

Date: Wed, 28 Apr 1999 15:28:31 -0600  
From: Meredith Brown <racer@lanl.gov>  
Subject: Green Alert: Preplanning for Successful Tank Closure

**Title: Preplanning yields success for tank closure**

Identifier: 1999-NVO-BNLL-003 Date: 4/1/99

**Lessons Learned Statement:** Preplanning should include contingencies for crew safety.

**Discussion of activities:** Closure of contaminated filter tanks required preplanning. Before completing the project Radiological Work Permit, the closure strategy was presented to the Bechtel Nevada As Low as Reasonable Achievable (ALARA) Committee. The two primary objectives from the view of the ALARA Committee were to limit the exposure to the worker and to prevent a release of fine particulate contamination. It was decided by the ALARA Committee that the best way to accomplish these goals was to perform the following activities:

- \* Remove the pipe using an emergency rescue tool commonly known as the \*jaws of life.\*
- \* Cut onsite tank supports using a torch without additional support for the tanks.

**Analysis:** Before being cut, plastic was wrapped around each pipe. An opening was left for operation of the rescue tool. The pipe was pinched closed and cut in the crimped section with the rescue tool. The use of the rescue tool proved to be quick and effective for crimping and cutting the pipe. Grouting and plugging the pipe was efficient as the fast setting Sulfaset grout was mixed at the same time that the pipe was cut. This allowed for the pipe ends to be plugged immediately after the cut, limiting the potential for particulate dispersion. This in turn reduced personnel exposure. The field preplanning, estimation of tank weight, and structural integrity of the existing lifting eyes, allowed for successful removal of the filter tanks from the concrete pad. Steel supports were cut flush with the concrete pad base. This technique minimized exposure by eliminating the need to install slings on the tanks.

**Recommended Actions:** Contingency plans should be discussed to allow some flexibility in the field that does not compromise the safety of the project crew, i.e., unwieldy equipment, potential for increased contamination. Creative tools and ideas should be used to reduce costs, expedite overall project completion, and eliminate unnecessary exposure to workers. Preplanning should address all aspects of the process including process knowledge, engineering capabilities, and future activities.

Estimated Savings/Cost Avoidance: \$22,000  
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Priority Descriptor: Green Alert

DOE Functional Category: Environmental Restoration and Waste Management

User-Defined Functional Category: Operations

Keywords: tank, closure, planning

References: N/A

**Follow-up Actions:** Information in this report is accurate to the best of our knowledge. As a means of measuring the effectiveness of this report, please contact the originator of significant action(s) taken as a result of this report or of any technical inaccuracies you find. Your feedback is appreciated.