

EFCOG Best Practice #98

06/05/2011

Best Practice Title: Unreviewed Disposal Question Evaluation (UDQE)

Facility: Savannah River Site, South Carolina

Point of contact: Ginger Humphries (803-557-6635), Don Sink (803-208-0769) - Savannah River Nuclear Solutions

Brief Description of Best Practice:

Savannah River Nuclear Solutions has implemented an Unreviewed Disposal Question (UDQ) evaluation process to satisfy the low-level waste disposal requirements of DOE Order 435.1. The intent of the UDQ process is to ensure that proposed changes or new information/discoveries in LLW disposal practices (e.g. waste forms, containers, radionuclide inventories, facility design and operations) are reviewed to ensure that the assumptions, results, and conclusions of the DOE approved Performance Assessment (PA), and Composite Analysis (CA) as well as any Special Analyses (SA) or UDQ Evaluations that might have been performed, remain valid and the changes are within the bounds of the Disposal Authorization Statement. Any proposed action must be analyzed or evaluated under the UDQ program, then approved by DOE before it can be implemented. This ensures all operations are conducted within the PA envelope and that compliance with 435.1 is maintained.

Why the best practice was used:

The process was developed to provide flexibility in day-to-day operations and to require those issues with a significant impact on the PA, CA, or SA inputs, assumptions or conclusions, and therefore the projected compliance with performance objectives, to be brought to the proper DOE/contractor management level for attention.

What are the benefits of the best practice?

The benefits include a structured process, similar to the Unreviewed Safety Question process, for employees to use to consistently evaluate disposal issues against the PA/CA requirements ensuring compliance with DOE O435.1, *Radioactive Waste Management*, requirements. The other benefit of the process includes a cost effective graded approach in determining the extent of evaluation (e.g. performing additional research and development versus engineering calculations) which also determines DOE and contractor management level involvement.

What problems/issues were associated with the best practice?

DOE Order 435.1 requires low-level waste disposal facilities prepare and comply with a radiological Performance Assessment. The PA identifies specific inputs and assumptions, used by computer modelers, to arrive at conclusions that are used to develop an operational envelop for the facility. Issues arise during the operation of a low-level disposal facility that may or may not significantly impact compliance with the Performance Assessment.

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The problem in developing the UDQ process was identifying screening and evaluation criteria that would effectively separate issues that were clearly not significant to the PA versus issues that required further evaluation to determine the significance of the issue. This problem led to the screening and evaluation criteria being reviewed and updated annually as required.

How the success of the best practice was measured:

Success of the UDQ process is measured by the fact that the SRS LLW disposal facility has not violated the DOE Disposal Authorization Statement since operations began and that issues that have been identified have had the appropriate level of evaluation to ensure compliance with DOE O435.1.

Description of process experience using the best practice:

The UDQ process was established in parallel with the Unreviewed Safety Question (USQ) process. The USQ program applies to reviews of proposed activities against the Safety Bases, while the UDQ program applies to reviews of proposed activities or new information against the Disposal Authorization Statement. The parallels of the two processes made the implementation of the UDQ process somewhat easier.

ISM Core Function 2: Analysis of Hazards