LOS ALAMOS NATIONAL LABORATORY

Schedule for Disposition of Below-Ground Transuranic Requiring Retrieval

In the January 5, 2012, Framework Agreement between the Department of Energy/National Nuclear Security Administration (DOE/NNSA) and the New Mexico Environment Department (NMED), DOE/NNSA committed to providing a schedule, with pacing milestones, for disposition of the below-ground transuranic (TRU) waste requiring retrieval at Area G at Los Alamos National Laboratory.

DOE/NNSA has determined that there are seven below-ground waste unit categories within Area G that potentially contain TRU waste that may require retrieval. These are summarized in the attached Table 1. The information and quantities in the table are estimated based on currently available data. Additionally, the volume estimates represent the current understanding of the amount of below-ground TRU waste that may require retrieval, but some of this waste volume may later be determined to be low-level waste (LLW) that would not require retrieval.

Of these seven categories, approximately 99.9% of the Material at Risk (MAR) and approximately 99.86% of the waste volume is contained in the first six categories: Trenches A through D, Pit 9, Corrugated Metal Pipes, Hot Cell Liners, Tritium Packages, and the 17th RH Canister.

Based on additional reviews of these seven categories, DOE/NNSA has concluded that these first six categories may include below-ground TRU waste that requires retrieval. For the remaining category, the 33 Shafts, additional evaluation is warranted.

Schedule and Pacing Milestones:
The following is the schedule and pacing milestones for the disposition of below-ground TRU waste that may require retrieval.

1. Trenches A-D, Pit 9, Corrugated Metal Pipes, Hot Cell Liners, Tritium Packages, and the 17th RH Canister:

    a. DOE/NNSA will disposition the below-ground TRU waste no later than September 30, 2018.

b. DOE/NNSA will work to meet the following pacing milestones. Note these volumes represent the total estimated volume for these six waste categories, and the pacing milestone for each year is a cumulative total.

i. Disposition of 250 m^3 by September 30, 2015.
ii. Disposition of 1000 m^3 by September 30, 2016.
iii. Disposition of 1750 m^3 by September 30, 2017.
iv. Disposition of 2,395 m^3 by September 30, 2018.

As part of the implementation of these disposition milestones, the DOE/NNSA will perform the retrieval of below-ground TRU waste in a manner reasonably designed to minimize the accumulation of MAR above-ground.

2. The 33 Shafts:

DOE/NNSA will complete: (1) a determination as to whether this category contains TRU waste that requires retrieval; and (2) to the extent necessary, its decision process under the National Environmental Policy Act regarding retrieval, by no later than September 30, 2015. Should extrinsic factors, such as public participation or other statutory / regulatory requirements, impact this date, DOE/NNSA will promptly inform NMED of a revised milestone date.

Additionally, a graphical representation of the approach for the disposition of TRU waste at TA-54 Area G is attached for informational purposes.

Assumptions:
The following are the primary assumptions used in the development of this schedule. Failure of any of these assumptions may necessitate changes to the schedule and/or pacing milestones set out above.

1. Pursuant to the terms of the Framework Agreement, this schedule and its pacing milestones are based on projected funding profiles. This profile is $188M for Fiscal Year 2013, and $239M for Fiscal Years 2014 and beyond.

2. The schedule and pacing milestones assume that NMED and NNSA/DOE will continue the Annual Planning Process set out in the Framework Agreement.

3. The schedule and pacing milestones assume that the waste volumes determined to be LLW will not be removed, but will be considered to be dispositioned for the purpose of the schedule and pacing milestones above.

4. All TRU waste retrieved from Area G will meet the Waste Isolation Pilot Plant's Waste Acceptance Criteria.

5. The schedule and pacing milestones set out above, assume NMED approval of a Corrective Measures Evaluation and Corrective Measures Implementation Plan for Material Disposal Area G that are consistent with the commitments set forth in this deliverable.

6. DOE/NNSA may suspend retrieval operations if DOE/NNSA determines that retrieval or removal of portions of the retrievable TRU waste:
    a. Presents a substantial danger to workers or public safety or to the environment;
    b. Is cost prohibitive relative to risk reduction benefits; or
    c. Implicates national security issues involving classified information.

Conclusion:

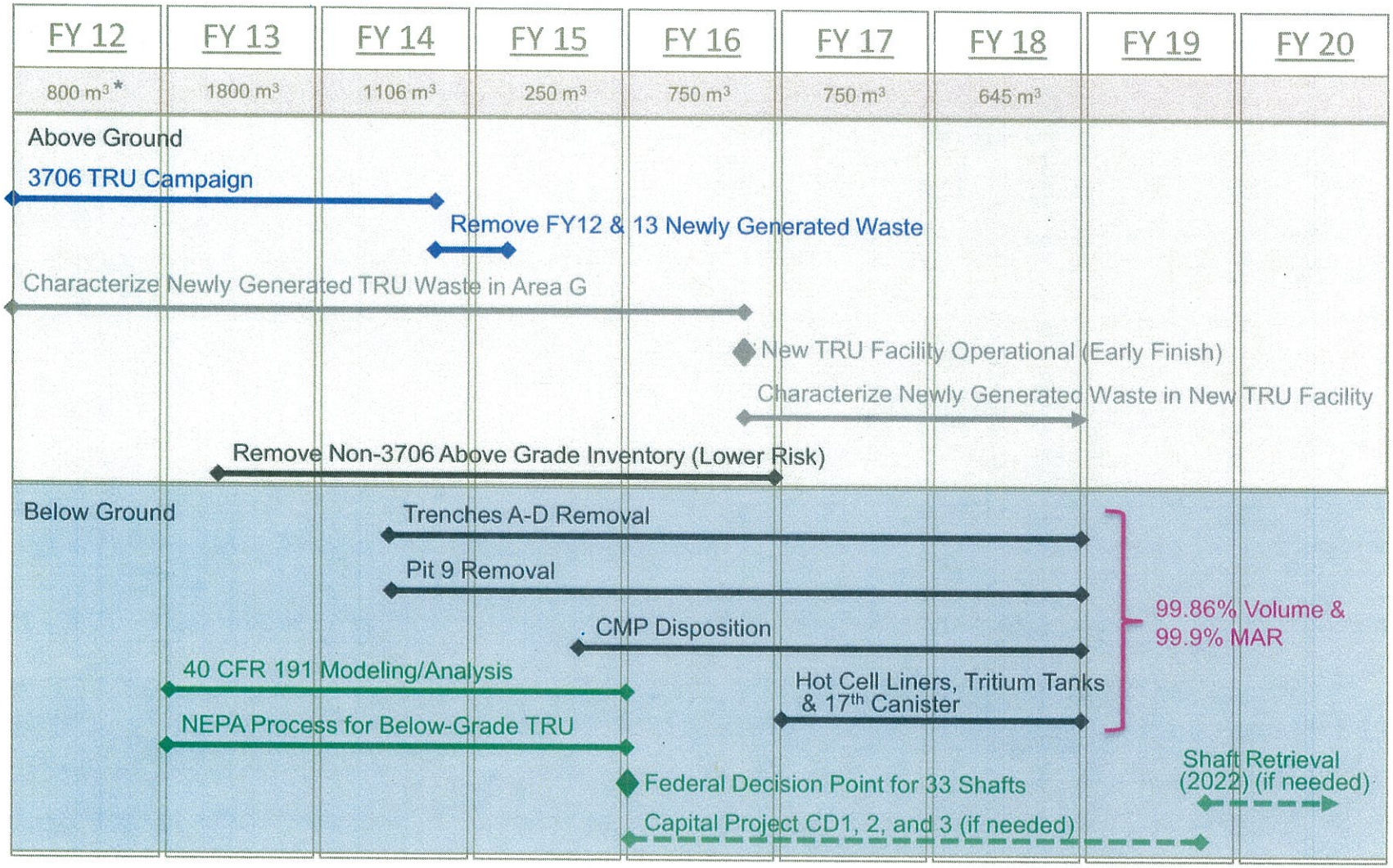
This Plan, including its schedule and pacing milestones, reflects DOE/NNSA's commitment to the principles set out in the Framework Agreement, including risk reduction and continued partnership with the state of New Mexico.

Table 1. Overview of Waste Categories

Category	General Description	Approximate Volume (m^3)	Percentage Total Volume	Approximate MAR (PE-Ci)	Percentage Total MAR	Estimated Cost[1]	Worker Risk[2]	Technical Execution Complexity[3]
Trenches A–D	720 30-gal. drums in 4 trenches	335	14.0	93,870	84.8	Medium	Defined Risk with Known Controls	Medium
Pit 9	3,881 30-gal., 55-gal., and 85-gal. drums, and 197 Fiberglass-reinforced plywood boxes	1,560	65.0	6,019	5.4	Medium	Defined Risk with Known Controls	Medium
Corrugated Metal Pipes (CMPs) above Pit 29	158 CMPs, each ≈ 30 in. diameter x 20 ft long	442	18.4	10,775	9.7	Medium	Defined Risk with Known Controls	Medium
Hot Cell Liners (Remote-handled [RH] waste)	5 shafts with glovebox liners from hot cells, each in a steel box 6 ft x 6 ft x 10 ft long (shafts 302–306)	51	2.1	0.5	0.0005	Medium	Defined Risk with Known Controls	Medium
Tritium Packages	4 tritium packages, each containing 3 55-gal. drums, and one tritium tank that is 20 ft long (shafts 262–266)	6.7	0.3	8	0.01	Low	Defined Risk with Known Controls	Medium
17th RH Canister	Canister containing 3 55-gal. drums (shaft 235)	1	0.04	1.5	0.001	Low	Defined Risk with Known Controls	Low
33 Shafts (RH waste)	32 lined shafts with pipes containing 1-gal. cans of hot-cell debris; 1 shaft with reactor vessel (shafts 200–232)	3.4	0.14	97	0.09	Very High	Risks Currently Highly Uncertain	Very High
Total		**2,399**	**100%**	**110,751**	**100%**			

Footnotes:

1. Estimated Cost for retrieval and processing. These estimates were developed based on the information and assumptions set out in this Plan. They are preliminary and are presented for comparison purposes only.
2. Worker Risk associated with project retrieval and processing activities. For all projects, appropriate hazard controls will be implemented to protect workers, the public and the environment.
3. Technical Execution Complexity associated with project execution. Higher complexity projects may require new and innovative technologies to complete.



* Annual Targets: FY12-FY14 "3706 Campaign"; FY15-FY18 "Below-Ground" (6 waste streams).