



Energy Facility Contractors Group - Lessons Learned and Best Practices



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Introduction

The Applied Research Center at Florida International University is collaborating with the Department of Energy's (DOE) Energy Facility Contractor's Group (EFCOG) to develop best practices and lessons learned in the field of deactivation and decommissioning (D&D).

The **best practice** documents are developed to describe:

- technologies and methodologies used for a specific D&D project
- problems that arise during D&D projects
- solutions to D&D problems

The **lessons learned** documents are developed to:

- capture any challenges that a project faced during a specific D&D project
- inform the D&D community of the procedures and processes used to overcome those difficulties.

Conclusion

The Best Practices and Lessons Learned documents are intended to assist future D&D projects by describing the technologies and methodologies used, capturing any challenges that were encountered during the project, and informing the D&D community of the procedures used to overcome those difficulties.

Acknowledgements: DOE-EM and the EFCOG

Open Air Demolition of Asbestos Gunitite by Using Track Mounted Wet Cutting Saw

Lawrence Livermore National Laboratory (LLNL)
Best Practice

Description: The B328 building was a metal structure with a corrugated metal exterior façade. The walls of the structure consisted of a corrugated metal exterior surface, one & one-half inches (1.5") of Gunitite, and four-inch (4") thick fire bricks. The asbestos was sandwiched between the metal layer and the Gunitite. In addition, there was 6" x 6"x 1/2" tube steel columns and beams for structural support.

Solution: In order to size reduce the structure and prevent exposure of personnel to asbestos material, a track mounted wet cutting saw with a diamond blade was used remotely.

Why the Best Practice was used: The use of a track mounted wet cutting saw reduced the need for respirators and additional PPE during this D&D operation (except for the saw operator) and eliminated Health & Safety (H&S) concerns encountered during typical asbestos removal operations. By using this method, the D&D workers were kept at a safe distance during the size reduction operations since the cutting saw was mounted on tracks on the outside wall of the structure.

Problems/issues associated with the Best Practice: Originally the plan was to cut the walls into two sections. However the long horizontal cuts were difficult to execute as the building structure would flex and the saw would bind under the weight of the wall. The solution was to cut the wall in sections after it was moved to the ground thereby minimizing the number of horizontal cuts on the building.



Explosive Demolition of Buildings 337, 337B and the 309 Stack

Hanford Site 300 Area
Best Practice

Description: These buildings were architecturally unique in that they exhibited characteristics of an architectural style called Brutalism (large scale buildings with exposed concrete, piping, ductwork and mechanical systems). The 337 Building was a three-story office complex with two identical office wings (50 feet tall, 165 feet long and 50 feet wide).

Solution: Controlled Demolition, Inc. (CDI), Cavanagh Services Group, and Clauss Construction successfully imploded both buildings on October 9, 2010. Prior to the demolition, two small test blasts were performed to ensure the structures would behave as predicted.

Why the best practices was used: Industrial safety was the main criteria for choosing explosive demolition over conventional demolition due to the height of the structures and the concrete construction techniques (cast in place and per cast) utilized for the construction of the 337B Building. The explosive demolition also rubbleized some building debris, allowed for easy access to complete size reduction of the debris and ensured that all parts of the building were dismantled.

Problems/issues associated with the Best Practice: As for the demolition itself, there were no issues associated with this technique due to the subcontractor selection/qualification, engineering, work planning, and coordination performed prior to the demolition.



Lessons Learned & Best Practices: In Progress

Title: 185-3K Cooling Tower Demolition
Location: Savannah River Site

Title: Historical Hazard Identification Process for D&D
Location: Lawrence Livermore National Lab

Title: Closure of R-MAD and Pluto Facility
Location: Nevada National Security Site

Title: Unanticipated High Dose During the Removal of Wire Flux Monitor Cabling from the HWCTR Reactor Vessel
Location: Savannah River Site

VISIT
www.dndkm.org



The objective of the D&D KM-IT is to provide a focused web-based tool to assist the DOE D&D community in identifying potential solutions to their problem areas by using the vast resources and knowledge-base tools available through the web.

Two of the modules are the Lessons Learned and Best Practices. Once the Lessons Learned or Best Practice document is routed through the process, as shown to the left, the document is posted on the D&D KM-It for the D&D Community to access for their use.

