



The Secretary of Energy
Washington, DC 20585

July 30, 2014

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DNF SAFETY BOARD

The Honorable Peter S. Winokur
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

This letter is in response to your March 31 letter, which closes Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2005-1, *Nuclear Material Packaging*, and requests information regarding (1) the Department of Energy's (DOE) updated plan and schedule for implementing DOE Manual (M) 441.1-1, *Nuclear Material Packaging Manual*, for repackaging nuclear materials and (2) plans for revising DOE Manual 441.1-1.

The Department has prioritized and implemented its repackaging activities to focus on the materials and containers that pose high risks to workers and good progress has been made in repacking the highest risk materials into more robust containers. DOE's objective is to have all applicable nuclear materials repackaged in accordance with DOE M 441.1-1. The updated plan and schedule for completing this effort is provided in the enclosure.

With respect to the revision of DOE M 441.1-1, DOE has determined that the current requirements and guidance are appropriate for the repackaging effort. However, when requirements need to change, DOE will convert DOE M 441.1-1 into an Order or Guide, as appropriate, in accordance with DOE Order 251.1C, Departmental Directives Program. If you have any questions, please contact Dr. James O'Brien, Director, Office of Nuclear Safety, at (301) 903-1408.

Sincerely,

A handwritten signature in black ink, appearing to read "Ernest J. Moniz".

Ernest J. Moniz

Enclosure



**Update to September 2009 Department of Energy Plan
for Implementing Department of Energy
Manual 441.1-1, *Nuclear Material Packaging Manual***

Since 2009, the Department has been focused on three areas to minimize nuclear safety materials risks at its defense nuclear facilities:

- Material inventory reduction and disposition;
- Repackaging higher-risk material into more robust containers (e.g., Hagen and 3013 Standard containers); and
- Completion of design and manufacturing of new Department of Energy (DOE) Manual (M) 441.1-1, *Nuclear Material Packaging Manual*, compliant containers (e.g., SAVY4000 containers).

These efforts are essentially complete¹ and now the focus is on repackaging the material into the new DOE M 441.1-1-compliant containers. DOE continues to implement compensatory measures (such as use of personnel protective equipment) to ensure protection of its workers while these repacking efforts are ongoing.

The following provides an update to the plans at various DOE sites for implementing DOE M 441.1-1.

Los Alamos National Laboratory (LANL)

All very high-risk and high-risk items identified in the 2009 plan have been repackaged or otherwise dispositioned. Approximately 200 fuel storage outer containers and over 200 SAVY4000 containers are in service as DOE M 441.1-1-compliant containers for storage of nuclear material. LANL currently has 4 high-risk², approximately 2000 moderate-risk, and approximately 3000 low-risk items that need to be repackaged into DOE M 441.1-1-compliant containers.

LANL will revise its DOE M 441.1-1 Implementation Plan in the fourth quarter of Fiscal Year (FY) 2014. The revised plan will include the disposition of all items packaged in non-compliant containers by 2019, with the exception of items stored in robust safety-class containers that have been evaluated and approved per facility-specific safety analyses.

Lawrence Livermore National Laboratory (LLNL)

LLNL completed its inventory reduction project early in 2013. In addition, LLNL has repackaged 20 containers of high-risk category material into the SAVY4000 containers.

LLNL currently has about 75 moderate-risk category and 170 low-risk category containers remaining to be repackaged. LLNL has no high-risk or very high-risk category materials in storage. LLNL will have all material packaged in compliant containers by the end of FY 2014.

¹ Although DOE will continue to look for opportunities to reduce risks by dispositioning material.

² Existing materials can change into higher-risk categories due to material aging, as was the case for the currently identified four high risk items.

Sandia National Laboratory

There are no containers that remain to be repackaged. Processes for acquiring new material exist that ensures the requirements of the Manual are implemented prior to bringing new materials onsite.

Y-12

Y-12 only has low-risk material that needs to be repackaged. Manual-compliant containers are being designed and are scheduled for use in the repackaging effort commensurate with the latest schedule for the Uranium Processing Facility (UPF) start-up. A revised plan to implement DOE M 441.1-1 in existing facilities coincident to UPF start-up is expected to be issued in the fourth quarter of FY 2014.

Savannah River Site (SRS)

Since 2009, SRS has identified approximately 160 items to be investigated to determine DOE M 441.1-1 applicability and, if subject to DOE M 441.1-1, their risk category. These items are primarily sources and standards packaged in a variety of configurations. All of the storage containers are subject to periodic inspection, examination, monitoring and surveillance in accordance with the facility safety basis documents. SRS directed its contractor to conduct a comprehensive review to determine the extent of repackaging work that could be undertaken in FY 2014 and a path forward for FY 2015.

Hanford

The Plutonium Finishing Plant (PFP) has materials in 13 containers that are potentially subject to packaging pursuant to DOE M 441.1-1. Of the 13 containers, two contain high-risk and 11 contain moderate risk materials. These materials are currently needed for non-destructive assay work, and are not packaged in DOE M 441.1-1-compliant containers. PFP plans to disposition seven containers by April 2015, eliminating both high-risk items and all items packaged in food pack cans. The six remaining items are needed for continued assay of waste packages during decommissioning and demolition of PFP and are expected to be dispositioned by the end of 2016 commensurate with decommissioning and demolition of PFP.

Nevada National Security Site (NNSS)

NNSS has recently identified material subject to DOE M 441.1-1 requirements. NNSS is currently applying a screening process across the site inventory to determine the extent of condition. The screening will be completed in the fourth quarter of FY 2014. The results will serve as the basis for an integrated NNSS strategy and action plan.

Pacific Northwest National Laboratory (PNNL)

Five items subject to DOE M 441.1-1 are currently not in compliant containers. These are medium to high-risk items that are currently being managed per the contractor's radiation protection program and will be repackaged in SAVY4000 containers within 12 months of DOE's approval of the SAVY4000 safety analysis report (which is anticipated to occur by the second quarter of FY 2015).