of a building under construction fell through an unprotected opening. The failure to recognize changing conditions at the job site resulted in the lack of adequate protective measures such as fall arrest equipment or guarding of the opening.

Discussion of Activities: During a major construction project, a subcontractor welder working on the second story steel frame lost his balance and fell through an opening on the second floor decking. His work consisted of welding steel beams to columns. The worker was 16' above the ground. He sustained injuries to his back, arms and legs and spent 5 days in the hospital.

Findings: To allow welding of beam to column connection, the beam was exposed by removing part of the temporary decking. This action left an unprotected opening. To move from one work point to another, the welder walked on the exposed beam, lost his balance and fell through the opening. First aid and transportation to the hospital was provided to the injured worker. The site of the accident was immediately shut down until an investigation could be performed. The site was photographed. A DOE Occurrence Report was filed. The construction subcontractor was required to provide an immediate safety improvement plan before continuing with additional construction activities.

Analysis: The failure to recognize changing conditions (i.e., removal of the temporary decking) at the job site resulted in the lack of adequate protective measures such as fall arrest equipment or guarding of the opening.

Recommended Actions: The construction subcontractor was required to provide an immediate safety improvement plan before continuing with additional construction activities. A guardrail system was installed around all openings. In areas where the workers were required to enter beyond the guardrail system, a fall arrest system was employed. This included a horizontal lifeline and use of a safety harness and lanyard. The construction subcontractor was required to employ a safety consultant to assist them with future safety inspections.

In addition to the fall protection systems implemented, the Laboratory ensured that all LBNL personnel associated with construction projects throughout the Lab, such as project managers, construction superintendents, supervisors and construction inspectors receive additional training in fall protection and the construction safety orders in general. The OSHA 10-hour Outreach Class in Construction Safety was developed and all required personnel completed the course. Additional fall protection training was provided to the Berkeley Lab Construction Safety Engineer to ensure that fall hazards are recognized and appropriate protection is provided.

Construction subcontractors are now required to provide written Fall Protection Plans for all construction work above six feet. The plan must include the recognition of the need for fall protection and the system to be employed to provide that protection. The Plan will be reviewed and accepted by EH&S prior to elevated work commencing. Facilities, Project Management Group, has implemented a Pre-Bid qualification program whereby Construction Subcontractors, prior to being awarded a contract, are evaluated based upon their prior safety record, as well as their overall safety performance.

Originator: Lawrence Berkeley National Laboratory

Contact: Loretta Valentine (510) 486-5200, LAValentine@lbl.gov

Authorized Derivative Classifier: N/A

Reviewing Official: Chester Chang (Berkeley Site Office)

Priority Descriptor: Red

Functional Categories (DOE): Occupational Safety and Health, Construction, Elevated Work, Fall Protection, Training and Qualification

Functional Categories (User Defined): Occupational Safety and Health, Construction, Elevated Work, Fall Protection, Training and Qualification

Key Words: Occupational Safety and Health, Construction, Elevated Work, Fall Protection, Training and Qualification

FOLLOW-UP ACTIONS: Information in this report is accurate to the best of our knowledge. As a means of measuring the effectiveness of this report, please contact the originator of significant action(s) taken as a result of this report or of any technical inaccuracies you find. Your feedback is appreciated.