

Plans Unveiled for New LANL Waste Complex Includes New Disposal Pits for Radioactive Waste

The National Nuclear Security Administration (NNSA) has unveiled its conceptual plans for the future of waste management at the Los Alamos National Laboratory (LANL). The so-called **Consolidated Waste Capacity (CWC)** would be located near the Lab's expanding plutonium complex. Included in the CWC are plans for a new transuranic (TRU) Waste Facility for solid transuranic waste and facilities for hazardous waste, mixed low-level radioactive waste and low-level radioactive waste. The low-level waste would be buried in new disposal pits. These facilities, which are proposed for land intersecting the Lab's Technical Area-63 (TA-63), TA-52, and TA-46, would be needed for the Lab to continue plutonium operations such as manufacturing for future nuclear weapon programs.

Although the proposed plans are not too detailed, the maps clearly show **new waste pits**. Until these plans were released, LANL was proposing to expand its low-level waste operations to a location near the existing disposal site, Materials Disposal Area G (Area G) at TA-54. From Annex D, the proposed CWC site shows two new disposal pits outlined in blue:

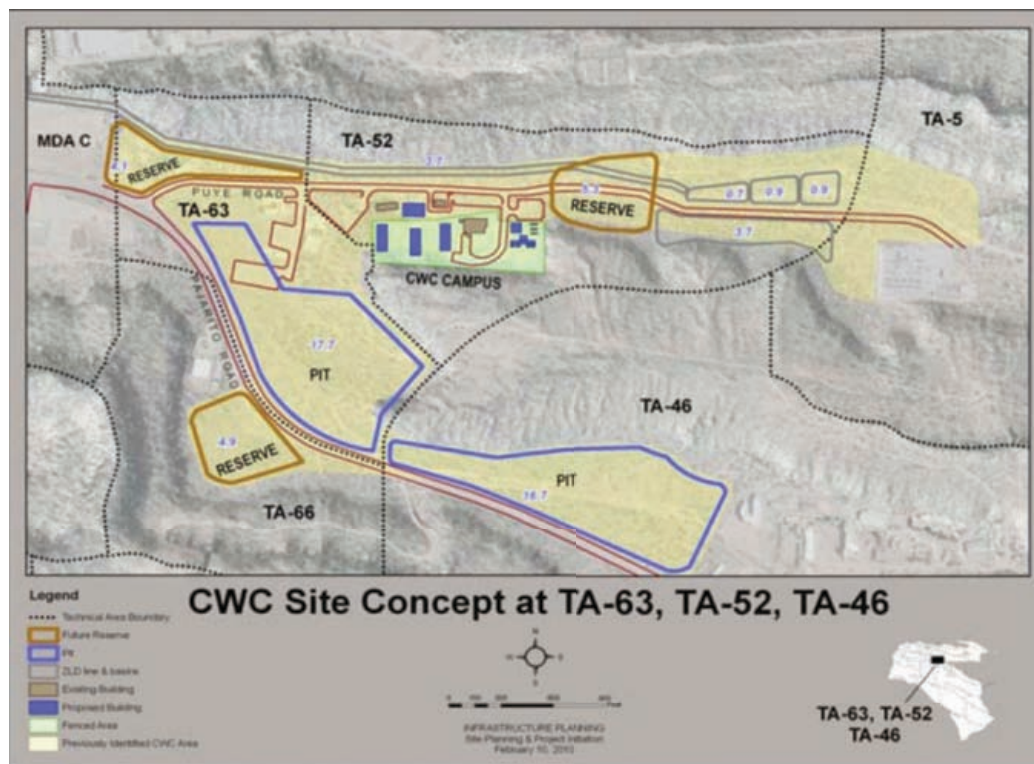


Figure D-11. Site overlay of the Consolidated Waste Capability for addressing TRU, Low Level and Mixed Low Level radioactive waste.

Waste Operations Expanding and On the Move

These new conceptual plans for new disposal pits for low-level radioactive waste that would replace a pit currently being filled at the Lab's existing "low-level" radioactive waste dump, **Area G**, in operation since 1957 at Technical Area-54. It is a 65-acre area containing both surface waste storage areas and subsurface waste landfills. Above ground, in large tent-like dome structures, an estimated 20,000 drum of transuranic (TRU) waste awaits shipment to the Waste Isolation Pilot Project (WIPP). **Area G**, equal to 49 football-fields, also includes inactive, just-below-ground, disposal units that number 32 pits, 194 shafts, and 4 trenches with depths ranging from 10 to 65 ft below the original ground surface. There is also a pit currently accepting freshly generated "low-level" waste, but it is approaching capacity. All of these are unlined. The total excavated volume of all these just-below-ground units is over 1 million cubic yards. The new plans for more disposal pits show that the Lab's best science has not come up with any better idea than the existing litter box technology.

The Department of Energy (DOE) signed an Order of Consent ("Consent Order") with the State of New Mexico, effective March 1, 2005. The Consent Order requires DOE to complete a "fence-to-fence" cleanup of LANL by December 2015. As part of the Consent Order, the State of New Mexico has identified four Material Disposal Areas (MDAs) in TA-54 that need to be closed. However, the definition of "closed" has not yet been decided. The options range from leaving the waste in place with a "cap and cover" to complete exhumation of the waste. The Lab currently would like to convince NMED, which has the final decision, of the merits of capping and covering the waste, which will remain radioactive and perched over our regional aquifer, in unlined trenches, for tens of thousands to hundreds of thousands of years.

The Corrective Measures Evaluation Report for Material Disposal Area G, Consolidated Unit 54-013(b)-99, at Technical Area 54, LA-UR-08-5781, September 2008 explains that there is a monumental cost difference between the estimates for cap and cover and for excavation. The preferred cap and cover option is estimated at \$78 million. Major elements of this alternative includes installing a cover, fencing the boundary to restrict public and large-animal access to the site, inspecting site and cover regularly, monitoring contaminant and moisture levels, maintaining site and cover, managing cover vegetation, and restricting site access for 100-yr active institutional control period (the control of site access, Laboratory administrative requirements, site monitoring, and site maintenance).

The \$20 billion removal alternative would exhume all the waste from 32 pits, 193 shafts, and 4 trenches at MDA G. This alternative could be implemented using widely available backfill materials, many in the vicinity of the Laboratory but contrasts with in-place management of legacy waste at MDA G.

Major elements of the alternative include:

- Removing, characterizing, repackaging, and shipping all MDA G waste to an approved off-site disposal facility;
- Backfilling all excavations with clean soil and compacting, regrading, and vegetating;
- Monitoring migration of contaminants already released to environment;
- Excavation could take up to 30 years to remove the waste, depending on federal funding levels, which unfortunately could place this alternative out of reach.

Despite Having Years of Notice, the new TRU Facility Will be Late

The current set of TRU waste storage and process facilities reside in MDA G. Because MDA G is required to undergo closure by December 2015 it will not be feasible, practical, or realistic to attempt to keep the TRU facilities operational in the midst of Area G closure activities. Therefore, the TRU waste management capability must be reconstituted, commissioned, and in operation at a location outside of the closure boundaries, before the corrective actions to close MDA G begins. Closure of MDA G is scheduled to start in FY 2012 and must be completed by December 29, 2015.

FY 2011 Biennial Plan and Budget Assessment on the Modernization and Refurbishment of the Nuclear Security Complex (Annex D) states:

The waste facilities are an integral part of conducting plutonium programs in the system of nuclear facilities. The Consolidated Waste Capability includes the transuranic (TRU) Waste Facility project for solid transuranic waste and associated facilities for hazardous waste, low level waste and mixed low level waste.

The overall strategy is to upgrade existing facilities supporting solid and liquid waste operations until new facilities including the TRU Waste Facility and Radioactive Liquid Waste Treatment Facility (RLTWF) can be brought online. This strategy has resulted in the Consolidated Waste Capability as a master plan for addressing all forms of waste from the systems of enduring nuclear facilities at Los Alamos. The priority project among these is the TRU Waste project that provides for staging, characterization, and shipping/receiving of TRU waste bound for the Waste Isolation Pilot Plant in Carlsbad. The TRU Waste capability must be reconstituted, commissioned, and in operation at a location outside of the current location. Through the integrated nuclear planning process, these refurbishments and or replacement projects are intended to be sequenced in order to address the plutonium capability and capacity required by the life extension and refurbishment requirements set forth in the NPR.

The waste facilities are all a part of the larger system of nuclear facilities used to assess, surveil, manufacture, and/or refurbish plutonium components used in nuclear weapons. There is a limited ability to stage waste and therefore plutonium programmatic operations such as surveillance and manufacturing would be interrupted without the facilities required to process and dispose of waste on a timely basis. (Pg. 28)

The proposed new TRU Waste Facility Project has a troubled past. The LANL project team submitted the Resource Conservation and Recovery Act (RCRA) permit to the State of New Mexico Environmental Division in August 2007. However, the request was not approved because the State requested more detailed design information. The next time the state accepts RCRA permit requests is after the new RCRA Permit is completed in FY 2010. **Construction cannot be initiated until the RCRA permit is approved.** This will delay the construction start potentially to FY 2012 or later. The funds previously appropriated in FY 2008 and 2009 will be available for the Lab to finally begin preliminary design work in FY 2010. Agreements on the planning assumptions and final project requirements will be reached by the 3rd quarter of FY 2010. Therefore, the total planning requirements and FY 2012 requests **are still unknown.** The future design activities and schedules are to be determined. However, the preliminary schedule to complete the project is in the range of 4Q FY 2016 to 4Q FY 2017. **This is years after the current TRU facility must be closed.**

A closer view clearly from Annex D shows a disposal pit and shafts in upper left-hand corner:

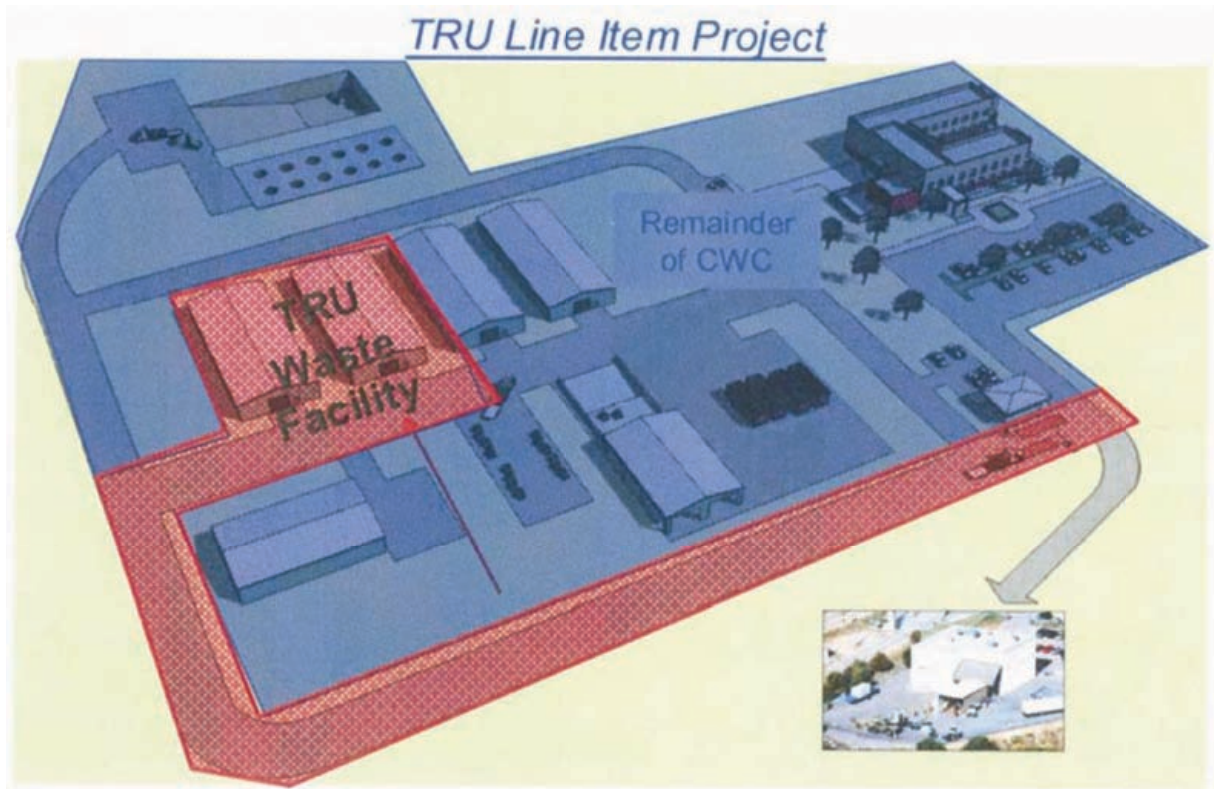


Figure D-12. Overhead view of the TRU Solid Waste Management project as a portion of the overall Consolidated Waste Capability (CWC) at Los Alamos.

There have been hints of the Lab's new waste disposal plans, which are proposed for land intersecting the Lab's Technical Area-63 (TA-63), TA-52, and TA-46. The 2008 LANL Site-Wide Environmental Impact Statement (SWEIS) analyzed the alternative for placing a new TRU Waste Facility at TA-63, and many other sites, after originally proposing it for TA-52. These plans are currently on hold, but no plans for the other types of waste were given. The SWEIS referred to this as the 'Waste Management Facilities Transition' plan. The Lab's FY2010 Performance Evaluation Plan calls it 'Consolidated Solid Waste Capability Development' and 'Waste Capability Life Extension' and 'Enduring Waste Management.' The new plans are dubbed 'Consolidated Waste Capability.' **Whatever it is called, the plans show LANL's inability to deal with the by-products of nuclear weapons production in a timely manner.**