

Date: Tue, 18 May 1999 11:09:35 -0400

From: "Eubanks, Cynthia M. (EUB) " <eub@bechteljacobs.org>

Subject: Blue Alert: Job Site Awareness Must be Elevated, Even on the Smallest of Jobs.

The following Lesson Learned is posted by Sandia National Laboratory:

Title: Job Site Awareness Must be Elevated, Even on the Smallest of Jobs.

Identifier: Formal Lessons Learned Report, 1999-KO-SNL-0003

Date: December 18, 1998

Lessons Learned Statement: Inadequate attention to the specific details of a task may lead to undesirable events.

Discussion of Activities: On April 2, 1998 contractor personnel and the occupants in Building 875 were exposed to airborne dust with lead content. Work was stopped and a paint sample was collected at the disturbed surface area. The paint sample test results indicated a lead level of 4.9% in the paint. Area air monitoring was also conducted and the results indicated no detectable levels. This occurrence is associated with a construction activity that involved the removal of front-end alignment equipment from Building 875, part of the motor pool. The equipment was located in a pit that had a painted railing and a strip of yellow paint around it. The work package called for the removal of the railing and the equipment. The pit that remained after the equipment removal was to be filled with concrete. The work package directed the contractor to clean the chamfered edge around the perimeter of the pit to provide a good surface with which the new concrete could bond. A review of the event has determined that, on the morning of April 2, the contractor discussed his work plans for the day with the SNL inspector. Concrete was to arrive to fill in the pit, but no mention was made to the inspector regarding the removal of the strip of paint from around the perimeter of the pit. Later in the day the contractor began removing the paint with a drill and wire brush accessory. Before he began the paint removal, one of the garage doors in the building was opened and a small fan was used for ventilation. However, the wind blowing into the facility through the garage door dispersed the dust throughout the facility. Facility personnel informed the contractor that he was creating a mess. It was at this point that the work was stopped, the inspector was called, and the concern about possible lead content in the paint came to the inspector's mind. It was also at this time that thought was given to the possibility that the paint on the rail and on the chamfered edge also may have contained lead.

Analysis: Proper planning of the paint removal on the part of the contractor would have prevented the creation and dispersion of airborne dust throughout the facility. The contract workers and their supervision did not recognize the potential lead hazard. If the hazard been identified by the contractor, a Building Modification Hazard Assessment (BMHA) would have been initiated to address the hazard. The paint removal from the perimeter of the pit was not called out in the work package. The day that the incident occurred, in the morning the contractor told the SNL inspector what work he planned to do that day. The paint removal around the pit was not included in his plan. Later the contractor started to remove the paint without the knowledge of the SNL inspector. The contractor indicated later that he

interpreted the drawing notes to infer that the paint was to be removed. A deficiency in the planning, scoping, assignment, or scheduling of work can be seen in that the hazards associated with the work to be performed were not evaluated and controlled by the contractor. The contractor assumed that SNL had already analyzed all the hazards and found none. As a result, the contractor did not perform an independent hazard analysis of the job site. This analysis should have been performed regardless. The Request for Site Services form, which includes a section to communicate the types of hazards analyzed by SNL, was not as clear as it should have been. Next to the box for the asbestos release form, the Architectural Engineering (A/E) Firm designer marked Not Applicable (N/A). The contractor assumed that the N/A applied to all the boxes on the form, not just to the asbestos hazard. The A/E designer indicated that he was aware of lead hazards in construction, but that he overlooked the paint that was going to be disturbed on the railing and chamfered edge. A BMHA should have been initiated to address the lead hazard, but since the designer did not notice the paint, a BMHA was not initiated.

This incident did show that SNL's stop work policy works. Anyone at SNL can stop a work activity that appears to be unsafe. The contractor stopped work when they were asked to stop by facility personnel. The inspector was then called to the job site and he confirmed that the work should have been stopped. He then cleared the work area and cordoned it off.

Recommended Actions:

- 1) Job site hazard awareness must be elevated even on the smallest of jobs.
- 2) The contractor has the responsibility to independently evaluate hazards. Just as the designer must perform to good safety practices, principles, and concepts, the contractor also has the responsibility to do the same before proceeding with its work.
- 3) Attention must be given to forms that are used to communicate hazards. Any ambiguity could be cause for the failure to mitigate hazards.
- 4) Even when a hazard evaluation is conducted before the start of work, if changes are made to the original plan, the hazards should be re-evaluated.

Originator: Daniel Sherman

Phone: (505) 844-2199

Department 7926

Contact: Chris Tolendino, SNL Lessons Learned Coordinator Department 7571, 844-5996

Name of Authorized Derivative Classifier: John Lewis

Priority Descriptor: Blue/Lessons Learned

DOE Functional Category(s): Conduct of Operations, Human Factors

User-Defined Functional Category: Conduct of Operations, Human Factors

Key Words: Lead, Paint, Stop-Work Process

References: Occurrence Report ALO-KO-SNL-NMFAC-1998-0002

Information in this report is accurate to the best of our knowledge. As a means of measuring the effectiveness of the SNL Lessons Learned Program, please inform Chris Tolendino at (505) 844-5996 of

any action taken within your area, as a response to this report, or of any technical inaccuracies you have found. Your feedback is important and appreciated.