Office of Environment, Health, Safety and Security
Operating Experience Level 3

OE-3: 2015-05 **November 2015**

Fall Protection Can Prevent Serious Injuries

PURPOSE

This Operating Experience Level 3 (OE-3) document provides information about a safety concern related to incidents at Department of Energy (DOE) facilities in which fall protection requirements were not followed. According to the Occupational Safety and Health Administration (OSHA), falls from elevations, including into holes in floors, are the leading cause of worker fatalities in the U.S. construction industry.

BACKGROUND

Title 29 Code of Federal Regulations (CFR) Part 1926.501, *Safety and Health Regulations for Construction: Duty to Have Fall Protection*, requires that employers provide fall protection at elevations of 6 feet or greater. Protection can consist of guardrails, safety nets, or a personal fall arrest system with harness and line. Within DOE, effective work planning includes analyzing fall hazards, and developing and implementing controls to mitigate them.

THE EVENTS

On January 21, 2015, a subcontractor at the Hanford Low Activity Waste Annex Building was observed on a ladder above six feet without fall protection. Although he began assisting his crew at a lower level, he obtained a higher point on the ten foot ladder as he was assisting his crew with pulling wire through conduit, putting him at a height of more than 7 feet. As soon as he was notified by his supervisor, he left the work area and obtained a suitable anchorage and fall protection system. (ORPS Report EM-RP--BNRP-RPPWTP-2015-0002)

On May 15, 2014, the National Renewable Energy Laboratory (NREL) filed a report describing 3 events over an 18-month period in which workers exceeded the boundaries of elevated scissor lift platforms without using fall protection. In the first event, an operations technician was observed working from an elevated scissor lift while standing on its mid-rails. He was wearing a full-body harness with shock-absorbing lanyard, but the lanyard was not attached to an anchor point. In the second event, a sheet metal subcontractor without fall protection was observed standing outside the basket of a man-lift while trying to install a chemical fume hood. He had one foot on the fume hood and the other on the outside of the lift mid-rail 7 feet off the ground. In the third event, a fire system repair subcontractor was observed standing on top of an environmental chamber at a height of 9 feet without fall protection equipment. In each case, the worker should have stopped to consider next steps. The first worker should have stopped to perform a step-by-step check of his Personal Protection Equipment; the second worker should have stopped when he realized the task had changed from one he could do from the safety of the basket; and the third worker should have stopped before moving on to assess the additional leak that was outside the scope of the original task. (ORPS Report EE-GO--NREL-NREL-2014-0023)

Also at NREL, on April 15, 2014, a construction subcontractor was observed on his hands and knees disconnecting rigging from a trench box within an excavated trench. From a kneeling

position, he reached into the trench box to release the rigging, placing himself within 6 feet of the leading edge of the excavation and adjacent gabion wall, where he had the potential to fall 10 feet. Although tie-off points were available, the worker believed he was safe on his hands and knees. An Environment, Health, and Safety (EHS) point of contact paused work, the worker was informed of the fall protection requirements, and the construction crew donned fall protection for the remaining activities. (ORPS Report EE-GO--NREL-NREL-2014-0015)

In late December 2012, a maintenance technician at Idaho National Laboratory was observed via camera standing on bridge rails approximately 30 feet above the floor before the approved fall protection plan had been implemented. Not all of the requirements for the task were incorporated into the work package for the in-cell work the technician was performing. The worker believed he was safe with his feet braced on the bridge rails, leaning back against a temporary hand rail. (ORPS Report EM-ID--ITG-AMWTF-2013-0001)

CORRECTIVE ACTIONS

Sites that filed ORPS reports cited in this OE-3 took numerous corrective actions, some of which are described below.

- Develop a guidance document identifying activity hold (stop work) points.
- Adopt the hold points into the Safe Work Permits and train on their importance.
- Perform an extent of condition review of other similar projects and work to ensure hazards are identified and controls are specified.
- Use lessons learned to revise the current fall protection plan and revise the plan for upcoming projects.
- Research alternate methods to access elevated areas to avoid fall hazards.
- Update procedures in use to specifically include requirements for fall protection.

CONCLUSION

These occurrences serve as reminders of the need for strict procedural compliance and a questioning attitude, from initial planning and walkdowns to performing work, and to stopping when conditions change. Communication is necessary between work groups regarding elevated safety regulations and expectations. All workers should ask the question, “What if?” throughout the task. Workers should stop periodically to check fall protection. In order to save a life, all parts must be securely attached to a lifeline or fixed point.

REFERENCES

Title 29 CFR Part 1926, *Safety and Health Regulations for Construction*

EM-RP--BNRP-RPPWTP-2015-0002, *Subcontract Employee Violated Project Fall Protection Requirements*

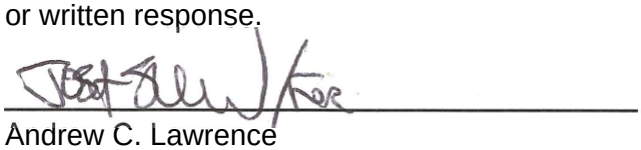
EE-GO--NREL-NREL-2014-0023, *Recurring Fall Protection Violations Involving Scissor Lifts*

EE-GO--NREL-NREL-2014-0015, *Management Concern – Subcontract Worker Approaches Leading Edge without Fall Protection*

EM-ID--ITG-AMWTF-2013-0001, *Maintenance Technician Exposed to 30 Foot Fall Hazard*

Questions regarding this OE-3 document can be directed to Ashley Ruocco at 301-903-7010 or ashley.ruocco@hq.doe.gov.

This OE-3 document requires no follow-up report or written response.



Andrew C. Lawrence
Director
Office of Environmental Protection and
ES&H Reporting
Office of Environment, Health, Safety and Security