

Date: Wed, 29 Apr 1998 12:17:57 -0500
From: Meredith Brown <racer@lanl.gov>
Subject: Yellow Alert: Rad Waste Transportation Issue

Title: YELLOW - Cask of Radioactive Waste Falls During Transport

Identifier: INEEL Lessons Learned #98185
Date: April 17, 1998

Lessons Learned Statement:

Procedures must be clearly communicated and employees must understand procedures before starting work. Equipment must be maintained. When employees encounter abnormal conditions, they need to assess the situation before taking action.

Discussion of Activities:

A cask used to transport radioactive trash was being moved on a pallet by forklift. After travelling a short distance, the forklift operator applied the brakes to allow a pedestrian to cross. The brakes grabbed, the forklift skidded on light snow, and the pallet slid off the lift tines. The cask toppled and landed on its side, causing the pallet to break. The operator immediately attempted to manually right the several-hundred pound cask, but was directed to stop by several onlookers. There were no injuries or releases to the environment.

Analysis:

The cask fell from the forklift because it was not secured to the forklift or pallet. The DOE Hoisting and Rigging standard requires the load to be well secured, but disagreement existed on the meaning of "secured."

An additional cause was improper maintenance of the forklift. This particular forklift had brakes that tended to grab whenever the moisture level was high (the humidity was high the day of the event). Also, the snow was not wiped off the forklift tines before loading the cask. The grabbing brakes and slippery tines made it much easier for the cask to slide off the lift.

The operator tried to follow the SWIMS actions (stop, warn, isolate, minimize, and secure) to stop any spill or further spill. However, in this case, the cask was too heavy to be lifted manually and, because the operator did not know the contents of the cask or the radiological hazard it presented, it would have been more appropriate to contact radiological support personnel to evaluate the conditions.

Recommended Actions:

1. Procedures must be clearly communicated to employees. If employees are uncertain about the meanings of terms in a procedure, they must verify them with their supervisors.

2. Equipment operators need to notify their supervisors when operating or equipment issues arise. Supervisors must address these concerns immediately.
3. Training needs to describe the appropriate times to take specified actions.
4. When a material spill or potential spill occurs, employees need to assess the situation before taking action.
5. Employees must use proper lifting techniques and not attempt to manually lift anything over 50 pounds.

Originator: Test Reactor Area, Lockheed Martin Idaho Technologies Company

Contact: John Edelmayer, (208) 533-4141

Authorized Derivative Classifier: Dale Claflin, (208) 526-1199

Reviewing Official: Dale Claflin, (208) 526-1199

Key Word(s): forklift, cask, fall, transportation

Functional Categories (DOE): Environmental Restoration and Waste Management, Occupational Safety and Health, Packaging and Transportation, Safety, Training and Qualification

Functional Categories (User-Defined): Environmental Protection Objectives/Waste Management, Occupational Safety and Health, Packaging and Transportation, Training/Qualification/ Education

References: ORPS Report ID--LITC-TRA-1997-0025

Follow-up Action: Information in this report is accurate to the best of our knowledge. As a means of measuring the effectiveness of this report, please notify Terry Pierce at (208) 526-4288 (or by electronic mail at txp@inel.gov) or the INEEL Lessons Learned Program Office at (208) 526-1530 (e-mail at mae@inel.gov or limitll@inel.gov) of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.

Meredith Brown

ESH Lessons Learned Program Manager

505 667 0604