

OE-3: 2015-06

December 2015

## Winter Preparedness – Slips on Ice

### PURPOSE

This Operating Experience Level 3 (OE-3) document provides information about the hazards of slips, trips, and falls on ice across the Department of Energy (DOE) Complex.

### BACKGROUND

From October 2014 through May 2015, ten reports were filed in the Occurrence Reporting and Processing System (ORPS) involving slips, trips and falls on ice. The number of reported events has remained fairly consistent over the past several years, demonstrating the continued need for situational awareness to prevent accidents and injuries resulting from ice underfoot. The following are four examples of the ten reports.

On February 26, 2015, an employee at Argonne National Laboratory slipped and fell on ice after stepping over a snow mound. The employee fell sideways, landing on his right hip, and striking the right side of his body and head on the pavement. As a result, the employee sustained a contusion and right-hip socket fracture. (ORPS Report SC--ASO-ANLE-ANLE-2015-0002)

On February 18, 2015, an employee at the Y-12 National Security Complex slipped and fell on ice while walking through a parking lot to report to work. The employee was wearing rubber-soled shoes with good tread, but they were inadequate for the conditions. The employee was transported offsite via ambulance, and was diagnosed with a head injury, loss of consciousness, and a scalp laceration requiring stitches. (ORPS Report NA--NPO-CNS-Y12NSC-2015-0008)

On January 5, 2015, an employee reporting to the Sandia Synergy Center building for the first day of work slipped on a patch of ice and fell. Surgery was required to repair the employee's ankle,

which was broken in three places. (ORPS Report NA--NPO-CNS-Y12NSC-2014-0021)

On October 22, 2014, an employee slipped and fell on an icy surface at the Advanced Mixed Waste Treatment Project, injuring his right knee. The employee was walking on a wooden pedestrian ramp placed over electrical conduit between buildings when he slipped and fell. Accumulated frost had overcome the traction normally provided by painted-on grit. One of the responding fire department personnel also slipped while assisting the individual off the ramp. (ORPS Report EM-ID--ITG-AMWTF-2014-0013)

### DISCUSSION

These events resulted in painful injuries, some requiring surgery and days away, restricted, or transferred.

Weather-related injuries most often occur while workers go to and from work, walk between buildings, or perform routine tasks. Situational awareness during these transition times can be compromised as workers focus on their destination or the work ahead, and not necessarily the hazards presented on the pathway to that destination.

The mitigation of winter weather-related hazards continues to be a challenge across the DOE Complex. Strategies that are currently employed include, but are not limited to, removing ice and snow, using ice-melt products, establishing and implementing mandatory snow routes, and providing a telework option.

The OE Summary (OES) article, *Winter Safety* (November 27, 2013), described one DOE site's use of a slip simulator to train employees to make adjustments to their gait to avoid falling when walking on slippery surfaces.

The adjustments included the following.

1. Keep head up—look down with eyes only.
2. Keep shoulders over ankles—don't hunch over or carry things.
3. Take half steps.
4. Walk flat-footed, not heel-to-toe.

The training was largely a success, with trainees experiencing no slips, trips, or falls during the period following training, and the population of observers experiencing a decrease in the number of their slips, trips, and falls compared with a control group. Workers should adopt this cautious gait when slippery conditions are possible. For more information on the 2013 OES, visit: [http://energy.gov/sites/prod/files/2014/05/f15/OES\\_2013-04.pdf](http://energy.gov/sites/prod/files/2014/05/f15/OES_2013-04.pdf).

Additionally, selecting appropriate footwear can reduce the chances of falling on slippery surfaces. The addition of ice-gripping products that fit over shoes can further increase traction; however, they must be removed when ice is no longer present, because their use on floors, smooth concrete, or gravel, presents a different slipping hazard.

### **CORRECTIVE ACTIONS**

Sites that filed ORPS reports cited in this OE-3 took the corrective actions described below.

- Creation of an earliest allowed arrival time for all non-essential personnel, rather than the use of 4-hour delay from normal start time. This accounts for all non-essential personnel who have early normal starting times, ensuring that they do not arrive on site before management has ensured snow/ice removal is complete.
- Discussion with personnel about appropriate footwear choices.
- Discussion with personnel about the options to telecommute during inclement weather events.

### **CONCLUSION**

These events serve as reminders of the need for situational awareness when traversing pathways that could present fall hazards due to the presence of ice or snow. The adoption of a

cautious gait can prevent falls when walking on slippery surfaces, and the selection of appropriate footwear or the use of ice-gripping devices can further mitigate the hazards presented by ice or snow. Workers should opt to telework during inclement weather events if their management and job allow.

Workers at DOE sites may not be able to change the weather, but they can change their responses and behavior when winter weather affects walking surfaces. Situational awareness will enable workers to slow down and stay balanced when they encounter unexpected ice or slippery conditions.

### **REFERENCES**

ORPS Report SC--ASO-ANLE-ANLE-2015-0002, *Employee Sustains Pelvic Fracture from Slip on Ice in Parking Lot*

ORPS Report NA--NPO-CNS-Y12NSC-2015-0008, *Fall on Ice Results in Loss of Consciousness, Head Injury and Scalp Laceration*

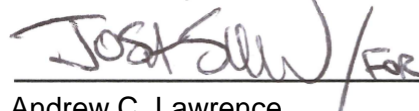
ORPS Report NA--NPO-CNS-Y12NSC-2014-0021, *Employee Fall on Ice Results in Ankle Fractures*

ORPS Report EM-ID--ITG-AMWTF-2014-0013, *Early Morning Frost Results In Serious Slip and Fall Injury*

Operating Experience Summary Issue Number 2013-04, *Article 1: Winter Safety: Avoiding Slips, Trips, and Falls*

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