

## Lesson Learned Briefing

**No.:** LL13-0014

**Title:** Consider Ergonomics when Plugging Electrical Equipment into a Wall Outlet or Power Strip

**Event:** Other Facility Event

**Event Date:** 03/29/2013

**Category:** ES&H - Ergonomics - office/computer work, Ergonomics - non-office, shop & laboratory work

### Summary:

Plugging in an appliance while in an awkward ergonomic position increases the potential of receiving an electrical shock. While reaching under or behind an object to plug in a computer or an appliance power supply cord, your hand has a greater chance of touching the plug blades. If you touch the blades while the plug blade touches the outlet power, you most likely will complete the circuit with your hand and receive a shock.

### Discussion

While setting up a Brookhaven National Laboratory (BNL) issued laptop computer on a breakroom table, an employee noticed that the laptop battery was low and connected the power supply cord to the computer. Then, with the power supply cord plug in the left hand and the right hand placed on the nonconductive table for balance, the employee reached under the table to plug the power supply cord into a 120-volt outlet. While inserting the plug, the employee felt a tingle in the left hand. The employee did not experience any burns or injuries.

### Analysis

Most likely, while plugging in the laptop, the employee's thumb made contact with the energized "hot" blade of the plug and the index finger either made contact with the ground connector of the plug or the grounded outlet cover plate, causing a 120-volt shock to the left hand. The employee squatted down and reached under the table to plug in the laptop, with an impaired line-of-sight to perform this activity.

### Actions to prevent recurrence:

When faced with a less than optimal ergonomic situation, while

trying to reach an electrical connection with an equipment power cord, workers must ensure that care is taken to avoid contact with the blades of a plug during insertion or removal from an outlet.

Lesson ID: BNL-2013- Electrical-0001

Originating Organization: Brookhaven National Laboratory

Date: 3/29/2013

Lessons Learned are part of the ISM Core Function 5, Feedback and Improvement. Applicable Lessons Learned are to be considered during working planning activities and incorporated in work processes, prior to performing work.

Please contact the following subject matter experts if you have any questions regarding this briefing.

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