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From: Meredith Brown <racer@lanl.gov>
Subject: Yellow Alert: Misclassification/Incorrect Packaging of Radioactive Samples

The following Bechtel Jacobs Company, LLC Lesson Learned Yellow Alert is being distributed to communicate lessons learned from an incident that resulted in the misclassification and incorrect packaging of sample shipments. If you have any questions, please contact Joanne Schutt at (423)574-1258, e-mail = s6u@ornl.gov.

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TITLE: Misclassification and Incorrect Packaging of Shipped Radioactive Samples

IDENTIFIER: Y-1998-OR-BJCETTP-0603

DATE: June 12, 1998

LESSONS LEARNED STATEMENT: Failure to comply with regulations and procedures, and the lack of trained, competent, personnel commensurate with responsibilities for packaging and transportation can result in the misclassification and incorrect packaging of shipped radiological samples.

DISCUSSION: On February 27, 1998, in the course of carrying out a characterization and monitoring project at the Oak Ridge National Laboratory, a contractor and their sub-tier contractors reporting to Lockheed Martin Energy Systems incorrectly shipped radioactive samples to three analytical laboratories. Shipments to all three laboratories involved the use of public roads. Shipments to one of the laboratories also involved an air carrier. All of the laboratories notified the Lockheed Martin Sample Management Office that the samples had not met U. S. Department of Transportation (DOT) requirements. These notifications prompted several response actions including a Type B investigation by the Department of Energy (DOE).

The Investigation Board concluded that the radioactive samples as shipped, did not comply with Federal and State requirements for packaging, offering for transportation, and transportation of hazardous materials. Failure to correctly identify the radiological constituents of the samples and failure to perform radiological dose surveys of the sample packages resulted in misclassification and incorrect packaging.

ANALYSIS: The Investigation Board identified two root causes for the incident; the elimination of either would have minimized the probability of a recurrence of this type of incident.

* Failure to comply with regulations and procedures, specifically 49 CFR, ESP-505 Rev. 1, and the MOU.

* Lack of trained, competent, personnel commensurate with responsibilities for packaging and transportation.

Seven contributing causes identified may have increased the likelihood of the incident:

* Failure to identify packaging and transportation as critical functions.

* Incorrect communication of the radionuclides in the samples for limited quantity determination.

* Failure to assign a properly trained individual to be responsible for packaging and transportation.

* Failure to follow the quality assurance requirements.

* Failure to survey the packages for DOT purposes.

* Failure to perform quality assurance and transportation safety field surveillance and audit.

* Lessons Learned from similar incidents were not considered by the Project

RESOLUTION/RECOMMENDED ACTIONS: While this incident occurred prior to the start of the Bechtel Jacobs Company, LLC contract, activities addressed during the investigation are within the scope of the contract. Therefore, Bechtel Jacobs Company is taking every precaution to ensure that all Bechtel Jacobs Company employees and subcontractors are aware of the DOT regulatory requirements. Some of the actions being taken include:

* Performing technical evaluations on each subcontractor shipping sample to ensure appropriate procedure, training, and job instruction are in place.

* Deploying transportation specialists, knowledgeable of regulatory requirements, to each team to ensure compliance with regulations during work activities.

* Reviewing and developing procedures to support a subcontracting approach. The procedures ensures appropriate oversight is provided to the subcontractors and adequate technical evaluations of the subcontractors are performed prior to commencement of work activities. In addition, records of selected previous sample and waste shipments are being reviewed to determine if there are other issues that should be addressed.

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NAME OF AUTHORIZED DERIVATIVE CLASSIFIER: Gerald B Boroughs

NAME OF REVIEWING OFFICIAL: Gerald B Boroughs

PRIORITY DESCRIPTOR: Yellow/Caution

KEYWORDS: DOT, packaging, transportation, radiological sample

DOE FUNCTIONAL CATEGORIES: Packaging and Transportation

BJC FUNCTIONAL CATEGORIES: TR - Transportation Safety

HAZARDS: Hazardous Materials, Transportation/Traffic

WORK ACTIVITY: Material/Material Handling

REFERENCES: Type B Investigation - Shipping Violations Involving the Corehole 8 Project - Lockheed Martin Energy Systems, Inc., Oak Ridge, Tennessee, ORPS Report ORO-LMES-X10ENVRES-1998-0003

FOLLOW-UP ACTION: Information in this report is accurate to the best of our knowledge. As means of measuring the effectiveness of this report please notify Joanne E. Schutt at (423)574-1248, e-mail at s6u@ornl.gov of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.

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