

I. Title:

Downgrading Nuclear Facilities to Radiological Facilities

II. Summary

Based on inventory reductions and the use of alternate storage facilities, the Sandia National Laboratories (SNL) downgraded 4 SNL Hazard Category 3 (HC-3) nuclear facilities to less-than-HC-3 radiological facilities. SNL's Waste Management and Pollution Prevention Department (WMPPD) managed the HC-3 nuclear facilities and implemented the downgrade. This paper will examine the downgrade process, including a discussion of:

- Program Review and Gap Analysis
- Database Modifications and Verification
- Inventory Checks
- Technical Work Document Modifications
- Training Program Updates
- Authorization Document Transitions
- Downgrade Training
- Readiness Assessment
- Effective Date/Notification

Program Review: At the time of the downgrade, SNL's WMPPD operated multiple HC-3 nuclear facilities and less-than-HC-3 radiological facilities. So a mature program for the operation of less-than-HC-3 facilities was already in place. The downgrade was primarily a matter of transitioning the HC-3 facilities to the existing less-than-HC-3 program. However, the WMPPD went through a number of steps to make this transition. The initial step was a review of the programs to identify anticipated programmatic gaps.

Database: At the time of the downgrade, the WMPPD tracked radiological quantities using an in-house database called RadTrack. While the HC-3 nuclear facility version of RadTrack was still being utilized, a modified version was developed to correctly calculate new less-than-HC-3 quantities for the 4 facilities being transitioned. This modified version was tested and verified prior to implementation.

Inventory Checks: Radiological inventories were confirmed through facility walk-downs. Printouts from the modified version of the database were compared to physical inventories, confirming accuracy.

Technical Work Documents: WMPPD technical work documents (TWDs) and forms were modified to address the change in designation. In all, 27 TWDs and 12 forms were changed, and 11 TWDs were archived. Most of the modifications were basic, such as removing HC-3 nuclear facility scope, terminology, positions, and references from general program documents. The WMPPD initially implemented these changes through a TWD deviation process that allowed a global modification. Five TWDs had more specific changes, with new language incorporated. And new revisions of the emergency response and facility maintenance TWDs were issued to incorporate new requirements. The 11 archived TWDs identified HC-3 nuclear facility operating practices that were no longer applicable.

Training Programs: All of the WMPPD training programs were updated to remove HC-3 nuclear facility positions and responsibilities. Responsibilities with continued applicability were transitioned to less-than-HC-3 radiological facility positions.

Authorization Documents: The authorization documents for the less-than-HC-3 radiological facilities were changed to identify the 4 downgraded facilities. SNL's authorization documentation for radiological facilities is in the form of Primary Hazard Screenings (PHSs) and Hazards Analyses (HAs). So the impacted PHSs and HAs were revised and reapproved to incorporate the new facilities. The nuclear facility safety basis documents (e.g., Documented Safety Analyses, Technical Safety Requirements, supplements, etc.) were inactivated and archived.

Training: A training class was provided to all WMPPD personnel that specified operational and procedural changes. The modified forms were provided and explained. Examples and exercises that demonstrated impacts were presented. And the anticipated timeline for implementation was identified.

Assessment: Readiness for the downgrade was assessed by an Assessment Team made up of SNL Safety Basis personnel and independent WMPPD staff. No issues with the downgrade process were identified.

Notification: The anticipated effective date of the downgrade was identified in the training class attended by all WMPPD personnel. An internal memorandum was provided to impacted organizations by the WMPPD Manager. And a confirmation email of the effective date was provided to staff on the morning of the downgrade. That email notification reiterated the information provided in training, stating the scope of the downgrade and listing the actions that were becoming effective on that date.

All steps of the downgrade were successfully completed within 2 months.

An examination of the process will provide useful information to other sites that are contemplating or anticipating a similar transition.

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