Lead Cascade Decommissioning Plan Pre-Submittal Meeting

U.S. Nuclear Regulatory Commission Headquarters

Rockville, MD

June 16, 2016

Purpose

I. Provide Lead Cascade Status

II. Discuss Decommissioning Plan Approach

III. Propose Derived Concentration Guideline Level (DCGL)

IV. Present Conclusions and Next Steps

Lead Cascade Status

- Process Area (X-3001)
  - UF6 consolidated into one 12B cylinder with 36 near empties (Final Inventory pending)
  - Centrifuges backfilled to allow disconnection
  - Centrifuges disconnected from service module piping
  - Cascade XXX service module demolition ready to begin this month
  - Centrifuges being moved to Train 6 to allow room for demolition of cascades
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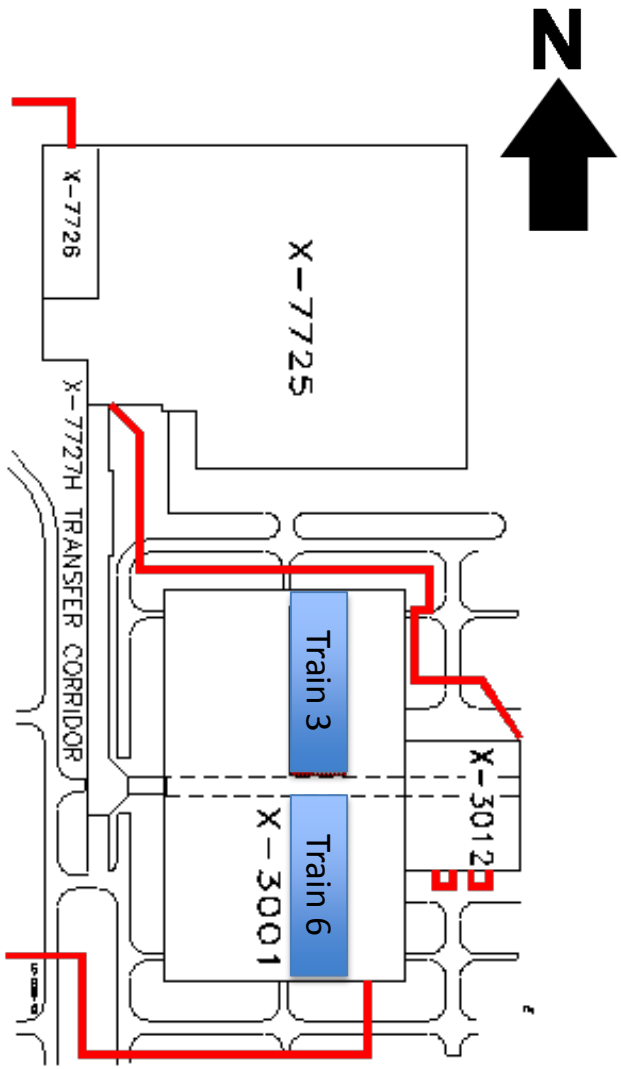
- Centrifuge Testing and Training Facility (X-7726)
  - 8 machines in the process of being shipped to K-1600 under DOE work authorization
- Planning
  - Detailed project schedule to be finalized mid-July
  - Shipper provided results of programmatic gap analysis



Decommissioning Plan Approach

- Decommissioning Plan will include items described in NUREG-1757, Volume 1, Appendix D and will have two Appendices:
  - Appendix A: Derived Concentration Guideline Level (DCGL) for the Lead Cascade (discussed at this meeting)
  - Appendix B: Decommissioning Cost Estimate (submitted separately due to scope development)

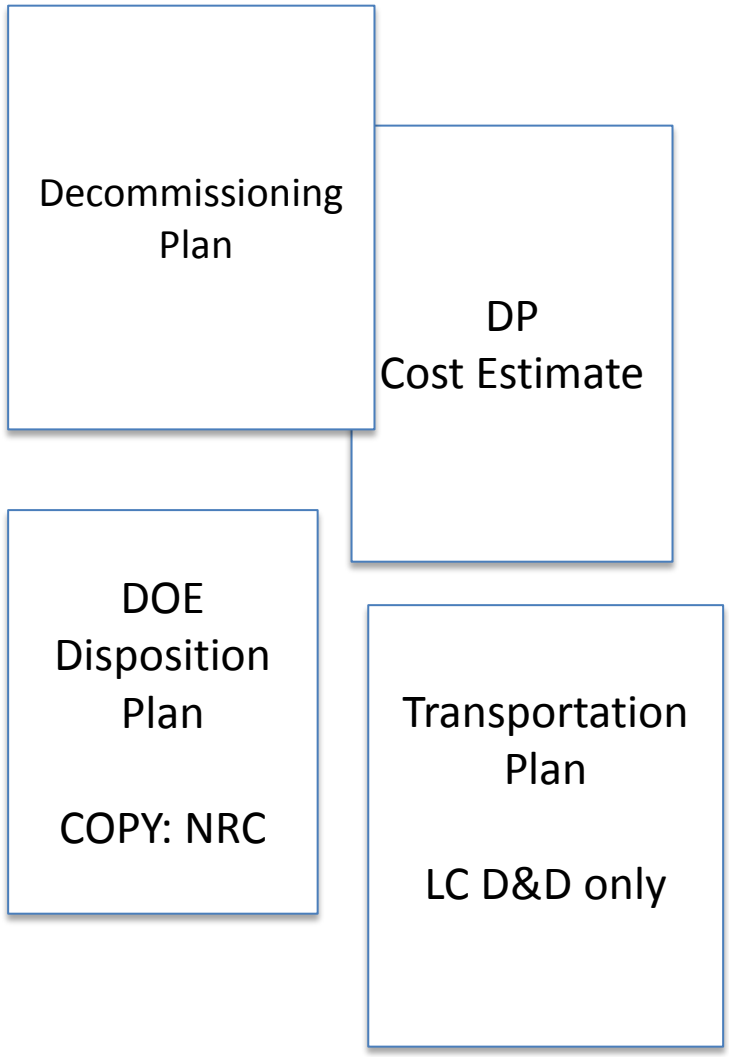
- Checklist items used to guide sections/subsections heading and content addressed in one of the following ways:
  1. Reference License Application/Support Document with brief description
  2. Provide details on how item addressed
  3. Document as Not Applicable if not relevant to Lead Cascade

Planned Submittals

- Decommissioning Plan
  1. Elements of NUREG-1757 with the exception of decommissioning cost estimate
  2. Decommissioning cost estimate using DFP as baseline in accordance with NUREG-1757, Volume 3 (update to DFP)

- Plan for Disposition of American Centrifuge Program Classified/Contaminated Waste at the U.S. Department of Energy (DOE) Nevada National Security Site (NNSS)
  - Will be submitted to DOE for approval per Lease requirements
  - NRC will be on copy

- Addendum 1 to NR-3605-0010, Transportation Security Plan for Classified Matter Shipments for the American Centrifuge Plant (Deployment)
  - Detail Packaging and Transportation for Lead Cascade decommissioning only



Radiation Survey Overview

- **SOIL:** Surface soil samples collected annually around facilities and levels are consistent with published local environmental data and less than NUREG-1757, Vol. 2 Table B-2 Soil Screening Values for relevant uranium isotopes

- **AIR:** Minimal releases during operations; routine air sample data indicates levels less than 0.1% of Derived Air Concentration

- **FACILITIES:** Routine survey program indicates removable contamination levels consistently less than Lead Cascade License Application Chapter 4 contamination limits (no permanent contamination areas); two small areas < 100 ft^2 identified as needing remediation

- **DECEMBER 2015 SURVEY:** Indicated no wide spread areas of contamination levels exceeding *DandD 25 mrem/year criteria* (based on Class Y uranium dose conversion factors rather than the Class D material present)

Final Status Survey

- During equipment removal and packaging, Centrus Health Physics personnel will perform job coverage surveys (and scoping surveys) to identify areas that may require remediation
  - Prior to commencement of the final status survey, remediation will be performed, area cleaned, no further work will be performed in the area, and with minor exceptions shipments have been completed
  - Final Status Survey will be performed using current Lead Cascade instruments and approved procedures
- Statistical approach will estimate average contamination levels employed
  - Centrus proposes using a Nonparametric Tolerance Limit method that is independent of the distribution to estimate average contamination levels

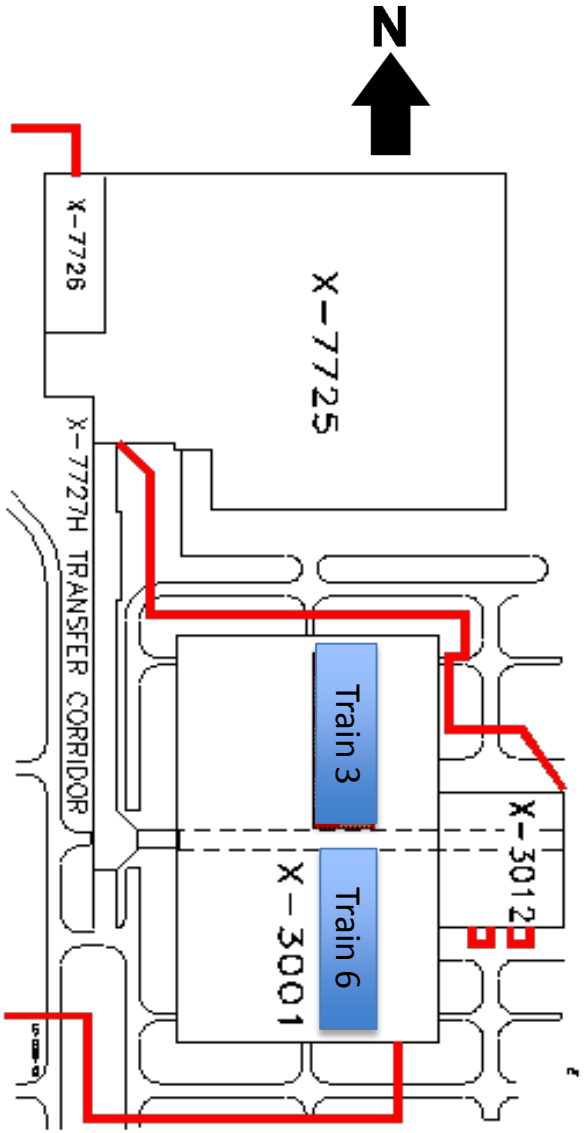
Final Status Survey (continued)

- Class I survey units will be with 95/95% statistical survey to show with 95 percent confidence the average removable and total contamination levels (dpm/100 cm^2) are at or below the maximum allowable values stated in DCGL
  - Aligns with 2004 Baseline Survey which defines acceptance of the facility for turnover to DOE (NOTE: Centrus maintains lease and Commercial Plant License. No decision has been made to turnover the facility back to DOE. Centrus will retain facilities in "caretaker" status)

- Consistent with 2004 Baseline Survey, each survey unit will be gridded and then randomly generated survey locations will be selected
  - At each survey location a 1 m^2 area will be scanned and a static survey will be performed at the location of the highest observed scanning count rate
  - If 500 dpm/100 cm^2 of alpha is indicated, the extent of the contamination will be determined, the area remediated, and the entire survey unit performed repeated

Final Status Survey (continued)

- The most likely areas for contamination are the Class I surveys and will be a 95/95% confidence survey (minimum of 59 survey points per Nonparametric Tolerance Limit Method)
  - X-3001 Train 3
  - X-3001 North Utility Bay, primarily focus on Train 2 and 3
  - X-3001 North Mezzanine
  - X-3001 Train 6
  - X-7726 Centrifuge Testing and Training Facility
  - X-7725 Buffer Storage Area (BSA)
  - X-3012 Maintenance Shop



Conclusions

- DP Approach involves several submittals including
  - General consistency with NUREG-1757
  - Cost estimate once clarity on scope
  - Classified Disposition Plan for DOE approval (copy to NRC)
  - Addendum to ACP Transportation Security Plan of Lead Cascade D&D only

- Proposed Derived Concentration Guideline Level (DCGL) based on RESRAD-BUILD

Next Steps

- Pre-submittal meeting to discuss facility security posture de-escalation

- Timing of DP submittal contingent on receiving DOE agreements