LA-UR-16-24377
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Title: De-Inventory Plan for Transuranic Waste Stored at Area G

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Intended for: Report

Issued: 2016-06-21

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EP2012-5025

LANL TRU Program

# De-Inventory Plan for Transuranic Waste Stored at Area G

Multi-Year Work Plan to Disposition LANL TRU Waste

REVISION 0

January 2012

UNCLASSIFIED

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**EP2012-5025**
**Revision 0**
**UNCLASSIFIED**

**Reviewing Official:**
**Teri Tingey**
**Date: 12/07/2011**

# De-Inventory Plan for Transuranic Waste Stored at Area G

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# 1. Executive Summary

This report describes the strategy and detailed work plan developed by Los Alamos National Laboratory (LANL) to disposition transuranic (TRU) waste stored at its Area G radioactive waste storage site. The focus at this time is on disposition of 3,706 $m^3$ of TRU waste stored above grade by June 30, 2014, which is one of the commitments within the *Framework Agreement: Realignment of Environmental Priorities* between the Department of Energy (DOE) National Nuclear Security Administration (NNSA) and the State of New Mexico Environment Department (NMED), Reference 1. A detailed project management schedule has been developed to manage this work and better ensure that all required activities are aligned and integrated. The schedule was developed in conjunction with personnel from the NNSA Los Alamos Site Office (LASO), the DOE Carlsbad Field Office (CBFO), the Central Characterization Project (CCP), and Los Alamos National Security, LLC (LANS). A detailed project management schedule for the remainder of the above grade inventory and the below grade inventory will be developed and incorporated into the *De-Inventory Plan* by December 31, 2012. This schedule will also include all newly-generated TRU waste received at Area G in FYs 2012 and 2013, which must be removed by no later than December 31, 2014, under the Framework Agreement.

The TRU waste stored above grade at Area G is considered to be one of the highest nuclear safety risks at LANL, and the Defense Nuclear Facility Safety Board has expressed concern for the radioactive material at risk (MAR) contained within the above grade TRU waste inventory and has formally requested that DOE reduce the MAR. A large wildfire called the Las Conchas Fire burned extensive areas west of LANL in late June and July 2011. Although there was minimal to no impact by the fire to LANL, the fire heightened public concern and news media attention on TRU waste storage at Area G. After the fire, New Mexico Governor Susana Martinez also requested that LANL accelerate disposition of TRU waste stored above grade at Area G.

The 3,706 $m^3$ volume of TRU waste stored above grade consists of 4,495 containers that include all above grade non-cemented waste as well as above grade cemented waste that was ready for characterization on October 1, 2011. This volume includes all newly-generated TRU waste currently-stored at Area G as of October 1, 2011. This volume does not include the Bolas Grandes spheres, mixed low level waste (MLLW) containers, empty containers, cemented waste that requires remediation, projected newly generated TRU waste from FY 2012 and later, or TRU waste stored below grade. The 3,706 $m^3$ volume represents about 86 per cent of the total volume of TRU waste stored above grade on October 1, 2011.

The *De-Inventory Plan* supports the DOE Office of Environmental Management (EM) goal to disposition 90% of the Legacy TRU waste within the DOE complex by the end of 2015 as stated in its *Roadmap for EM's Journey to Excellence* (Reference 2). The plan also addresses precursor actions for disposition of TRU waste that are necessary for compliance with the *Compliance Order on Consent* issued by the NMED in 2005 (Reference 3).

Radioactive waste has been generated in nuclear weapon and nuclear material research and development activities since LANL started operations in the 1940's. All radioactive waste was buried in shallow landfills called Material Disposal Areas (MDAs) until the early 1970's when the Atomic Energy Commission (AEC) directed that AEC sites begin to segregate radioactive waste with "transuranium nuclides" and store it for future disposition in a deep geologic repository (ultimately the Waste Isolation Pilot Plant, WIPP, located in southeastern New Mexico near Carlsbad.) This waste was called transuranic or TRU waste. The specific definition of what constitutes TRU waste changed between 1970 and 1982 but has remained constant since that time.

By the time that WIPP opened to receive TRU waste in 1999, LANL had built up a stored inventory of about 9,100 cubic meters ($m^3$) of TRU waste with some stored above grade in large storage domes and some stored below grade in earth-covered pits, trenches, and shafts excavated into the mesa top. All of this waste is stored at LANL Technical Area 54 (TA-54) in what is called Area G. Through the end of FY 2011, LANL had shipped a total of 4,042 $m^3$ of TRU waste to WIPP. An additional 898 $m^3$ of TRU waste that was reclassified to MLLW because the containers were determined to not meet the current definition of TRU waste was shipped to commercial treatment and disposal at the Nevada National Security Site (NNSS). LANL has also continued to generate TRU waste in conducting mission activities, and the total inventory of TRU waste stored both above grade and below grade at Area G as of October 1, 2011, was 6,702 $m^3$ of which 4,303 $m^3$ was stored above grade.

The TRU Waste that was generated and placed into storage before the start of FY 1999 is called Legacy Waste and is the responsibility of DOE EM. About 89% of the TRU waste volume stored at Area G is Legacy Waste. The TRU waste that was generated from 1999 to 2007 is called Stored New Gen waste and is the responsibility of the NNSA Readiness in Technical Base and Facilities (RTBF) Program. A waste recharge program was initiated at LANL in 2007 and TRU waste generated from 2008 to present is funded through a recharge to programs that generate the waste.

Funding levels required from DOE/EM to execute the plan to disposition 3,706 $m^3$ of above grade TRU waste are $90 million in FY 2012 and $140 million in FYs 2013-2014. All newly-generated TRU waste that is currently-stored at Area G as of October 1, 2011, is included in the 3,706 $m^3$ volume, and funding to ship those TRU wastes to WIPP has also been requested. Defense Programs is also funding construction of a new TRU waste storage facility that is scheduled to be operational in 2016.

Most containers that hold TRU waste that are stored both above grade and below grade at LANL must be remediated so that they meet the WIPP Waste Acceptance Criteria (WAC), can be characterized according to the WIPP Waste Analysis Plan, certified as meeting the WIPP WAC, and shipped to WIPP.

Additional and upgraded temporary processing and characterization capabilities required to complete disposition of all types of LANL TRU waste at Area G were identified in 2009, and all but one of these processing and characterization capabilities have now been installed and are operational or in readiness reviews. One of the processing facilities used for drum remediation is being converted to process oversize TRU containers, and an additional processing capability for oversize TRU waste containers is being installed and will be operational in 2012.

The approach used to develop the detailed project management schedule for disposition of TRU waste was to segregate containers of TRU waste into categories of TRU waste with issues in common, and to develop a series of “Solution Packages” that identify and schedule all of the activities needed to disposition the containers. These activities include all precursor activities to begin remediation of containers, remediation processing, characterization and certification to the WIPP WAC, and shipping of containers to WIPP. About 15 waste categories and about 70 Solution Packages have been developed that address the entire inventory of waste in storage. Characterization and shipping capabilities are also scheduled to ensure that processing and characterization are aligned.

Key milestones in the schedule for disposition of the 3,706 $m^3$ inventory of above grade waste include:

- Complete remediation of drums in the 3,706 $m^3$ inventory by March 26, 2013;
- Complete processing of oversize boxes in the 3,706 $m^3$ inventory by September 11, 2013;
- Complete characterization of containers from the 3,706 $m^3$ inventory by September 20, 2013; and
- Complete shipping of containers from the 3,706 $m^3$ inventory to WIPP by March 6, 2014.

This schedule includes no contingency for unexpected delays, but provides a level of confidence that disposition of the 3,706 $m^3$ inventory will be completed by June 30, 2014.

Because of the age of much of the LANL TRU waste inventory, processing of TRU waste is also expected to generate substantial volumes of low-level waste (LLW) and MLLW that will be shipped off-site for disposition. These types of waste do not go to WIPP, but will be shipped to commercial treatment (if MLLW) and to the NNSS or a commercial LLW disposal site for final disposition.

# 2. Introduction

## *2.1 Introduction/Purpose*

**Introduction.** This report describes the strategy and actions required to disposition TRU waste (includes mixed TRU waste) stored at LANL TA-54 Area G. Disposition of TRU waste is highly dependent on funding received to process and ship TRU waste to WIPP, and this work plan will be revised and updated each year to reflect actual progress the previous year and funding expected in subsequent years. Completion of work to disposition the inventory of TRU waste may be accelerated or delayed depending on actual funding received during the next several years.

The inventory of TRU waste stored at Area G as of October 1, 2011, totaled 6,702 $m^3$--equivalent to about 32,200 55-gallon drums--and includes a variety of types of TRU waste and container sizes. Most of the TRU waste does not meet the very strict WIPP Waste Acceptance Criteria (WAC), and must undergo remediation before it can be characterized, certified to meet the WIPP WAC and transportation requirements, and shipped to WIPP. About two-thirds (4,303 $m^3$) of the TRU waste inventory is stored above grade in inspectable storage arrays inside eleven large white fabric-covered tension-support domes (Figure 1). About one-third (2,399 $m^3$) of the TRU waste inventory is "retrievably stored" below grade in pits, trenches, and shafts and must be retrieved from below-grade storage before it can be processed and shipped to WIPP. In addition to TRU waste already in storage, it is projected that about 120 $m^3$ to as much as 260 $m^3$ (600 to 1,250 55-gallon drum equivalents) of newly-generated TRU waste will be received at Area G each year for processing and shipping to WIPP (References 4-6). The current commitment is first to process newly-generated TRU waste currently-stored at Area G as of October 1, 2011, and then to process newly-generated TRU waste received in FY 2012 and FY 2013.

***Figure 1. Aerial photo of Area G Looking from the East (2011).***

**Purpose.** This document describes the various types of waste, processing requirements for each type, and the numbers of containers of each type. Both the schedule and estimated cost for processing depend on the amount and type of processing, and these factors are assessed in the *De-Inventory Plan*. The plan is focused on the TRU waste processing work scope that is performed by the LANL TRU Program (LTP). The LTP works hand-in-hand with the CCP, which performs characterization of the waste according to the WIPP Waste Analysis Plan, certification of TRU waste containers as meeting the WIPP WAC, and certification that waste payloads meet transportation requirements. The CCP is a Washington TRU Solutions LLC program contracted through the National TRU Program (NTP) at DOE's CBFO.

With regard to waste processing, the LTP is responsible for compliant storage of TRU waste, moving TRU waste containers through the characterization process in support of CCP characterization activities, remediation of containers, retrieval of below grade waste, and loading of containers into the TRUPACT-II shipping cask under supervision of the LANL-Carlsbad Mobile Loading Team. Remediation of containers has been a severe bottleneck for TRU waste shipments to WIPP in the past and the processing strategy includes additional remediation lines at Area G. Some additional characterization equipment has also been installed and this will be discussed in terms of the capabilities and schedule for processing. The work plan discusses characterization performed by CCP, but does not include details of the scope of work managed by CCP at LANL or the funding required for the CCP work scope.

**Funding Responsibilities**. All TRU waste that was in storage at LANL on October 1, 1998 (when responsibility for newly-generated waste was formally transferred from DOE Environmental Management to DOE Defense Programs at LANL) is called "Legacy Waste" and its disposition is the responsibility of DOE EM. Waste generated after that date and placed into storage is the responsibility of DP (now NNSA) and this waste is called "Stored New Gen" waste or simply Newly Generated waste for waste received each year. About 83% of the volume of TRU waste currently stored above grade and 100% of the volume of TRU waste stored below grade at LANL are Legacy Waste containers and the responsibility of EM. Overall, about 89% of the stored volume is the responsibility of EM. Funding to process and ship Stored New Gen containers generated from FY 1999 to FY 2007 comes from the NNSA RTBF program, except for containers generated by the Off-Site Source Recovery Project (OSRP), which are funded by OSRP. Beginning in FY 2008, LANL implemented a cost recovery program for all newly-generated waste and costs are recharged to the actual DOE program that generates each container of TRU waste. Programs generating TRU waste are billed when the waste is shipped to WIPP.

## *2.2 Background*

**Historical Perspective.** Wastes contaminated with transuranic isotopes have been generated at LANL since the 1940's from research and development activities for nuclear weapons and plutonium science. Such wastes were historically disposed on site by shallow land burial along with other low-level radioactive wastes (Reference 7). Area G at TA-54 has been the primary radioactive waste management facility since 1957. In 1970, the Atomic Energy Commission issued Immediate Action Directive 0511-21 that directed AEC sites to segregate wastes with "known or detectable concentrations of transuranium nuclides" and that such wastes be "packaged and buried in such a fashion that they can be readily retrievable as contamination-free packages within an interim period of 20 years; beyond that period retrievability should continue to be possible" (Reference 8.) This waste was to be stored for disposition in a future deep geologic repository (ultimately, WIPP).

The segregation limit for TRU waste was changed in 1973 with issuance of the *Atomic Energy Commission Manual*, Chapter 0511, "*Radioactive Waste Management*" to material contaminated with certain alpha-emitting radionuclides and activity greater than10 nCi/g for plutonium-239 (Pu-239) and

uranium-233 (U-233). Both Pu-238 and Pu-241 were excluded unless indicated by Pu-239 impurities or when required by local burial criteria. The value of 10 nCi/g was derived from the upper range of concentrations of radium-226 in the earth and was "subject to modification based on long-term studies of nuclide migration in soil." (Reference 9). In 1982, the TRU waste segregation limits were changed to 100 nCi/g for all TRU isotopes with a half-life of 20 years or longer (including Pu-238) by DOE Order 5820.1, *Management of Transuranic Contaminated Material* (Reference 10).

Like a number of DOE sites, LANL initially developed storage configurations for TRU waste that involved placing the waste containers in trenches, pits, and shafts that were excavated into the ground surface, or on asphalt pads, then covering them with soil (Reference 7). LANL also began storing TRU waste in storage domes in 1985. By the time that WIPP opened in 1999, LANL had built up an inventory of about 9,100 $m^3$ (44,000 55-gallon drum equivalents) of TRU waste in storage at Area G. This includes only waste generated after 1970; waste with transuranic isotopes generated before that time was not segregated and was disposed with other radioactive waste. LANL retrieved about 3,500 $m^3$ (~17,000 55-gallon drum equivalents) of TRU waste from three soil-covered asphalt pads between March 1997 and December 2001, and placed the waste into inspectable storage inside four new storage domes (Reference 11). Remote-handled waste in 16 shafts (about 17 $m^3$) was also retrieved and shipped to WIPP in 2009. The remainder of the waste originally stored below grade remains below grade.

**TRU Waste Shipped to WIPP.** Through the end of FY 2011, LANL had shipped a total of 4,042 $m^3$ of TRU waste to WIPP. A total of 898 $m^3$ (3,382 containers) of TRU waste that was reclassified to MLLW after radioassay showed concentrations less than 100 nCi/g was also shipped off-site to commercial facilities for treatment and disposal at the Nevada Nuclear Security Site (NNSS), formerly the Nevada Test Site. The total disposition of TRU waste through FY 2011 was 4,940 $m^3$. There isn't a one-to-one correlation between TRU waste volumes shipped to WIPP, or reclassified and shipped as MLLW, and inventory reduction because some containers were over-packed into standard waste boxes (SWB) or repackaged into multiple drums because of their high activity. Since 1999, about 2,450 $m^3$ of newly-generated TRU waste has also been received at Area G (includes increased volume that resulted from repackaging some of the received waste).

# 3. Planning Basis

Revision 0 of this *De-Inventory Plan for Transuranic Waste Stored at Area G* is focused on disposition of 3,706 $m^3$ of higher risk TRU waste stored above grade by June 30, 2014. The schedule for disposition of the remainder of the LANL Legacy Waste inventory volume (both the above-grade cemented waste that remains after disposition of the 3,706 $m^3$ and the below-grade TRU waste requiring retrieval at Area G) will be developed and submitted to NMED on or before December 31, 2012, and will include the commitment for removal of all newly generated TRU received in Area G during FY 2012 and FY 2013. The work scope and schedule for the entire inventory in the Plan supports the DOE Office of Environmental Management goal in its *Roadmap for EM's Journey to Excellence* (Reference 2) to complete disposition of 90 % of the legacy TRU waste within the DOE complex by the end of 2015. The De-Inventory Plan also addresses precursor actions necessary for compliance with the *Compliance Order on Consent* (Reference 3) issued by the NMED, but the scope and schedule for TRU waste removal are not currently sufficient to achieve compliance with the December 2015 date for completion of the remedy at MDA G. This is discussed further below.

## *3.1 Funding*

Progress towards the ultimate goal of the complete de-inventory of TRU waste at Area G is highly dependent on funding. This *De-Inventory Plan* revision was developed assuming an EM funding level for LANL Legacy Waste Disposition of $90 million in FY 2012 and $140 million per year in FY 2013 through FY 2014. A Level 3 schedule with cost estimates for each activity has been developed for the disposition of 3,706 $m^3$ of higher risk TRU waste stored above grade, and this schedule is currently being executed. The schedule for the remainder of the LANL Legacy Waste inventory volume (both cemented TRU waste stored above grade and all TRU waste stored below grade) will be revised by December 31, 2012. The *De-Inventory Plan* and schedule will support justification for requesting necessary funding profiles.

With any reduction from full funding levels, activities that ensure safe storage of waste claim first priority. Funding above that required for safe storage enables risk reduction activities to disposition TRU waste as described in this Plan. Completion of work to disposition the inventory of TRU waste may be accelerated or delayed depending on the actual level of funding received during the period. Revisions to this *De-Inventory Plan* and Annual Work Plans will be developed based on actual funding and progress achieved each year.

## *3.2 Regulatory Drivers*

Numerous laws, permits, orders, constraints, and commitments affect TRU waste disposition activities. Requirements that most directly affect TRU waste disposition planning are discussed below.

**Nuclear Safety.** Although the focus of this *De-Inventory Plan* is on waste processing, the LTP is also responsible for operation and maintenance of the facilities at which TRU waste is managed, and all work in these facilities must be conducted in strict compliance with formality of operations and 10 CFR Part 830, *Nuclear Safety Management*. The LTP operates three Hazard Category (HC) 2 nuclear facilities: Area G, the Radioassay and Nondestructive Testing (RANT) facility and the Waste Characterization, Reduction, and Repackaging Facility (WCRRF). The TRU waste activities in these facilities are conducted in accordance with approved Documented Safety Analyses (DSAs) and Technical Safety Requirements (TSRs). Each facility requires DSA maintenance annually. DSA support and implementation is critical to ensure that the public, workers and the environment are protected from potential hazards associated with operations of the nuclear facilities. A new DSA for Area G was

submitted to the Los Alamos Site Office (LASO) for approval in June 2010, revised to address LASO comments, and resubmitted. Some issues remain and the new DSA will be revised to address those issues. Implementation of the DSA will begin later in FY 2012 after issuance by LASO of a Safety Evaluation Report (SER).

**Hazardous Waste Permit.** Container storage units at these three facilities are also permitted by the NMED for storage of waste that has hazardous constituents under a Resource Conservation and Recovery Act (RCRA) permit. The NMED issued a renewal of the LANL site-wide Hazardous Waste Permit on November 30, 2010 (Reference 12).

**Other Regulatory Drivers.** DOE Order O 435.1, *Radioactive Waste Management* (Reference 13) and its associated manual, DOE M 435.1, *Radioactive Waste Management Manual* (Reference 14) describe the requirements for managing DOE high-level waste, TRU waste, LLW, and the radioactive component of mixed waste. These documents, which were issued in July 1999, list procedural requirements and existing practices to ensure that DOE's radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. TRU waste characterization and certification must be conducted in compliance with Attachment C, *Waste Analysis Plan* of the WIPP *Hazardous Waste Facility Permit* renewal (Reference 15) issued by the NMED November 30, 2010, and permit modifications (Reference 16) issued April 15, 2011; *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (Reference 17) including modifications; and the *Quality Assurance Program Requirement Document* (Reference 18). Transportation requirements for TRU waste are identified in *Contact Handled Transuranic Waste Authorized Methods for Payload Control* (Reference 19), *Contact Handled Packaging Operations for High Wattage Waste (*Reference 20), and *Remote Handled Transuranic Waste Authorized Methods for Payload Control* (Reference 21). These programmatic documents are implemented through site- and program-specific procedures. The approval of these procedures includes participation and satisfactory performance in certification audits conducted at the site. These audits are conducted annually by the Carlsbad Field Office (CBFO) with participation by the NMED and the Environmental Protection Agency (EPA). The TRU waste characterization activities conducted for WIPP certification at LANL are under the auspices of the CCP.

On October 4, 1995, the NMED issued a *Federal Facility Compliance Order* (FFCO) to DOE and its management and operating contractor at LANL (Reference 22). The FFCO was intended to bring LANL into compliance with Land Disposal Restriction (LDR) storage prohibitions under the New Mexico Hazardous Waste Act (HWA) and the federal RCRA. The FFCO requires LANL to implement a Site Treatment Plan (STP) for the treatment of mixed waste (both MLLW and mixed TRU waste). The STP was written to address treatment capabilities and technologies to treat all of LANL's mixed waste, regardless of the time that it was generated. Section VII of the FFCO requires LANL to submit an Annual Site Treatment Plan Update to NMED each year on or before March 31. The STP must be updated with revised compliance date changes, deleted wastes, added wastes, and a report of treatment progress. The STP also requires LANL to provide notification to NMED of each shipment of MLLW containers listed in the STP and a quarterly report to NMED on shipments to WIPP of mixed TRU waste containers listed in the STP. Newly-generated mixed wastes that remain in permitted storage for longer than a year must be added to the STP, and it is likely that some volume of waste will continue to be added to the STP in the future. The STP will not be completed until all mixed waste stored above grade for more than one year has been shipped for treatment, if applicable, and disposal.

DOE created the CBFO, Office of National TRU Program (NTP), to serve as the focal point and lead the nation's TRU waste management efforts. WIPP became operational in March 1999 as the permanent disposal facility for defense-generated TRU wastes. The vision of NTP for sites with an ongoing mission, such as LANL, is not only the removal of TRU wastes from temporary storage, but also the removal of newly generated waste. All program participants must comply with federal and state

environment, safety, and health regulations, permits, rules, and orders, and must comply with all agreements made between DOE, federal, state, and tribal agencies. Participants must also maintain an accurate inventory of TRU wastes and quantities, and characterize waste in accordance with the WIPP WAC.

In March 2005, the *Compliance Order on Consent* was signed by the NMED, DOE, and the University of California (the University of California commitments were assumed by LANS in 2006.) The TRU waste storage domes and Pad 10, on which the CCP characterization trailers are located, sit on top of old waste disposal units in MDA G that must be remediated under the Consent Order (Reference 3). The Consent Order requires completion by December 2015 of a remedy for MDA G, which is proposed to be construction of an evapotranspiration (ET) cover over the entire 63 acre site. While the Consent Order does not explicitly stipulate regulatory drivers for TRU waste disposition, the Framework Agreement between DOE/NNSA and the NMED (Reference 1) includes commitments by DOE/NNSA for disposition of TRU waste from LANL Area G that may result in changes to the Consent Order schedule. If DOE/NNSA successfully meets interim milestones for TRU waste removal from LANL, NMED has indicated that it would be willing to begin discussions on renegotiating the Consent Order (Reference 23).

Compliance with the Consent Order requirements for MDA G will require appropriate disposition of all TRU waste stored at Area G, and the schedule to be developed in 2012 for the remainder of the TRU waste stored above grade and that stored below grade is important to Consent Order compliance. In addition to TRU waste disposition, other activities necessary for Consent Order compliance include relocation of CCP's characterization equipment, demolition of all storage domes, closure of all container storage units at Area G under the Hazardous Waste Permit, and implementation of the remedy approved by the NMED across the entirety of MDA G (Reference 24).

**Framework Agreement: Realignment of Environmental Priorities.** Commitments in the Framework Agreement related to TRU waste disposition include:

- Demonstrating continuing progress by increasing shipments of TRU waste, and thereby achieving decreasing amounts of radioactivity (Pu equivalent Ci) and volume (cubic meters). Quarterly reports will be submitted to NMED showing this continued progress.
- Complete removal of all non-cemented above-grade EM Legacy and newly-generated TRU waste currently stored at Area G on October 1, 2011, by no later than June 30, 2014 . This inventory of above-grade TRU waste is defined as 3,706 $m^3$ of material;
- Complete removal of all newly-generated TRU waste received in Area G during FY 2012 and FY 2013 by no later than December 31, 2014;
- Based on projected funding, develop by December 31, 2012, a schedule that includes pacing milestones for disposition of the below-grade TRU requiring retrieval at Area G; and
- Subsequently complete removal of above-grade cemented Legacy TRU waste in an efficient and effective manner [protective of the health and safety of workers and the public. (For purposes of this provision, the bolas grandes spheres are considered to be cemented TRU.)`.

# 4. Transuranic Waste Inventory at Area G

## *4.1 Inventory of TRU Waste Stored Above Grade*

Table 1 presents a summary of the total above-grade inventory as of October 1, 2011, that lists various types or categories of TRU waste stored above grade at Area G. For each category, the table includes volume in $m^3$, the total radioactivity expressed as Material at Risk (MAR) in Pu-239 Equivalent Curies (PE-Ci), the number of containers that are Legacy waste or New Gen Waste, and the number of containers above grade that require venting before they can be processed or characterized. All of the containers stored above grade are considered to be "contact handled" (CH TRU waste) with a radiation dose at the surface of the container less than 200 millirem/hour (mrem/hr). A short description of each category is presented below the table and processing requirements for each category are discussed in Section 5 beginning on Page 19. The inventory of above-grade TRU waste containers that make up the 3,706 $m^3$ campaign is shown in Appendix B.

**TABLE 1**
**Above Grade TRU Waste Storage Inventory on October 1, 2011**

| Description | Volume ($m^3$) | MAR (PE-Ci) | Total Containers | Legacy Containers | New Gen Containers | Require Venting * |
|---|---|---|---|---|---|---|
| Sludge Drums | 103 | 148 | 379 | 347 | 32 | 152 |
| Debris Drums | 561 | 24,562 | 2,446 | 1,915 | 531 | 166 |
| Cemented Monoliths | 208 | 14,525 | 878 | 539 | 339 | 14 |
| Cemented Cans | 488 | 25,623 | 1,926 | 1,926 | 0 | 52 |
| Salt Drums | 14 | 765 | 68 | 15 | 53 | 0 |
| SWBs | 491 | 3,726 | 388 | 278 | 110 | 0 |
| FRPs/Crates/Metal Boxes | 2,356 | 3,091 | 244 | 218 | 26** | 0 |
| OSRP Drums | 44 | 4,329 | 210 | 0 | 210 | 0 |
| Other Containers | 9 | 31 | 31 | 0 | 31 | 23 |
| Bolas Grandes Spheres | 29 | 62 | 31 | 31 | 0 | 0 |
| **Total** | **4,303*** ** | **76,862** | **6,601** | **5,269** | **1,332** | **407** |

* Confirmed unvented outer containers and unvented inner containers in overpacks; about 400 more drums are suspect
** Processing of these boxes is EM responsibility in exchange for RTBF funding to establish oversize box processing lines
*** TRU waste only—does not include TRU reclassified to 10-100 MLLW or empty containers from TRU waste repackaging

Except for some oversize metal boxes that are stored outside on asphalt storage pads, the above grade TRU waste containers are stored inside storage domes and are placed in inspectable storage arrays that are compliant with the LANL RCRA permit. Some drums are also staged for short time periods outside the CCP characterization trailers on Pad 10. A photograph of 55-gallon drums that contain TRU waste inside one of the storage domes at Area G is shown in Figure 2.

It is important to note that the data shown in Table 1 represent a "snapshot" of TRU waste containers in storage on a specific date, and not the volume that will be characterized and shipped to WIPP. The containers represent a mix of parent and daughter containers that result from repackaging. Some containers to be repackaged, such as high-activity debris drums, may produce multiple daughter drums on repackaging and are expected to result in an increase in volume of those containers on repackaging. Other containers, such as FRP boxes, are expected to result in a large decrease in volume on repackaging.

***Figure 2. TRU Waste Drums in Storage Dome at Area G.***

**Sludge Drums.** This category of TRU waste is composed of 55-gallon drums or 55-gallon drums overpacked into 85-gallon drums that contain uncemented sludges, primarily from radioactive liquid waste treatment facilities (RLWTF) at TA-21 and TA-50. The MAR associated with the drums is low (average less than 1 PE-Ci).

**Debris Drums.** This category is composed of 55-gallon drums or 55-gallon drums overpacked into 85-gallon drums that contain various types of debris such as paper, rags, plastic, rubber, High-Efficiency Particulate Air (HEPA) filters, non-combustible items such as metal and glass, and less than 50 percent by volume of homogeneous solids contaminated with nuclear materials. Some drums may contain lead shielding used to increase handling safety. There is a very wide range of MAR associated with these drums ranging from less than 1 PE-Ci to greater than 300 PE-Ci. Drums were generated at various locations at TA-3 (primarily the Chemistry and Metallurgical Research or CMR Facility), and plutonium processing/research facilities at both TA-21 and TA-55. More than 90% of the newly-generated debris drums are generated at TA-55, with most of the remainder generated at CMR.

**Cemented Monoliths.** This category is composed of 55-gallon drums (some overpacked into 85-gallon drums) that contain liquids or sludges to which cement was added and mixed or the drum tumbled to promote mixing of the cement and sludge. These drums were generated primarily at the RLWTF at TA-21 and TA-50, and at TA-55. About 90% of the drums are in lead-lined containers, but drums generated since 2006 do not have lead liners.

**Cemented Cans.** This category is composed of 55-gallon drums generated at TA-55, each of which contains an array of 35 one-gallon cans filled with cemented waste. These cans are high in americium-241 (Am-241) and the central can is often filled with a very high activity cement mixture. The majority of the drums have lead shielding in either the cans or the drum. The average MAR associated with these containers is about 13 PE-Ci, but 18 of the drums are greater than 300 PE-Ci. The majority of the drums contain cans with the same nuclear material type, but about 25% of the drums contain cans with different nuclear material types.

**SWBs.** This category consists of metal boxes of specified dimensions (71 inches in length, 54 ½ inches in width, and 36 7/8 inches in height) called “standard waste boxes” or SWBs. The ends of the SWBs are

convex in shape rather than flat. The SWBs in storage were either direct loaded with soils or debris, or contain 55-gallon and 85-gallon drums that were overpacked into SWBs (up to four 55-gallon drums can be overpacked into an SWB). Drums are often overpacked into an SWB because the MAR exceeds the allowable limits for drums, and this category has a relatively high MAR for the number of containers. Figure 3 shows SWBs inside a storage dome at Area G.

***Figure 3. Standard Waste Boxes in Dome at Area G.***

**FRPs, Crates, Metal Boxes.** This category consists of oversize fiberglass-reinforced plywood (FRP) boxes, crates and metal boxes that are greater in size than SWBs and are not WIPP-compliant containers. Materials packaged in the oversize boxes include a variety of wastes such as HEPA filters; soil and rubble; gloveboxes; dropboxes and other transition sections; ventilation duct; process piping, pumps and tanks; machining equipment; and miscellaneous debris. Figure 4 shows oversize FRP boxes inside a storage dome at Area G and a radiograph of the waste within a box.

***Figure 4. Oversize FRP Boxes and Radiograph of Waste within a Box.***

**OSRP Drums.** This category consists of 55-gallon drums (mostly pipe overpack containers or POC) that contain sealed radioactive sources manufactured with actinides such as Am-241 and Pu-238. These sealed sources were recovered by the OSRP and brought to LANL for disposition because they were

excess and unwanted by the source owners. The OSRP also recovers plutonium-239 sources but these are not stored at Area G because they require security measures that are not available at Area G. The Pu-239 sources are stored at TA-55 until they have been certified to meet WIPP WAC and are transported to the RANT Facility under security and loaded into the TRUPACT-II cask for shipping to WIPP.

**Other Containers.** This category consists of containers that were designated as "other" containers by the generator or are containers that have not been placed into other categories described above in the TA-54 waste database.

**Bolas Grandes Spheres.** This category consists of a total of 31 metal spheres (27 spheres that are about 3-feet in diameter and four that are 6-feet in diameter). These spheres were used as confinement vessels for dynamic experiments that involved explosive tests and resulted in contamination of the internal surfaces of the spheres. All contaminated debris was removed from these spheres at TA-55 before they were transported to Area G, but the remaining internal contamination was sufficient for the spheres to be classified as TRU waste. The spheres are constructed of very thick steel, with maximum weight for 3-feet diameter spheres about 2,400 pounds and 6-feet diameter spheres about 17,600 pounds. Photographs of some of the spheres stored at Area G are shown in Figure 5.

***Figure 5. Bolas Grandes Spheres Stored at Area G.***

**10-100 MLLW.** As stated in a footnote to Table 1, the inventory of TRU waste stored above grade shown in the table does not include TRU waste that has been reclassified to 10-100 MLLW or empty containers from TRU waste repackaging. This category of waste consists of 55-gallon drums (with a few overpacked drums) and boxes containing either debris or sludges that were determined by radioassay to have concentrations of transuranic isotopes less than 100 nCi/g. The containers were reclassified from TRU to MLLW (these are all projected to be at least 10 nCi/g, thus the category 10 to 100 MLLW). The quantity of 10-100 MLLW in storage at Area G includes 135 $m^3$ of Legacy TRU waste reclassified to MLLW that was prepared for shipment ("Road Ready") to a commercial treatment facility in FY 2010, but was not shipped because EM funding was not available for treatment of the containers.

## *4.2 Inventory of TRU Waste Stored Below Grade*

Table 2 presents a summary of the categories of TRU waste that are currently "retrievably stored" below grade at Area G. All of these wastes must be retrieved from below grade storage before they can be processed, characterized, and shipped to WIPP or NNSS. All below grade TRU waste is the

responsibility of DOE EM because the containers were placed into retrievable storage before October 1, 1998. It is important to note that the volumes shown in the table are not the volumes that will be characterized and shipped to WIPP. Some containers with high MAR such as those in Trenches A-D are expected to be repackaged and produce a number of daughter drums, while other containers such as the FRP boxes in Pit 9 are expected to result in a much smaller volume that will be shipped to WIPP. Many containers stored below grade are expected to be reclassified to LLW or MLLW after assay because the activity is expected to be less than 100 nCi/g of TRU isotopes. The last row of the table is shaded yellow because the disposition plan for the 33 Shafts category (which totals 3.4 $m^3$ of the total 6,147 $m^3$ of Legacy TRU waste in storage) has not yet been determined. Funding has been established to develop a strategy.

**TABLE 2**
**Below-Grade TRU Waste Storage Inventory on October 1, 2010**

| Waste Category | Volume ($m^3$) | MAR (PE-Ci) | Legacy Containers | Description |
|---|---|---|---|---|
| Trenches A-D | 335 | 93,870 | 720 | 720 30-gallon drums in four trenches |
| Pit 9 | 1,560 | 6,019 | 4,078 | 3,881 55-gallon, 30-gallon, and 85-gallon drums and 197 Fiberglass-Reinforced Plywood boxes |
| Corrugated Metal Pipes (CMPs) in upper layer of Pit 29 | 442 | 10,775 | 158 | 158 CMPs, each ~ 30 inch diameter x 20 feet long |
| Hot Cell Liners (Remote-Handled Waste) | 51 | 0.5 | 5 | 5 Shafts with glovebox liners from hot cells, each in a steel box 6 feet x 6 feet x 10 feet long |
| TRU with Tritium Packages | 6.7 | 8.0 | 5 | 4 "tritium torpedoes" each containing three 55-gallon drums, and one tritium tank that is 20 feet long |
| TRU Canister (RH 17th canister) | 1.0 | 1.5 | 1 | Canister containing three 55-gallon drums located in remote handled shaft field, but TRU database indicates canister is contact handled waste |
| 33 Shafts (Remote-Handled Waste) | 3.4 | 97 | 33 | 32 Lined Shafts with pipes containing 1-gallon cans of hot-cell debris; 1 shaft with reactor vessel |
| Total | 2,399 | 110,751 | 5,000 | |

The TRU waste containers stored in Trenches A-D, Pit 9, the Corrugated Metal Pipes (CMPs) placed on the upper level of waste in Pit 29, the TRU with tritium packages, and the TRU Canister (RH 17th canister) are all contact-handled waste forms. The TRU waste containers placed into the 33 Shafts and the Hot Cell Liners are remote-handled waste forms. Figure 6 presents an aerial photograph that identifies the location in Area G in which each of the below-grade categories of TRU waste are stored.

**Trenches A-D.** This category consists of a total of 720 unvented 30-gallon drums that contain waste with high concentrations of Pu-238 and other TRU isotopes (668 drums) or U-233 waste, which is no longer defined as TRU waste (52 drums). The wastes were placed inside 3-gallon or 15-gallon inner containers, and the inner containers were overpacked into 30-gallon drums. The 30-gallon drums were placed inside vertical concrete casks (two drums stacked on top of each other in the concrete cask) in four shallow trenches designated as Trenches A to D during the period of 1974 to 1985. Volumes shown are the volume of the concrete casks rather than the 30 gallon drums containing waste. The exterior

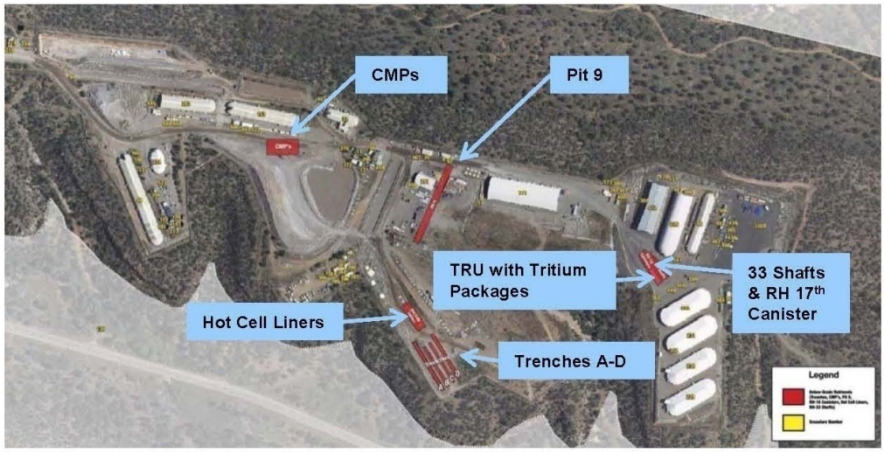


***Figure 6. Aerial Photo of Area G with Below Grade TRU Waste Storage Areas Shaded in Red***

surface of the concrete casks was coated with a coal-tar epoxy or asphalt roofing type compound. Casks were placed in groups of ten in a double row in a trench. A corrugated metal sheet was placed on top of the casks after waste was placed, and several feet of soil was placed on top of the corrugated metal sheet.

The MAR associated with these 30-gallon drums is very high (average of about 130 PE-Ci each), but drums range from 0.002 to 620 PE-Ci. Over 500 of the containers are above Hazard Category 2 levels. Figure 7 presents historical photographs of casks in one of the trenches. These show drums within a cask array, heavy concrete covers for the casks, asphalt roofing material used to seal the caps to inhibit water from entering the cask, and the corrugated metals sheets used to cover the casks before soil overburden was put in place.

***Figure 7. Waste Containers within Concrete Casks in a Trench at Area G.***

**Pit 9.** This category of waste consists of a total of 3,885 30-gallon, 55-gallon, and 85-gallon drums and 198 mostly FRP boxes placed in a dense-packed array in a narrow trench or pit excavated into the tuff at Area G. About 87% of the drums are 55-gallon drums. Review of drum content data indicates that about 75% of the drums contain debris and the remaining 25% of the drums contain sludges or soil. Review of waste generator assay information indicates that about 2,050 debris drums, 750 sludge drums,

and 50 of the FRP boxes will assay above 100 nCi/g and be processed as TRU waste; the remainder is expected to assay below 100 nCi/g and be managed as 10-100 MLLW.

The pit was excavated to a depth of about 20 feet, a width of about 30 feet and a length of 400 feet. An asphalt floor and curbing was placed on the bottom of the pit before waste was placed in the pit during 1974 to 1978. The FRP boxes were placed at the perimeter of the pit and drums were stacked in the middle of the boxes (see historical photographs in Figure 8). The boxes and drums were placed into cells that were topped with a layer of plywood and draped with heavy-duty plastic sheeting. A three-foot thick soil barrier was placed between cells. A plastic pipe was inserted into each cell for monitoring purposes and for ventilation. An interim cover of three feet of crushed tuff or soil was placed over the cells after they were filled with waste.

***Figure 8. Drums and FRP Boxes Being Placed into Pit 9 at Area G.***

**CMPs.** This category consists of a total of 158 corrugated metal pipes (CMPs), each about 30 inches in diameter and 20 feet long, filled with a cemented mixture of wastewater treatment sludge from TA-21. Each CMP is estimated to weigh 10,000 to 14,000 pounds. The average activity of a CMP is 68 PE Ci, but ranges to a maximum of 179 PE Ci. Cemented sludge waste from the RLWTF at TA-21 was pumped into CMPs placed vertically in a pit excavated into the tuff at MDA T (located adjacent to the TA-21 RLWTF) from December 1975 to May 1986. The CMPs were capped on both ends with a non-contaminated grout plug. There is some evidence that some of the CMPs were flooded with water before they were retrieved from TA-21, perhaps spreading contamination to the exterior of many of the CMPs. The CMPs were retrieved from MDA T in 1986, transported to Area G, and placed onto the upper layer of waste in Pit 29. Some CMPs may have been damaged during retrieval and transport to Area G. Photographs of CMPs placed into Pit 29 are shown in Figure 9. These photographs were taken before the CMPs were covered with plywood, tarps, and soil. The road that runs through Area G was constructed on top of Pit 29 at some time after the CMPs were placed, and the CMPs are under the road.

**Hot Cell Liners.** This category of waste consists of five glovebox hot cell liners from the hot cells in Wing 9 of the CMR facility. Each of the hot cell liners was placed inside a steel box with dimensions of 6 feet by 6 feet by 10 feet. The boxes containing the hot cell liners were placed into Shafts 302 through 306 at Area G in 1991. The hot cells were contaminated with mixed fission products and the hot cell glovebox liners are considered remote-handled waste. Information supplied by the generator indicates that four of the five hot cell liners may have concentrations of transuranic isotopes that are less than 100 nCi/g and may not be properly classified as TRU waste.

***Figure 9. Placement of CMPs in Pit 29 at Area G.***

**TRU with Tritium Packages.** This category of waste consists of five torpedo-shaped TRU waste packages that have tritium contamination in addition to contamination by TRU isotopes. These packages are sometimes referred to as the "tritium torpedoes." The packages were placed into Shafts 262 through 266 at Area G between 1995 and 1997. Four of the packages contain three 55-gallon drums each, and the fifth package contains a tritium tank that is 20 feet in length. The waste was generated during a decommissioning project at TA-55. The waste is contact-handled, and consists primarily of scrap metal (valves, fittings, piping, vessels, pumps, and other equipment) and some combustibles. The combustibles and non-combustibles were not segregated. The TRU with Tritium Packages are constructed of stainless steel and the head of each of the containers was welded in place and a valve, pressure gauge, pressure relieve valve and quick connect were installed to allow for future sampling.

**TRU Canister (RH 17$^{th}$ canister)**. This category of waste consists of a single canister of TRU waste that was placed into Shaft 235 in 1995. The canister contains three 55-gallon drums of debris from clean-up of CMR Wing 9 hot cells used to package waste placed into the 16 remote-handled canisters that were retrieved and shipped to WIPP in 2010. The location of the shaft containing this canister is adjacent to the shafts that contained the 16 canisters that were shipped, and is sometimes referred to as the "17$^{th}$ RH canister." However, the information available for this canister indicates that it is contact handled TRU waste rather than remote-handled TRU waste.

**33 Shafts.** This category of waste consists of remote-handled TRU waste that was placed into Shafts 200 through 232 at Area G from 1979 to 1987 (Figure 10). Thirty-two of the 33 shafts contain hot cell debris waste (consisting of metals, inorganics, and combustible solids contaminated with mixed fission products) from Wing 9 of the CMR facility at LANL. These shafts were lined with a 24-inch diameter corrugated metal pipe, and a ¼-inch thick steel pipe liner (8.5 inches in diameter and 13 feet in length) with a steel cap welded to the bottom and a steel cap on top was placed in the corrugated metal pipe shaft line. Nine of the shafts contain crushed tuff between the 8.5 inch diameter pipe and metal shaft liner, while the other 23 shafts contain concrete between the pipe and the corrugated metal pipe shaft liner. The steel pipe liners in these 32 shafts contain a total of 290 one- or two-gallon steel and plastic cans that were gravity-dropped into the pipes at the time of emplacement. These 32 shafts contain a total of about 3,500 total curies of radioactive waste (but only about 100 PE-Ci of TRU waste), and the one-gallon cans were reported to have a surface dose ranging from about 10 mrem/hour to 1,200 rem/hour.

Shaft 212 contains the reactor vessel from the Los Alamos Molten Plutonium Reactor Experiment (LAMPRE I reactor), a small research reactor located at TA-35, Building 2. The LAMPRE I was a sodium-cooled reactor built and operated in the early 1960's to develop plutonium fuels for fast breeder applications. The reactor was retired and defueled in the mid-1960s. During decommissioning of the reactor in 1980, the reactor vessel was placed in a cask, and space between the reactor and the cask was filled with concrete. The cask, with a volume of 75 cubic feet (about 2 $m^3$), was transported to Area G and placed into the shaft in April 1980. The reactor vessel may contain residual sodium metal as well an estimated 12 curies of Pu-239.

***Figure 10. Surface above 33 Shafts at Area G (in foreground in photo on the right).***

## 4.3 *Newly-Generated TRU Waste Projections*

In addition to the inventories of above grade and below grade TRU waste that are already in storage at Area G, additional volumes of newly-generated TRU waste will be received each year. A base projection of 400 55-gallon drums or drum equivalents per year of newly-generated TRU waste is forecast during the period of this work plan. This includes newly-generated TRU waste drums from the OSRP project. As shown in Table 3, two new programs are also expected to generate relatively large quantities of TRU waste during this period-- if those programs are funded. The first is work-off of material from the vault at TA-55, which if funded is projected to generate up to 600 drums per year in FYs 2012 to 2015. A second new program is the clean-out of debris and decontamination of confinement spheres located at TA-55, which is planned to be conducted at the CMR facility. The quantity of TRU waste that would be generated in clean-out of the confinement spheres is uncertain until this work begins, and a range of 120 to 200 drums per year is forecast in FY 2013 and FY2014. Because of the uncertainty in the forecast for these programs, a total of 600 additional drums per year from the two programs is included in the disposition plan for FY 2012 through FY 2015 at this time; additional volumes will be added in future revisions to the plan if confirmed that these programs will generate greater volumes.

**TABLE 3**
**Projections of Newly-Generated TRU Waste ***

| | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|---|
| Newly-Generated TRU/ OSRP Base Projection | 400 | 400 | 400 | 400 |
| TA-55 Vault Work-off | 0 to 600 | 0 to 600 | 0 to 600 | 0 to 600 |
| CMR Confinement Sphere Disposition | 0 | 120 to 200 | 150 to 250 | 0 |
| TOTAL Drums/Year | 400 to 1,000 | 520 to 1,200 | 550 to 1,250 | 400 to 1,000 |

* Quantities are in 55-gallon drum equivalents

# 5. Processing Requirements of TRU Waste Categories

Figure 11 presents a high-level summary diagram of the activities required for disposition of TRU waste at LANL. Almost all drums stored above grade have been prescreened for prohibited items by real-time radiography (RTR) and the amount of radioactivity by the High-Efficiency Neutron Counter (HENC). Results of the prescreening show that the majority of the Legacy drums and older New Gen drums must be repackaged or remediated before the waste can be characterized and certified as meeting the WIPP WAC and shipped to WIPP. Only 55-gallon drums and SWBs can be shipped from LANL to WIPP, and containers such as FRP boxes, crates, and metal boxes must all be repackaged into WIPP-compliant containers (primarily SWBs). Waste that is stored below grade will also be prescreened as it is retrieved.

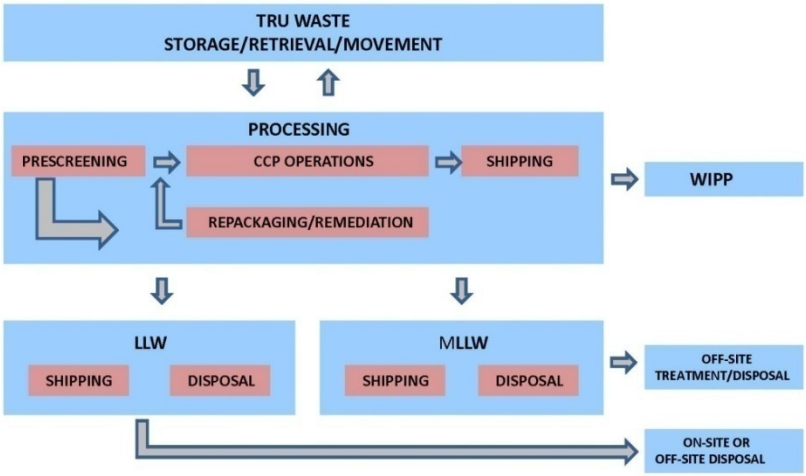


***Figure 11. TRU Waste Storage, Retrieval, Movement, Processing and Disposition Diagram.***

Table 4 presents a summary of the projected disposition path for all TRU waste containers. The disposition path for about 80% of the total stored volume of TRU waste will be at WIPP. Much of the remaining Legacy TRU waste stored at LANL was generated before 1982 when the current definition of TRU waste was established at 100 nCi/g of TRU isotopes with a half-life of 20 years or longer. There is currently about 156 $m^3$ of 10-100 MLLW drums that were reclassified from TRU waste after assay, and some FRPs and other boxes stored above grade will also be managed as MLLW. Based on TRU waste generator assay information, it is expected that a substantial fraction of containers from Pit 9 will be managed as 10-100 MLLW after retrieval and assay when the below grade TRU waste is scheduled. The 33 Shafts category is not yet included in the disposition plan and the volume from this category is listed as disposition path to be determined.

**TABLE 4**
**LANL TRU Waste Path to Disposition**

| | TRU Waste | MLLW | Disposition Path To Be Determined |
|---|---|---|---|
| Legacy Waste | 77% | 22.5% | 0.5% |
| Stored New Gen Waste | 94% | 6% | 0% |
| Future Newly Generated Waste | 100% | 0% | 0% |

## *5.1 Waste Processed as TRU for Disposition at WIPP*

Characterization of TRU waste containers by CCP is the first step for all newly-generated TRU waste containers that are received into storage and all containers that result from remediation or repackaging. After characterization, containers that can be certified as meeting the WIPP WAC are shipped to WIPP. Activities by CCP and support for CCP will be discussed first, and processing of specific categories that require remediation will then be discussed.

### *5.1.1 Characterization, Certification, and Shipping to WIPP*

The CCP and CBFO provide characterization, certification, and transportation services at LANL for disposal of CH- and RH-TRU waste at WIPP. The TRU waste characterization process is highly regulated and prescriptive with requirements derived from the EPA and NMED. CCP coordinates and supports audits by the EPA and CBFO (with NMED observers) to maintain certification of the TRU waste characterization and certification program by CBFO, including audits for new or refurbished characterization equipment. CCP provides services related to characterization and certification that consist of acceptable knowledge (AK) compilation and reporting, data generation, project level validation and verification, records management and document control. Characterization equipment operated by CCP and its subcontractors at LANL consists of nondestructive examination (NDE), nondestructive assay (NDA), and headspace gas sampling (HSG) and analysis, including SUMMA® sampling.

Most of the CCP characterization equipment except HSG sampling and analysis is located on Pad 10 at the far-east end of TA-54 Area G (Figure 12). The LTP supports CCP in moving containers to be characterized to and from the storage domes to Pad 10 (or to Dome 33 for thermal equilibration and HGS sampling). LANL personnel operate forklifts to move TRU waste containers through the characterization process on Pad 10.

***Figure 12. TRU Waste Characterization Units on Pad 10.***

Nondestructive examination by CCP at LANL includes operation of a mobile RTR unit, a high-energy RTR (HE-RTR) unit that recently completed startup and readiness activities, and visual examination of selected TRU waste packaging activities. A second RTR unit has been refurbished and is expected to

undergo startup early in CY 2012. Prescreening of containers by RTR fast scans provides information to LANL on prohibited items or other issues to guide container remediation. RTR certification scans are conducted on containers that are believed to be ready to ship to WIPP. Figure 13 shows a waste drum being loaded onto a conveyor for an RTR unit at Area G.

***Figure 13. Loading a TRU Waste Drum into a Mobile RTR Unit.***

Nondestructive assay includes operation of two mobile HENC units and a mobile SuperHENC unit that underwent startup and readiness activities in June 2011. Figure 14 shows loading of a TRU waste drum into a mobile HENC unit located on Pad 10 at Area G. Prescreening assays provide data to LANL to identify containers that should be reclassified from TRU to 10-100 MLLW and activity levels to guide repackaging to achieve activity and fissile-gram-equivalent (FGE) limits for shipping to WIPP.

***Figure 14. Loading a TRU Waste Drum into a Mobile HENC Unit***

Headspace gas sampling and analysis includes operation of two flammable gas analysis (FGA) units in Building 54-488, and thermal equilibration of containers and SUMMA® sampling in Building 54-33. CCP provides lower flammability limit (LFL) data to LANL on containers that require remediation or repackaging to ensure containers are within LFL limits at the LANL remediation facilities.

The CCP manages all Project Level batch data reports and characterization data through the WIPP certification process. After certification that containers meet WIPP WAC, CCP provides information to LTP on containers that will make up payloads to WIPP and the LTP transports containers to the RANT Facility as directed by CCP.

All packaging of TRU waste for transportation to WIPP and certification that the shipping packages meet transportation requirements is performed by CCP. Preparation of TRU waste payloads and loading of both drum and SWB payloads into the Transuranic Packaging Transporter-Model II (TRUPACT-II) for shipments to WIPP is conducted inside the RANT Facility, located at TA-54 West. The LTP supports CCP in shipping waste to WIPP in transport of containers from Area G to RANT, payload assembly, loading, leak testing, commercial vehicle inspections, and manifesting. Figure 15 presents an aerial photo of the RANT Facility and a payload assembly of drums being built at RANT under supervision by the WIPP Mobile Loading Team.

After a payload assembly of drums or SWBs is built, the payload assembly is loaded into the TRUPACT-II, inner and outer containment vessel lids are replaced, and leak testing is performed. High wattage shipments also require evacuation of the inner containment vessel for an extended period and backfill of the vessel with argon or nitrogen.

***Figure 15. RANT and TRU Waste Payload Assembly of Drums Being Built.***

### *5.1.2 Remediation of TRU Waste*

A high-level discussion of processing needs for the TRU waste categories is presented below. There are many issues or problems with specific waste categories or specific containers within these categories that require a more specific process path. More than 50 of these issues have been identified for the LANL TRU waste inventory, and an estimate completed of the number of TRU waste containers (both Legacy and Stored New Gen) to which each of the issues is applicable. A Process Path Plan has been developed for each issue that describes the issue, whether the issue may require facility modifications, procedure changes, training issues, permit modifications, authorization basis changes, personnel issues, characterization issues, or other changes to process the containers. The duration in days to develop and implement each of the needed process changes has also been estimated. Waste stream processing description sheets for major waste categories are provided in Appendix C. These sheets are updated on a frequent basis to reflect new information

**Above Grade Debris Drums.** Types of issues that have been identified for above grade debris drums include unvented drums, drums with high activity or fissile gram levels, overweight drums, container integrity, prohibited items, and head space gas issues. Some drums have multiple issues. All drums that have not been vented must be vented before any further remediation or characterization can be performed, including inner drums for overpack drums. Almost all debris drums will be repackaged or remediated in the glovebox at the WCRRF (see Figure 16). All debris drums must undergo sampling of headspace gases for flammable gas analysis. Selected drums from each lot must undergo thermal equilibration and headspace gas sampling and analysis. Debris drums that assay below 100 nCi/g will be managed as 10-100 MLLW rather than TRU waste.

***Figure 16. WCRRF and Repackaging Operations in WCRRF Glovebox.***

**Sludge Drums.** Types of issues that have been identified for above grade sludge drums include unvented drums, drums with high activity or fissile gram levels, overweight drums, container integrity, prohibited items, and head space gas issues. Some drums have multiple issues. All drums that have not been vented must be vented before any further remediation or characterization can be performed, including inner drums for overpack drums. All sludge drums that assay as TRU waste must be remediated to remove free liquids and absorbent is added to the drums to absorb any liquids that may result from dewatering. Almost all sludge drums are below HC 3 limits and will be remediated in the Dome 231 Permacon. Remediation of the sludge drums includes removal of rigid liners (see Figure 17) and drilling of the rigid liners and cutting inner liners. Some sludge drums have been found to have containers of organic or inorganic liquid embedded in the sludge and these will require specific processing to remediate this problem. Sludge drums that assay below 100 nCi/g will be managed as 10-100 MLLW as discussed below, and will not be remediated at LANL.

**Cemented Monoliths.** Types of issues that have been identified for above grade cemented monolith drums include unvented drums, overweight drums, and lead lined drums. Some drums have multiple issues. All drums that have not been vented must be vented before any further remediation or characterization can be performed, including inner drums for overpack drums. Cemented monoliths with lead liners must undergo HE-RTR prescreening to determine if they contain prohibited items such as free liquids. Cemented monoliths that are determined to have prohibited items must be remediated, and this will be conducted in the Dome 231 Permacon. Remediation will involve removal of free liquids and use of absorbents for liquids. The RTR presecreening has identified a few drums with large bottles embedded inside the cement monolith, and these drums must be remediated to address this issue. Some drums must be sent to the Idaho National Laboratory (INL) for coring and analysis for RCRA constituents.

***Figure 17. Dome 231 Permacon and Removal of Rigid Liner from Sludge Drum Inside Permacon.***

**Cemented Cans.** Types of issues that have been identified for above grade drums containing cemented cans include unvented drums, overweight drums, drums with multiple material types, and lead lined cans or drums. Some drums have multiple issues. All drums that have not been vented must be vented before any further remediation or characterization can be performed, including inner drums for overpack drums. Drums containing cemented cans must undergo HE-RTR prescreening to determine if they contain prohibited items such as free liquids. Drums found to contain prohibited items must be remediated, and this will be conducted in the Dome 231 Permacon. Cans with free liquids must be removed, lids removed and the cans placed upside down in a drum with absorbent material to absorb the liquids. Drums that contain more than one material type may be repackaged so that each drum contains only one or similar material types and can be assayed. Some drums may contain a can with a high americium-241 (Am-241) content in the center of the drum that will require repackaging and removal of the Am-241 can if it exceeds a surface dose of 200 mrem/hr.

**SWBs**. Some SWBs are used as overpacks for drums that exceed fissile gram or activity limits for drums, and these SWBs can be certified for shipment to WIPP if the drums inside the SWB have been subject to RTR and a HENC assay and meet the WIPP WAC. All SWBs that are direct loaded must undergo HE-RTR and assay in a SuperHENC to confirm that there are no prohibited items and the SWBs meet assay limits. All direct-loaded SWBs that contain debris waste must also undergo flammable gas analysis. Some SWBs that are direct loaded with homogeneous waste such as soils must be sent to INL for coring and analysis for RCRA constituents. These may require repackaging into drums because INL is not presently configured to sample from SWBs.

**FRPs, Crates, Metal Boxes.** These containers are too large to ship to WIPP, and the waste must be repackaged into SWBs or drums. The boxes will be opened and waste will undergo sort, segregation, size reduction and repackaging (SSSR) activities. Repackaging of an FRP box containing HEPA filters is shown in Figure 18. Boxes are first assayed to determine the activity within the box. Boxes that assay at 100 nCi/g or greater of activity will be processed as TRU waste in Building 412 and Dome 375 at Area G. Most waste from processing of these boxes will be repackaged into SWBs and the SWBs will undergo HE-RTR, assay in the SuperHENC, and flammable gas analysis. The empty, contaminated boxes themselves are expected to be managed as LLW. Boxes that assay less than 100 nCi/g will be managed as 10-100 MLLW. These boxes are not projected to require processing at LANL at this time,

but will be qualified for shipment to a commercial treatment facility and disposal at the NNSS after treatment.

***Figure 18. Removal of HEPA Filters from an FRP Box.***

**OSRP Drums.** The OSRP drums contain sealed radioactive sources that are certified to the WIPP WAC based on AK reports. The drums are not subject to RTR or assay, and will not be remediated or repackaged at Area G. The OSRP works directly with CCP on information necessary to develop AK reports. These containers are subject to drum movement and handling at Area G and transport to the RANT Facility, but no additional processing is conducted.

**Other Containers.** These containers must be evaluated and placed into the appropriate category discussed above. Processing of each container will be as discussed for the category of TRU waste to which a container is placed.

**Bolas Grandes.** Types of issues that have been identified for the Bolas Grandes spheres include size, weight, and thickness of the metal walls of the spheres. All of the spheres are expected to be processed as oversize containers in Dome 375 and packaged into SWB. There was a proposal to repackage 3-feet diameter spheres into ten drum overpacks (TDOP), but CCP does not have the capability to characterize waste packaged in TDOPs.

**Caustic Tank.** The caustic tank is a large empty cylindrical steel tank with internal contamination sufficient for the tank to qualify as TRU waste. The tank was assayed at Area G to confirm TRU levels of contamination. The tank will be processed as an oversize container in Dome 375.

**Trenches A-D.** TRU waste stored below-grade in the trenches must be retrieved before it can be processed for disposition (see Figure 19). Because of the high MAR of waste stored in the trenches (93,870 PE-Ci), it is expected that only about four drums will be retrieved per day (somewhat above the rate that can be processed at the WCRRF) so that MAR of containers stored above grade is minimized. Retrieval will include removal of overburden soil and the corrugated metal sheets that cover the sealed concrete casks. Lids from the concrete casks will be removed and the two 30-gallon drums removed from each cask. Drums will be surveyed for contamination and immediately overpacked into 55-gallon drums if contamination is found on the 30-gallon drums. None of the drums in the trenches are believed to be vented, and the first step in processing will be venting of the drums. If overpacked into a 55-gallon drum, then both drums will be vented and a filter placed on the new hole in the 55-gallon drum.

All 668 drums containing TRU isotopes are expected to be repackaged at the WCRRF because of the very high activity of most of the drums and because the drums are believed to all contain unvented containers that are greater than four liters in size that are prohibited at WIPP. It is expected that repackaging of the drums will on average create four daughter drums for each drum repackaged due to the high activity of the waste. After repackaging, drums will be characterized and certified to the WIPP WAC and transportation requirements like other debris drums that are currently stored above grade. Unless the drums are determined to have other TRU isotopes at levels that make them TRU waste, the 52 drums containing U-233 waste in Trench B are expected to be managed as LLW or 10-100 MLLW because U-233 is no longer included in the definition of TRU waste. Empty containers from repackaging will be managed as LLW.

***Figure 19. Retrieval of Drum from Trench (1992).***

**Pit 9.** The drums and FRP boxes were placed into cells separated by 3 feet of earth in Pit 9, and it is likely that the drums and boxes will also be retrieved cell by cell. Soil will be removed from the end of a cell and from above the top layer of waste containers. Drums and boxes can then be retrieved layer by layer from the cell, as was performed in retrieval of TRU waste stored in a similar configuration on asphalt pads at Area G (Figure 20). Drums will be surveyed for contamination and immediately overpacked into larger drums if contamination is found. Drums in Pit 9 were coated with a rust inhibitor, but were placed in storage from 1974 to 1978, and the condition of the drums is unknown. The first step in processing will be venting of the drums. Drums will then go through fast-scan RTR to check for prohibited items and assayed to determine if the drums will be managed as TRU or 10-100 MLLW.

A review of waste generator assay information for drums in Pit 9 was conducted to identify the number of drums containing debris and sludges or soils that are expected to assay equal to 100 nCi/g and greater, or below 100 nCi/g. Of the 3,885 drums in Pit 9, it is expected that about 2,050 debris drums and 750 sludge drums will assay at 100 nCi/g or greater and continue to be processed as TRU waste for disposition at WIPP. A total of 882 debris drums and 203 sludge drums from Pit 9 are expected to assay less than 100 nCi/g and be managed as 10-100 MLLW.

Debris drums processed as TRU waste that contain prohibited items will be remediated at WCRRF, and then characterized and certified like other debris drums that are currently stored above grade. Sludge drums processed as TRU waste that contain liquids or other prohibited items will be remediated in the Dome 231 Permacon, and then characterized and certified like other sludge drums stored above grade. Drums containing cemented monoliths and cemented cans will be processed like those presently stored above grade. Some debris and solid drums are expected to have other issues like those stored above grade that require specific process plans. New AK reports must be developed by CCP for below grade debris and sludge waste streams.

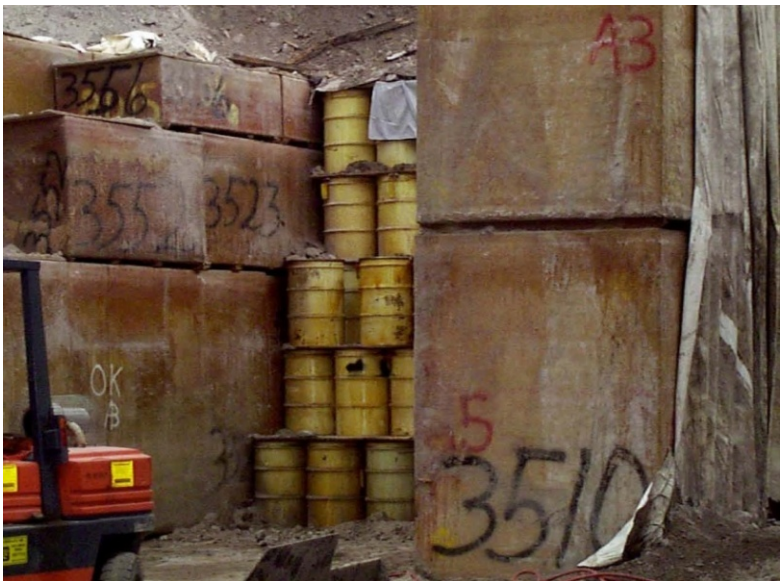


***Figure 20. Expected Configuration of Drums and FRP Boxes in Pit 9.***

There are 198 FRP and other boxes stored below grade in Pit 9. After retrieval, the boxes will be assayed to determine whether the boxes will be processed as TRU waste or managed as MLLW. Based on generator assay data, only about 50 of the boxes are projected to assay at 100 nCi/g or greater and be processed as TRU waste. Boxes that assay at 100 nCi/g or greater activity will be processed in Building 412 and Dome 375 at Area G. Most waste from processing of these boxes will be repackaged into SWBs and the SWBs will undergo HE-RTR, assay in the SuperHENC, and flammable gas analysis. The material from the boxes themselves is expected to be managed as LLW after repackaging.

Boxes that assay below 100 nCi/g will be managed as 10-100 MLLW. These boxes are not projected to require processing at LANL at this time, but will be qualified for shipment to a commercial treatment facility and disposal at the NNSS after treatment.

**CMPs.** The road that is on top of Pit 29 must be relocated before retrieval of the 158 CMPs can begin. Overburden soil above the CMPs will then be removed, and CMPs will be retrieved one-at-a-time, wrapped in plastic or otherwise contained for contamination control, and transported to a staging/processing area before processing in Dome 375. The remainder of Pit 29 contains LLW that will not be retrieved. Each CMP will be cut into five sections and each section placed into a SWB, producing a total of 790 SWBs. This assumes that both activity and mass of the waste within the CMPs are relatively evenly distributed, so that activity and weight limits for the SWBs are achieved. These SWBs will undergo HE-RTR and assay in the SuperHENC. Cemented sludge from the CMPs will be placed into drums and shipped to the INL for sampling by coring of the cemented sludge and analysis of the core samples for RCRA constituents in order to qualify this waste stream for WIPP disposal.

**Hot Cell Liners.** The Hot Cell Liners will be retrieved from the shafts in which they were placed and will be transported to Dome 375 for processing. A review of waste generator information indicates that waste within four of the five shafts containing hot cell liners may not be TRU waste. Containers that are determined to have activity less than 100 nCi/g of TRU isotopes will be managed as LLW or MLLW. Containers that assay as TRU waste would be processed in Dome 375.

**TRU with Tritium Packages.** The TRU with Tritium Packages will be retrieved from the shafts in which they were placed and will be transported to Dome 375 for processing. Four of the packages are canisters that each hold three 55-gallon drums. Drums will be removed from the canisters and will be assayed to determine if they will be managed as LLW or MLLW or TRU. If TRU, the drums will be vented and prescreened to determine whether they must be remediated and the type of remediation required. The fifth package is an oversize tank that will be assayed to determine if it will be managed as LLW or MLLW, or TRU. If TRU, the tank will processed in Dome 375.

**TRU Canister (17$^{th}$ RH canister).** The TRU canister will be retrieved from the shaft in which it was placed and will be transported to Dome 375 for processing. The canister contains three 55-gallon drums. Drums will be removed from the canister and will be assayed to determine if they will be managed as LLW or MLLW or TRU. If TRU, the drums will be vented and prescreened to determine whether they must be remediated and the type of remediation required.

**33 Shafts.** The 33 Shafts are not included in the *De-Inventory Plan* at this time, and the strategy for processing and disposition of waste from the 33 shafts has not yet been determined. Several options have been proposed, including:

(1) Retrieval of the metal pipes containing TRU waste from the shafts, transport of the pipes to the CMR facility, and repackaging of the waste in the hot cells at CMR Wing 9 into containers that could be shipped to WIPP. This was the baseline plan, but may not be feasible for 23 of the 33 shafts that were determined to contain concrete between the pipes and the corrugated metal pipe liners in the shafts (and may not allow the pipes to be removed from the liners). The pipe liners are too large to be processed at the CMR hot cells;
(2) Retrieval of the pipes and liners where required that contain TRU waste from the shafts, and repackaging of the waste into containers that could be shipped to WIPP in a portable hot cell that would be located at Area G. The hot cell would be sized or otherwise configured to deal with the pipes that are encased in concrete in the shaft liners;
(3) Over-drilling the shafts in which the pipes are encased in concrete so that the pipes containing waste are retrieved without the concrete. The pipes could be repackaged at either CMR or a portable hot cell located at Area G; and
(4) Complete a comprehensive evaluation and gain approval to leave the TRU waste in the 33-shafts in place since the long-term activity of the waste in the 33-shafts is very low (total less than 100 PE Ci) and is a miniscule fraction of the activity of the radioactive waste that has been disposed in the vicinity of the 33 shafts at Area G. This would require a 40 CFR 191 analysis and approval by DOE. A preliminary analysis was conducted that indicates performance standards would be maintained except under the intruder scenario of the analysis. This might be mitigated by an engineered barrier or other actions to address the intruder scenario.

## *5.13 Newly-Generated TRU Waste*

Except for a small number of oversize boxes that will go into storage for processing with similar boxes already in above grade storage, newly-generated TRU waste is expected to require no remediation before the waste is characterized and certified for shipping to WIPP. Waste generated at LANL for the past several years has demonstrated excellent compliance with the WIPP WAC when characterized by CCP. Current practice is to perform visual examination (VE) with a CCP observer as drums with high density materials are packaged so that they are not rejected by RTR due to high density material. Drums with high-fissile-gram-equivalent (FGE) material are also now packaged somewhat below the 200 FGE limit so that they also do not result in an issue during the HENC assay by CCP.

## *5.2 Waste Processed as 10-100 MLLW*

All TRU waste containers that are determined to have TRU isotope contamination less than 100 nCi/g (this does not include uncertainty in the measurement) will be reclassified from TRU to MLLW and prepared for shipment to a commercial facility for treatment of the waste to RCRA LDR limits. Small quantities of routine MLLW (estimated to be about 5 $m^3$ per year) will also be generated as secondary waste in repackaging/remediation operations and this will be shipped off-site for treatment and disposal within about six months of generation. Volumes of secondary MLLW may be somewhat higher in years with increased processing, but there may be opportunities to package this waste with MLLW that results from reclassification of oversize boxes.

Waste characterization packages are prepared for each 10-100 MLLW container to demonstrate that the container meets the WAC of the receiving treatment facility. Waste manifests are prepared and the containers are shipped off-site to the commercial facility. After treatment to LDR limits, the waste in these containers will be shipped directly to the NNSS for disposal. Figure 21 shows loading of TRU waste drums that were reclassified from TRU to 10-100 MLLW into a truck for transport to a commercial facility.

***Figure 21. Shipping MLLW Drums Reclassified from TRU.***

## *5.3 Secondary LLW*

Secondary LLW is also produced in processing of TRU waste. This is primarily empty containers that result from repackaging or remediation of TRU waste drums and oversized boxes. Empty parent drums (55-gallon) from repackaging/remediation operations are overpacked into 85-gallon drums for contamination control and managed as LLW. The FRP and metal boxes that are repackaged also result in empty containers that are managed as LLW. Some LLW trash, consisting primarily of floor sweepings and used personal protective equipment (PPE) is generated from various operational activities such as TRU waste storage, characterization, repackaging, drum venting, and shipping. All of this LLW will be shipped off-site for disposal at the NNSS or a commercial LLW disposal facility.

# 6. TRU Waste Disposition Strategy

A high-level strategy to accelerate the disposition of TRU waste stored at Area G by 2015 was developed during FY 2009 and early FY 2010. This strategy identified additional processing lines (repackaging/remediation and characterization) that would be needed to process the majority of the TRU waste stored at Area G and ship it to WIPP (see Table 5). The LTP and CCP have made substantial progress in implementing the new repackaging/remediation and characterization capabilities that are required. All capabilities that were identified except drum venting and a second oversize container processing line in Dome 375 are now operational. One of the drum remediation facilities will also be converted to oversize box processing. The new capabilities are described in more detail below.

The LTP has continued to refine the strategy and developed a detailed Production Control Plan to execute the strategy in early FY 2011. A detailed Primavera schedule was developed with input from personnel at LASO, CBFO, and CCP that integrates all of the activities necessary to disposition 99.5% of the stored TRU waste as well as the newly-generated TRU waste that is expected to be generated through 2015. The LTP has also organized to provide greater focus on TRU waste disposition, with projects for TRU waste drum disposition, TRU waste oversized container disposition, and a project charged with developing strategies and processing paths for TRU waste with issues that must be addressed to ensure timely disposition. After the Las Conchas Fire in June-July 2011, a decision was made to focus on 3,706 $m^3$ of higher risk TRU waste stored above grade and a new schedule was developed to disposition this volume by June 30, 2014.

**TABLE 5**
**Upgrades to Remediation and Characterization Capabilities at LANL**

| Facility/Process | FY 2009 | FY 2010 | FY 2011 | FY 2012 |
|---|---|---|---|---|
| RANT | Shipping Operational | | | Operational |
| WCRRF | Debris processing | | FSS Upgrade, Increase MAR Limit | Operational |
| Dome 231 Permacon | Sludge processing | HAZCAT 3 | Sludges/Solids | Convert to Box Processing / Operational |
| Bldg. 412 | | Debris/HAZCAT 3 | Convert to Box Processing / Box/ RAD | Box/ HAZCAT 3 / Operational |
| RTR Unit #1 | | Refurbish | Install and Start-up | Readiness / Operational |
| RTR Unit #2 | Operational | | | Operational |
| HENC #1 | Operational | TMU revision | | Operational |
| HENC #2 | Operational | TMU revision | | Operational |
| SuperHENC | | Install | Start-up, Readiness and Certification | Operational |
| High Energy RTR | | Install | Start-up, Readiness and Certification | Operational |
| Drum Venting | | Install | Start-up | Readiness / Operational |
| Flam Gas Analysis | Operational | Add 2nd GCMS | | Operational |
| Dome 375 Box Facility | | | Design, Permit, Procure | Install / Start-up and Readiness |

## *6.1 New TRU Waste Processing Capabilities*

Repackaging or remediation of TRU waste was a severe bottleneck in the past because only one glovebox at the WCRRF facility located at TA-50 was available to repackage waste. Additional repackaging/remediation capability has been implemented at Area G in the Dome 231 Permacon and

Building 412. This has greatly increased remediation capability for both debris and sludge drums. Installation of an automatic fire suppression system was completed in the WCRRF glovebox in November 2010 that will allow repackaging of drums that have a MAR of 300 PE-Ci or greater once a page change to the WCRRF Basis for Interim Operation (BIO) is approved. Other upgrades to the WCRRF were also completed at this time that made the WCRRF more reliable and repackaging operations more productive. These upgrades included replacement of the heating, ventilation, and air conditioning system, relocation of the building transformer, and replacement of the Uninterruptible Power Supply with a new unit.

Drums must be vented before they can be remediated or characterized, and the LTP has implemented a subcontract with Nuclear Filter Technologies to mobilize a drum venting system in Dome 33 at Area G. Venting will be accomplished by placing a drum in the Drum Venting System located in Dome 33 (Figure 22), and drilling a hole into the lid of the unvented drum (including nested drums inside that are unvented). Because of concerns for a potential deflagration of gases during venting, controls such as a blast mitigating device and a 30-foot standoff distance are being considered. After venting, a WIPP-approved filter will be installed through the hole on the outer surface of the drum lid. Reviews to verify readiness for start-up of the system are scheduled, and drum venting is planned to begin in March 2012.

***Figure 22. Dome 33 and Drum Venting System.***

Also during FY 2011, the containment tent in Building 412 at Area G was reconfigured for processing oversize TRU waste containers such as FRP boxes (see Figure 23). Tooling was obtained, and operating procedures revised or developed as required. Processing is planned to include opening the containers, size-reducing the contents, sorting materials into TRU and low-level waste streams as much as practicable, and packaging the waste into new containers. TRU wastes will be placed into SWBs or 55-gallon drums. Startup of the Building 412 box repackaging line for boxes with radiological levels of activity began in July 2011, and transition to boxes with HC 3 levels of activity is scheduled for January 2012.

Because oversize containers such as FRP boxes, crates, and metal boxes make up about 50% by volume of the 3,706 $m^3$ of higher risk TRU waste stored above grade, a decision was made to convert the drum

***Figure 23. Building 412 and Containment Tent for Oversize Box Processing.***

processing line in the Dome 231 Permacon to box processing, and this line is scheduled to begin operations in June 2012. A box processing line will also be installed into Dome 375 and this line is scheduled to be operational by the end of FY 2012. Oversize containers also make up about 33% of the volume of the total below grade TRU waste inventory. All of the below-grade boxes are in Pit 9.

One additional container remediation processing capability will be required to execute the de-inventory plan. This is the capability to cut large containers such as the CMPs filled with cemented sludge into sections that will fit into a SWB. The oversize container processing line in Dome 375 will be retooled near the end of FY 2013 so that the needed capability is in place before retrieval of the CMPs is scheduled. This capability is also planned for processing of the Bolas Grandes, Caustic Tank, Hot Cell Liners, TRU with Tritium Packages, and TRU Canister (17$^{th}$ RH) waste categories.

The LTP also provided support to the CCP during FY 2011 in the installation of two new characterization units that are necessary for some TRU waste containers, and will enable these containers to be characterized and certified for shipment to WIPP. These new characterization capabilities consist of (1) the HE-RTR, which is needed for RTR of cemented monolith drums, cemented cans, and SWBs; and (2) the SuperHENC, which provides a capability for radioassay of SWBs. Figure 24 shows photographs of the SuperHENC and HE-RTR installed at Area G. Mobile RTR1 unit has also been refurbished and is scheduled for restart in early CY 2012.

***Figure 24. SuperHENC (left) and High Energy RTR Units at Area G.***

Characterization capabilities at Area G in 2012 will consist of HENC 1, HENC2, SuperHENC, RTR1, RTR2, HE-RTR, Flam Gas 1, and Flam Gas 2.

Accelerated disposition of TRU waste will result in an increased number of shipments of TRU waste from LANL to WIPP. The RANT Facility is currently the only capability at LANL for loading payload assemblies into TRUPACT-II shipping casks. Figure 25 presents photographs of the loading of a payload assembly into a TRUPact-II cask at RANT and a shipment leaving RANT for WIPP. Enhanced preventive maintenance and spare parts increased the RANT crane availability to greater than 90% in FY 2011, and funding for a replacement crane was obtained. Authorization for use of mobile loading units at both the RANT Facility and at Area G will be obtained as a backup.

***Figure 25. Loading a Payload Assembly into a TRUPACT-II and Shipping TRU Waste to WIPP.***

## *6.2 Detailed TRU Waste Disposition Schedule*

As discussed in Section 5.1.2, beginning on Page 22, issues have been identified for almost all containers of TRU waste in storage at Area G that require specific types of processing before the containers can undergo characterization for WIPP certification. The inventory of waste containers within major TRU waste categories was segregated into lists of container types that have issues in common so that the containers with the same type of issue are processed as a group. Development of the detailed Primavera schedule was based on a “Solution Package” approach in which a Solution Package was developed for each group of containers with issues in common. Each Solution Package identifies and schedules all of the activities required to disposition the inventory of TRU waste with a specific type of issue. More than 70 Solution Packages have been developed in the schedule to address the range of issues among the entire TRU waste inventory. Table 6 presents a summary of the waste categories and Solution Packages for the disposition of the 3,706 $m^3$ of higher risk TRU waste stored above grade.

The activities scheduled within each Solution Package include activities that are precursor activities to processing of the waste, the remediation or repackaging processing activities, and the characterization, certification, and shipping activities that follow processing. Precursor activities include needed facility modifications or equipment upgrades, procedure changes, nuclear safety basis changes, permitting changes, and drum venting. Characterization activities scheduled in each Solution Package schedule RTR, radioassay, flammable gas analysis, and sampling of solids for RCRA analysis where needed.

**TABLE 6**
**Waste Categories and Solution Packages in the 3,706 $m^3$ Disposition Schedule**

| Waste Category | Solution Packages |
|---|---|
| AG Any Solid Group | 3,706 Goal Misc. Solids |
| AG Any Waste Group | FY11 NNG AG Any Waste Group No Issues |
| AG Cement Cans | AG Cement Cans No Issues |
| AG Debris Boxes | Corrugated Metal Boxes 4x4x6 |
| | Boxes < 8.2 m3 |
| | AG Boxes 412 <8.2 m3 |
| | Haz Cat 3 Boxes 412 > 3.4 to < 8.2 m3 |
| | Haz Cat 3 Boxes 412 < 3.4 m3 |
| | Haz Cat 3 Boxes 375 > 8.2 m3 |
| | Inplace Processing Large Boxes |
| | Metal Boxes > 4x4x6 |
| | Rad Boxes < 3.4 m3 |
| AG Debris Drums | >200 mR/Hr |
| | Misc. Debris Drums |
| | Container Issues |
| | Misc Issues |
| | Multiple Issues |
| | NDA-Rad |
| | NDA-Uncertain |
| | No Issue |
| | Overweight |
| | PID in Matrix |
| | Tritium |
| | Unvented |
| | WIPP WAC – Chem |
| | Debris Drums > 300 PE-Ci |
| | OSRP Issue Drums |
| | Salt Waste |
| AG Debris SWB DL | SWB-DL |
| AG Debris SWB OP | SWB-OP Debris |
| AG No Waste Stream | AG No Waste Stream No Issues |
| | AG No Waste Stream Suspect TRU |
| | AG No Waste Stream Unvented |

Precursor activities for below grade TRU waste will also include retrieval of waste categories stored below grade. This approach ensures that processing and characterization activities are aligned in the schedule.

Facilities scheduled for remediation and repackaging processing in disposition of 3,706 $m^3$ of above grade TRU waste consist of :

1. the WCRRF facility for processing drums containing debris waste;
2. Dome 33 for venting of unvented drums;
3. Building 412 for oversize box processing;
4. Dome 231 Permacon for oversize box processing beginning June 2012 (being converted from drum remediation to box processing in FY 2012);
5. Dome 375 for oversize box processing beginning October 2012; and
6. In-place processing for seven oversize boxes due to the size and condition of the boxes, beginning April 2013.

Processing work at each of the processing facilities is scheduled so that processing for the next Solution Package begins as soon as processing for the Solution Package in progress is completed. Processing of the next category of waste for a facility is scheduled as soon as the last Solution Package for a category of waste is completed. Appendix D presents a summary project management schedule with all Solution Packages by Processing Facility for the above grade containers in the 3,706 $m^3$ inventory. This schedule shows Solution Package remediation through WCRRF, Dome 33, Dome 231 Permacon, Dome 375, Building 412 and In-Place Processing; Solution Package characterization through the HENC, SuperHENC, RTR, and HE-RTR; and Solution Package shipping through the RANT facility. Although not shown explicitly in this summary schedule, the schedule durations include flammable gas analysis and CCP Project Office Review of containers and assignment of containers to AK categories, where needed, for each of the Solution Packages. Table 7 presents important milestones from this schedule.

**TABLE 7**
**Key Schedule Milestones for Completion of the 3,706 $m^3$ Above Grade Inventory**

| Milestone | Completion Date |
|---|---|
| Start operations for Haz Cat 3 box line in Building 412 | February 14, 2012 |
| Complete venting drums in 3,706 $m^3$ inventory | May 17, 2012 |
| Start oversize box processing in Dome 231 Permacon | June 12, 2012 |
| Start operations in Dome 375 box line | October 4, 2012 |
| Complete remediation of debris drums at the WCRRF | February 28, 2013 |
| Start operations for in-place processing Haz Cat 3 boxes | April 9, 2013 |
| Complete oversize box processing in Dome 231 | May 2, 2013 |
| Complete oversize box processing in Building 412 | June 12, 2013 |
| Complete oversize box processing in Dome 375 | June 17, 2013 |
| Complete in-place box processing | September 11, 2013 |
| Complete characterization of containers from 3,706 $m^3$ inventory | September 20, 2013 |
| Complete shipping containers from 3,706 $m^3$ inventory to WIPP | March 6, 2014 |

The priorities for waste processing built into the schedule were established between CBFO, LASO, CCP and LANL as (1) keep remediation lines processing (minimize downtime of the processing lines), and (2) feed containers with the highest MAR first. To the extent practicable, containers from the same waste stream are also remediated during the same period to facilitate characterization and certification to the WIPP WAC, and shipments to WIPP.

The key metrics for TRU waste disposition have shifted from the number of shipments to WIPP to the volume in cubic meters from parent containers that is dispositioned and the activity in PE-Ci of the waste that is shipped. Data on Legacy waste and newly-generated waste volumes ($m^3$), numbers of Legacy and newly-generated containers, and activity in PE-Ci for both Legacy and newly-generated containers for each Solution Package are included in the schedule. Data for both parent containers and projected data for daughter containers are available for each Solution Package. Figure 26 shows the projected disposition volumes of parent containers by fiscal year to achieve disposition of the 3,706 $m^3$ of higher risk TRU waste. These are not the volumes actually shipped to WIPP, but reflect the volumes from parent containers. The disposition volume is very high in FY 2013 because of the large volume of oversize boxes processed and shipped. These boxes make up almost 70% of the 3,706 $m^3$ volume in only 283 containers.

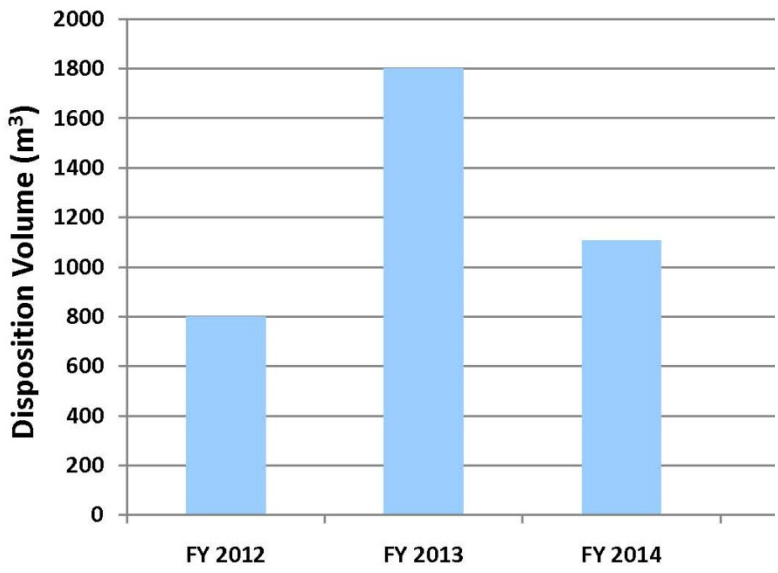


***Figure 26. Projected Disposition Volumes by Fiscal Year for 3,706 m$^3$ Inventory.***

A total of 1,191 drums were fully characterized or in the WIPP Data System as of October 1, 2011, and these drums are not included in containers that require remediation or characterization. A total of 4,309 drums and 1,220 SWBs are projected to require characterization. These consist of 1,892 drums that were in or ready for characterization on October 1, 2011; a total of 1,470 daughter drums and 1,000 daughter SWBs that are projected to result from remediation; and 947 drums and 220 SWBs that need prescreening by CCP.

The numbers of containers that are projected to be shipped to WIPP from processing of the 3,706 m$^3$ inventory are 4,553 drums and 1,000 SWBs. These are projected to result in a total of about 385 shipments to WIPP, at a rate of 5 to 6 shipments per week. Figure 27 presents the projected numbers of shipments from LANL to WIPP by Fiscal Year to disposition the 3,706 m$^3$ inventory.

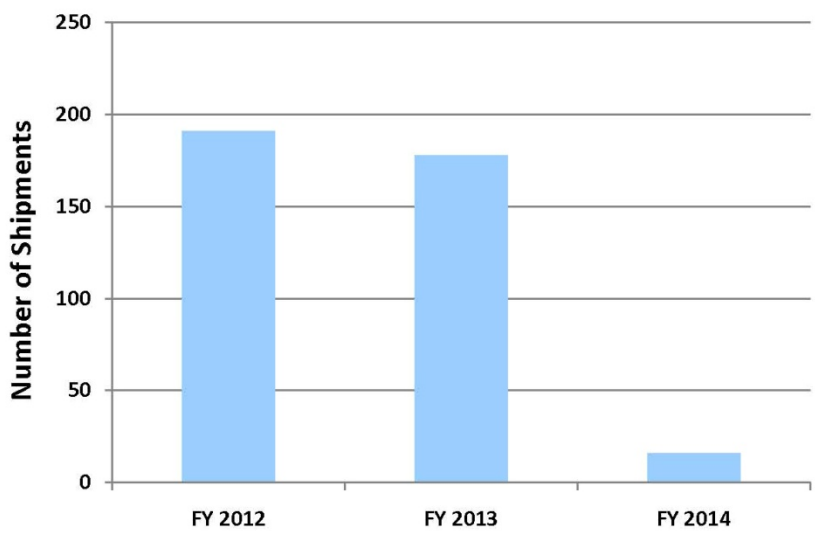


***Figure 27. Projected Shipments from LANL to WIPP for 3,706 m$^3$ Inventory.***

**10-100 MLLW**. Based on generator assay information, reclassification of TRU waste that assays below 100 nCi/g to MLLW is projected to result in a total volume of 1,433 $m^3$ of 10-100 MLLW from the entire TRU waste inventory (both above and below grade storage). For TRU waste stored above grade, this estimate includes the MLLW reclassified from TRU waste and made "road ready" for treatment in FY 2010, as well as about 50 $m^3$ of drums in the above grade remediation inventory that may be determined to be less than 100 nCi/g. About 150 $m^3$ in MLLW is projected to result from oversize boxes in the above grade inventory.

Characterization packages for the 10-100 MLLW will be prepared as the waste is identified, and this waste will be shipped to commercial treatment as funding permits. As noted, priorities for Legacy TRU waste disposition are to keep remediation lines processing and disposition containers with the highest MAR first.

**Secondary LLW.** Empty containers that result from remediation of drums and oversize boxes are projected to result in a total volume of LLW of about 4,550 $m^3$ from the entire TRU waste inventory (both above and below grade storage). This estimate consists of about 3,920 $m^3$ in empty parent drums overpacked into 85-gallon drums and about 630 $m^3$ resulting from empty FRP boxes that are size reduced for shipping as LLW. Characterization packages for the LLW will be prepared as the waste is identified, and this waste will be shipped for disposition as funding permits. All of this LLW is expected to be shipped off-site for disposal.

Some LLW trash (~ 75 $m^3$ in FY 2011), consisting primarily of floor sweepings and used PPE from various operational activities such as storage, characterization, repackaging, drum venting, and shipping, will be generated and managed for disposal. Volumes of secondary LLW may be somewhat higher in subsequent years with increased processing, but there may be opportunities to package this waste with LLW that results from size reduction of empty FRP boxes.

# 7. Important Assumptions

The Primavera project management schedule includes an Activity Notebook that contains the rationale for production rates for each activity such as the number of work crews, work schedules, and projected facility availability. The Activity Notebook also includes data on the expected ratio of daughter drums to parent drums that will result from remediation processing for specific Solution Packages. The Activity Notebook is frequently updated as the schedule is refined. A copy of the Activity Notebook for the 3,706 $m^3$ schedule as of November 29, 2011, is presented in Appendix E.

# 8. Risk Management

Risk management is the act or practice of controlling risk and includes risk planning, risk assessment, developing risk handling strategies, monitoring risks to determine how risks have changed, and documenting the overall risk management program. Risk management in the LANL Legacy Waste Disposition Project is conducted under the LANL EM Program Risk Management Plan or RMP (*U.S. Department of Energy Los Alamos National Laboratory Environmental Management Program Risk Management* Plan, Reference 25). The RMP contains the risk management process for both LASO and LANS, and describes how risks are identified and then quantified with the cost and schedule impacts. The RMP is an important component of the overall Earned Value Management System (EVMS) that is required by EM. The RMP is valid for the life cycle of the EM Program and is under configuration control with approved revisions made in accordance with DOE EM and LASO policies and procedures.

Appendix F contains the Life Cycle Qualitative Risk Summary for Operations and Capital Assets for the LANL Legacy Waste Disposition Project. Risk information is included in all program reviews to ascertain if new risks exist. The goal is to continuously look to the future for areas that may severely impact the program.

A short summary of the risk management approach from the RMP is described below. The RMP contains details of each step in the risk management process.

The EM Program risks are potential threats or opportunities categorized as:

- Contractor execution risks;
- EM Project risks; or
- EM programmatic risk.

LANS owns the contractor execution risks and includes their quantification in the management reserve (MR) estimate for EM capital projects. LASO owns EM programmatic and EM project risks. LASO includes EM project risks in the quantification of EM project contingency for capital projects, but does not include EM programmatic risks in EM project contingency.

Contractor execution risks are those that fall within the contractor's contractual obligations, including:

- material availability (non-government furnished services and items or non-GFS&I)
- market pricing
- failure of the design (non-GFS&I)
- labor availability
- productivity
- procurement
- subcontractor performance
- safety (compliance, occurrences and events)
- basic process uncertainty, and
- weather delays.

EM project risks are those that are within the project's baseline but generally beyond the contractor's control and are managed at the project level. Examples of EM project risks are:

- major technological failures
- coordination across site programs
- changes due to direction from agency senior management
- unusual weather delays
- interpretation of regulatory and statutory requirements (how clean is clean)

- procurement of GFS&I, and
- contractor performance based on work history.

EM Programmatic risks are those risks that affect a project execution at the program level and include:

- closure of WIPP
- Congressional funding reductions
- EM funding reductions
- re-programming
- stakeholder changes
- contractor transitions
- regulatory and statutory changes, and
- DOE and EM directives.

Once risks are identified, the risks are analyzed qualitatively based on probability of occurrence and severity of the consequences, as outlined below:

Risk Probability

1. Very Likely: Risk is likely to occur with a probability greater than or equal to 75%. (Note: Risks likely to occur with a probability greater than or equal to 90% should be added to the baseline and removed from the risk register.)
2. Likely: Risk is likely to occur with a probability greater than or equal to 50%.
3. Unlikely: There is less than 50% chance that this risk will occur.

Risk Consequence

1. Marginal: Risk has cost impact on Project MR/Contingency of <$500K and no impact on Project Schedule.
2. Significant: Risk has cost impact on Project MR/Contingency of $500K to $10M and impacts project milestones (i.e. performance measures and/or regulatory milestones).
3. Critical: Risk has cost impact on Project MR/Contingency of >$10M and impacts project completion (i.e. baseline EM Program completion date cannot be achieved and/or EM Program goals cannot be completed).

The matrix shown in Table 8 combines the probability and consequence to determine a ranking or score for each risk. The purpose of the matrix is to focus attention and resources on issues that have the highest probability of occurrence or the highest consequence. The probability, consequence, and assigned risk level are documented in the risk register.

Following qualitative risk analysis, risk owners quantitatively assess risk handling strategies for risks scored as high or moderate. The potential cost impact of the risk handling strategy, as well as the potential schedule impact is estimated. Optimistic, most likely, and pessimistic values of each risk handling strategy are determined, and the cost and schedule values for each risk handling strategy are analyzed using a Monte Carlo simulation model to determine the MR and EM-funded contingency for capital asset projects. The expected value of each risk is subsequently determined based on the probability of occurrence as qualitatively assessed.

Cost and schedule impacts of identified residual and secondary risks that were scored as high or moderate are similarly quantified and analyzed to determine their contribution to MR and EM-funded

**TABLE 8**
**Risk Level Matrix**

| Probability | Consequence: Marginal | Significant | Critical |
|---|---|---|---|
| Very Likely | Moderate | High | High |
| Likely | Low | Moderate | High |
| Unlikely | Low | Low | Moderate |

contingency, as applicable. For operations projects, no MR or EM-funded contingency is included in the cost estimate. Programmatic uncertainties associated with operations projects, however, are accounted for by performing an uncertainty analysis of the cost and schedule to determine the cost and schedule estimate at a 50 percent confidence level.

Risk information is recorded in the federal and contractor risk registers and maintained by the Risk Management Coordinators. The risk registers are living databases that are regularly assessed and revised as necessary to ensure the effective management of risks throughout the life cycle of the EM Program.

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# Appendix A

## Abbreviations and Acronyms

| | |
|---|---|
| ADEP | Associate Director for Environmental Programs, or just Environmental Programs |
| AK | acceptable knowledge |
| B412 | Building 54-412 |
| BIO | Basis for Interim Operations |
| CBFO | DOE Carlsbad Field Office |
| CH | contact-handled |
| Consent Order | NMED Compliance Order on Consent |
| CCP | Central Characterization Project |
| CMP | corrugated metal pipe |
| CMR | Chemistry and Metallurgical Research facility (Building 3-29) |
| DE | 55-gallon drum equivalent |
| DOE | U.S. Department of Energy |
| DP | DOE Defense Programs |
| DSA | Documented Safety Analysis |
| EM | DOE Environmental Management |
| EPA | Environmental Protection Agency |
| ESH&Q | Environment, Safety, Health and Quality |
| EVMS | Earned Value Management System |
| ET | evapotranspiration |
| FFCO | Federal Facility Compliance Order |
| FOD | Facility Operations Director |
| FRP | fiberglass-reinforced plywood box |
| FY | fiscal year |
| GFS&I | Government-furnished services and items |
| HC | Hazard Category |
| HENC | High Efficiency Neutron Counter |
| HEPA | High Efficiency Particulate Air filter |
| HE-RTR | High Energy Real-Time Radiography unit |
| HSG | Head space gas |
| HWA | State of New Mexico Hazardous Waste Act |
| INL | Idaho National Laboratory |
| LAMPRE I | Los Alamos Molten Plutonium Reactor Experiment I |
| LDR | Land Disposal Restriction limits under RCRA |
| LANL | Los Alamos National Laboratory |
| LANS | Los Alamos National Security, LLC |
| LASO | Los Alamos Site Office |
| LLW | low-level waste |
| $m^3$ | cubic meter(s) |
| MAR | material at risk |
| MDA | Material Disposal Area |
| mixed waste | solid waste that is both hazardous and radioactive |
| MLLW | mixed low-level waste |

| | |
|---|---|
| MR | Management Reserve |
| mrem/hr | millirem per hour |
| nCi/g | nanocuries per gram |
| NDA | nondestructive assay |
| NDE | nondestructive examination |
| NEPA | National Environmental Policy Act of 1969 |
| NG | newly generated |
| NMED | New Mexico Environment Department |
| NNSA | National Nuclear Security Administration |
| NNSS | Nevada Nuclear Security Site (formerly the Nevada Test Site) |
| NTP | National TRU Program |
| OSRP | Off-Site Source Recovery Project |
| PE-Ci | Plutonium-239 Equivalent Curies |
| PPE | personal protective equipment |
| RANT | Radioassay and Nondestructive Testing Facility (Building 54-38) |
| RCRA | Resource Conservation and Recovery Act |
| RH | remote handled |
| RLWTF | Radioactive Liquid Waste Treatment Facility |
| RMP | Risk Management Plan |
| RTBF | Readiness in Technical Base and Facilities |
| RTR | Real-time Radiography |
| SER | Safety Evaluation Report |
| SP | Solution Package |
| SSSR | Sort/segregation/size reduction and repackaging |
| STP | Site Treatment Plan for mixed waste |
| SWBs | Standard Waste Boxes |
| SuperHENC | Super High-Efficiency Neutron Counter |
| TA | Technical Area |
| TBD | to be determined |
| TDOP | ten drum overpack container |
| TMU | total measurement uncertainty |
| TRU | transuranic |
| VE | visual examination |
| TRUPACT-II | Transuranic Packaging Transporter – Model II |
| TSR | Technical Safety Requirement |
| WAC | Waste Acceptance Criteria |
| WCRRF | Waste Characterization, Reduction, and Repackaging Facility (Building 50-69) |
| LTP | Waste Disposition Project |
| WIPP | Waste Isolation Pilot Plant |
| WTS | Washington TRU Solutions, LLC |

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# APPENDIX B

## Inventory of Containers in 3,706 $m^3$ Campaign, October 1, 2011

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# Inventory of Containers in 3,706 m3 Campaign, October 1, 2011

| Waste Group | Sum of Containers | Sum of Volume (cubic meters) | Sum of Activity (PE-Ci) | Sum of Remediation Planned | Sum of Needs Characterization | Sum of CCP In Process | Sum of CCP Fully Characterized | Sum of Approved In WDS | Sum of Shipped to WIPP | Sum of MLLW Road Ready | Sum of MLLW Off Site |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Above Grade Cement Cans | 1160 | 241.3 | 9410.85 | 3 | 1157 | 0 | 0 | 0 | 0 | 0 | 0 |
| Above Grade Debris Boxes | 283 | 2412.9 | 3093.23 | 246 | 26 | 9 | 1 | 0 | 0 | 0 | 0 |
| Above Grade Debris Drums | 2270 | 523.4 | 21369.59 | 814 | 575 | 48 | 673 | 159 | 0 | 0 | 0 |
| Above Grade Debris SWB-DL* | 176 | 333.7 | 2564.90 | 174 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Above Grade Debris SWB-OP** | 32 | 15.1 | 670.27 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Above Grade No Waste Stream | 94 | 78.3 | 39.45 | 93 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Above Grade Any Solid Group | 236 | 50.3 | 985.94 | 12 | 78 | 0 | 130 | 16 | 0 | 0 | 0 |
| Above Grade Any Waste Group | 244 | 50.8 | 2950.43 | 2 | 24 | 6 | 169 | 43 | 0 | 0 | 0 |
| Grand Total | 4495 | 3705.7 | 41084.65 | 1376 | 1863 | 63 | 973 | 218 | 0 | 0 | 0 |

* Direct-Loaded Standard Waste Box

** Standard Waste Box used as overpack for drums

# APPENDIX C

## Processing Description Sheets
## for
## TRU Waste Categories

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# Waste Category: AG Any Solid Group

2011-12-01 **DRAFT**

## Waste Description: AG Miscellaneous Solids

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 4.8 | 4.8 | 7.9 |
| MTRU | 10.6 | 10.6 | 34 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 34 | 28 | 6 | |
| TRU | 85-GAL | 2 | 0 | 2 | |
| TRU | POC | 1 | 1 | 0 | |
| MTRU | 55-GAL | 157 | 76 | 81 | |
| MTRU | POC | 1 | 1 | 0 | |
| MTRU | SWB-55 | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 6 | 31 | 36 | 1 | 1 |
| MTRU | 81 | 78 | 159 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 5 | 42 | 0 | 1 | 48 |
| TRU | 0 | 29 | 0 | 0 | 29 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 76 | | | | | |
| Description | AG Governors Goal Miscellaneous Solids | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 196 | 122 | 74 | | | |
| Volume (m3) | 41.903 | 26.511 | 15.392 | | | |
| PE-Curies | 850.841 | 130.632 | 720.21 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Any Waste Group

2011-12-01 **DRAFT**

## Waste Description: AG FY11 and FY12 NNG Miscellaneous

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 19.8 | 19.8 | 19.8 |
| MTRU | 17.5 | 17.5 | 17.5 |
| MLLW | 0.208 | 0.208 | 0.208 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 52 | 49 | 3 | |
| TRU | POC | 34 | 15 | 19 | |
| TRU | SWB-DL | 1 | 0 | 1 | |
| MTRU | 55-GAL | 81 | 68 | 13 | |
| MTRU | POC | 3 | 3 | 0 | |
| MLLW | 55-GAL | 1 | 1 | 0 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 15 | 72 | 87 | 0 | 0 |
| MTRU | 8 | 76 | 84 | 0 | 0 |
| MLLW | 0 | 1 | 1 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MLLW | 0 | 1 | 0 | 0 | 1 |
| MTRU | 4 | 0 | 0 | 22 | 26 |
| TRU | 1 | 0 | 0 | 23 | 24 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 75 | | | | | |
| Description | FY11 NNG AG Any Waste Group No Issues | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 135 | 0 | 135 | | | |
| Volume (m3) | 28.08 | 0 | 28.08 | | | |
| PE-Curies | 1714.763 | 0 | 1714.763 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 77 | | | | | |
| Description | FY12 NNG AG Any Waste Group No Issues | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 37 | 0 | 37 | | | |
| Volume (m3) | 9.388 | 0 | 9.388 | | | |
| PE-Curies | 347.587 | 0 | 347.587 | | | |
| Process Path | | | | | | |

# Waste Category: AG Any Waste Group

2011-12-01 **DRAFT**

**Waste Description:** **AG FY11 and FY12 NNG Miscellaneous**

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

# Waste Category: AG Cement Cans

2011-12-01 **DRAFT**

## Waste Description: Above Grade Cemented - Cans

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 0.53 |
| MTRU | 0 | 0 | 487.9 |
| MLLW | 0 | 0 | 1.4 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 1 | 0 | 1 | |
| TRU | 85-GAL | 1 | 0 | 1 | |
| MTRU | 55-GAL | 1159 | 0 | 1159 | |
| MTRU | 85-GAL | 752 | 0 | 752 | |
| MTRU | 110-GAL | 13 | 0 | 13 | |
| MLLW | 55-GAL | 2 | 0 | 2 | |
| MLLW | 85-GAL | 3 | 1 | 2 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 2 | 0 | 2 | 0 | 1 |
| MTRU | 1672 | 252 | 1675 | 249 | 495 |
| MLLW | 3 | 2 | 4 | 1 | 1 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | X | X | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| PermaCon | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 36 | | | | | |
| Description | SP AG Cement Cans Container Issues | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 517 | 517 | 0 | | | |
| Volume (m3) | 166.971 | 166.971 | 0 | | | |
| PE-Curies | 12354.898 | 12354.898 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 37 | | | | | |
| Description | SP Unvented CIN Cans | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 250 | 250 | 0 | | | |
| Volume (m3) | 80.432 | 80.432 | 0 | | | |
| PE-Curies | 3781.756 | 3781.756 | 0 | | | |
| Process Path | | | | | | |

# Waste Category: AG Cement Cans

2011-12-01 **DRAFT**

## Waste Description: Above Grade Cemented - Cans

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |
| Solution Package | 38 | | | | | |
| Description | SP Overweight CIN Cans | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 3 | 3 | 0 | | | |
| Volume (m3) | 0.964 | 0.964 | 0 | | | |
| PE-Curies | 79.984 | 79.984 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 57 | | | | | |
| Description | SP AG Cement Cans No Issues | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 1160 | 1160 | 0 | | | |
| Volume (m3) | 241.28 | 241.28 | 0 | | | |
| PE-Curies | 9410.853 | 9410.853 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 58 | | | | | |
| Description | SP NDA-Unc (CIN Cans) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 1 | 1 | 0 | | | |
| Volume (m3) | 0.208 | 0.208 | 0 | | | |
| PE-Curies | 3.557 | 3.557 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Cement Mono

2011-12-01 **DRAFT**

## Waste Description: Above Grade Cemented - Monoliths

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 54.7 | 54.7 | 79.5 |
| MTRU | 7.5 | 7.5 | 118.9 |
| MLLW | 0 | 0 | 18.3 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 382 | 16 | 366 | |
| MTRU | 55-GAL | 237 | 26 | 211 | |
| MTRU | 85-GAL | 149 | 0 | 149 | |
| MTRU | 110-GAL | 13 | 0 | 13 | |
| MTRU | SWB-55 | 59 | 3 | 56 | |
| MLLW | 55-GAL | 17 | 14 | 3 | |
| MLLW | 85-GAL | 45 | 42 | 3 | |
| MLLW | SWB-55 | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 366 | 16 | 382 | 0 | 0 |
| MTRU | 360 | 98 | 390 | 68 | 29 |
| MLLW | 6 | 57 | 62 | 1 | 2 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MLLW | 0 | 1 | 0 | 0 | 1 |
| MTRU | 5 | 0 | 0 | 0 | 5 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | X | X | X | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| PermaCon | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 5 | | | | | |
| Description | SP CIN02 Container Issues (#5) (AG Cement-Mono) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 296 | 257 | 39 | | | |
| Volume (m3) | 86.22 | 76.86 | 9.361 | | | |
| PE-Curies | 665.493 | 628.569 | 36.924 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 6 | | | | | |
| Description | SP CIN Monoliths (#6) (AG Cement-Mono) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 51 | 12 | 39 | | | |
| Volume (m3) | 10.722 | 2.61 | 8.112 | | | |
| PE-Curies | 324.605 | 5.144 | 319.461 | | | |

# Waste Category: AG Cement Mono

2011-12-01 **DRAFT**

## Waste Description: Above Grade Cemented - Monoliths

| Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

| Solution Package | 7 | | | |
|---|---|---|---|---|
| Description | SP CIN01 Lead Monoliths (#7) (AG Cement-Mono) | | | |
| | | | | |
| | Solution Set Total | Legacy | New Gen | |
| Containers | 549 | 334 | 215 | |
| Volume (m3) | 117.483 | 72.763 | 44.72 | |
| PE-Curies | 12864.223 | 6738.217 | 6126.006 | |

| Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

| Solution Package | 34A | | | |
|---|---|---|---|---|
| Description | SP Unvented CIN Mon | | | |
| | | | | |
| | Solution Set Total | Legacy | New Gen | |
| Containers | 7 | 7 | 0 | |
| Volume (m3) | 2.301 | 2.301 | 0 | |
| PE-Curies | 0.954 | 0.954 | 0 | |

| Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Cement Mono Lead

2011-12-01 **DRAFT**

## Waste Description: Above Grade Cemented - Lead Lined Monoliths

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| MTRU | 0 | 0 | 0.322 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| MTRU | 85-GAL | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| MTRU | 0 | 1 | 0 | 1 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 34B | | | | | |
| Description | SP Unvented CIN Mon Lead-Lined | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 1 | 1 | 0 | | | |
| Volume (m3) | 0.322 | 0.322 | 0 | | | |
| PE-Curies | 420.502 | 420.502 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Debris Boxes

2011-12-01 **DRAFT**

## Waste Description: Above Grade Boxed Debris

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 53.9 | 53.9 | 440 |
| MTRU | 174.5 | 174.5 | 1961.3 |
| MLLW | 27 | 27 | 73 |
| LLW | 10.8 | 10.8 | 14 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 9 | 8 | 1 | |
| TRU | 85-GAL | 2 | 0 | 2 | |
| TRU | OTHER | 93 | 0 | 93 | |
| TRU | SWB-DL | 18 | 0 | 18 | |
| MTRU | OTHER | 175 | 0 | 175 | |
| MTRU | SWB-DL | 12 | 0 | 12 | |
| MLLW | 55-GAL | 1 | 1 | 0 | |
| MLLW | OTHER | 4 | 1 | 3 | |
| LLW | OTHER | 3 | 0 | 3 | |
| LLW | SWB-DL | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 95 | 27 | 122 | 0 | 0 |
| MTRU | 184 | 3 | 187 | 0 | 0 |
| MLLW | 3 | 2 | 5 | 0 | 0 |
| LLW | 4 | 0 | 4 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| MLLW | 0 | 1 | 0 | 0 | 1 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 1 | 8 | 0 | 0 | 9 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| B412 | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 9 | | | | | |
| Description | SP RAD Boxes <3.4 m^3 (#9) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 49 | 48 | 1 | | | |
| Volume (m3) | 83.613 | 78.743 | 4.87 | | | |
| PE-Curies | 6.648 | 5.808 | 0.841 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 10 | | | | | |
| Description | SP Haz Cat 3 Boxes <3.4 m^3 (#10) | | | | | |

# Waste Category: AG Debris Boxes

2011-12-01 **DRAFT**

## Waste Description: Above Grade Boxed Debris

| | Solution Set Total | Legacy | New Gen | | | |
|---|---|---|---|---|---|---|
| Containers | 37 | 36 | 1 | | | |
| Volume (m3) | 118.674 | 116.124 | 2.55 | | | |
| PE-Curies | 78.523 | 77.988 | 0.534 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 11 | | | | | |
| Description | SP Corrugated Metal Boxes 4x4x6 (#11) | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 46 | 46 | 0 | | | |
| Volume (m3) | 117.76 | 117.76 | 0 | | | |
| PE-Curies | 229.514 | 229.514 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 43 | | | | | |
| Description | SP Haz Cat 3 Boxes 412 >3.4 to <8.2 m^3 | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 11 | 11 | 0 | | | |
| Volume (m3) | 62.82 | 62.82 | 0 | | | |
| PE-Curies | 141.963 | 141.963 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 44 | | | | | |
| Description | SP Boxes <8.2m3 | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 36 | 36 | 0 | | | |
| Volume (m3) | 109.735 | 109.735 | 0 | | | |
| PE-Curies | 150.397 | 150.397 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 46 | | | | | |
| Description | SP AG MLLW Boxes <8.2m3 | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 3 | 3 | 0 | | | |
| Volume (m3) | 47.09 | 47.09 | 0 | | | |
| PE-Curies | 1.391 | 1.391 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |

# Waste Category: AG Debris Boxes

2011-12-01 **DRAFT**

## Waste Description: Above Grade Boxed Debris

| | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 47 | | | | | |
| Description | SP AG Boxes 412 > 8.2m3 | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 26 | 22 | 4 | | | |
| Volume (m3) | 411.268 | 359.418 | 51.85 | | | |
| PE-Curies | 41.26 | 38.423 | 2.838 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 49 | | | | | |
| Description | SP Bolas Grande | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 31 | 31 | 0 | | | |
| Volume (m3) | 29.459 | 29.459 | 0 | | | |
| PE-Curies | 62.388 | 62.388 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 62 | | | | | |
| Description | Haz Cat 3 Boxes 375 > 8.2 m^3 | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 34 | 34 | 0 | | | |
| Volume (m3) | 807.373 | 807.373 | 0 | | | |
| PE-Curies | 1810.001 | 1810.001 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 63 | | | | | |
| Description | Inplace Processing Large Boxes | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 7 | 7 | 0 | | | |
| Volume (m3) | 257.43 | 257.43 | 0 | | | |
| PE-Curies | 294.34 | 294.34 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 64 | | | | | |
| Description | Metal Boxes ">" 4x4x6 | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 38 | 16 | 22 | | | |
| Volume (m3) | 443.12 | 236.26 | 206.86 | | | |
| PE-Curies | 340.125 | 200.822 | 139.303 | | | |

# Waste Category: AG Debris Boxes

2011-12-01 **DRAFT**

**Waste Description:** **Above Grade Boxed Debris**

| Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 72.7 | 72.7 | 390.6 |
| MTRU | 45.2 | 45.2 | 199.3 |
| MLLW | 7.3 | 7.3 | 15.2 |
| LLW | 2.9 | 2.9 | 22.1 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 557 | 209 | 348 | |
| TRU | 85-GAL | 650 | 0 | 650 | |
| TRU | 110-GAL | 5 | 0 | 5 | |
| TRU | POC | 287 | 85 | 202 | |
| MTRU | 55-GAL | 609 | 341 | 268 | |
| MTRU | 85-GAL | 40 | 0 | 40 | |
| MTRU | 110-GAL | 2 | 0 | 2 | |
| MTRU | POC | 284 | 165 | 119 | |
| MLLW | 55-GAL | 64 | 38 | 26 | |
| MLLW | 85-GAL | 6 | 0 | 6 | |
| LLW | 55-GAL | 74 | 19 | 55 | |
| LLW | 85-GAL | 21 | 0 | 21 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 536 | 963 | 1314 | 185 | 163 |
| MTRU | 357 | 578 | 904 | 31 | 11 |
| MLLW | 30 | 40 | 68 | 2 | 4 |
| LLW | 68 | 27 | 90 | 5 | 16 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 19 | 0 | 0 | 19 |
| MLLW | 0 | 19 | 0 | 0 | 19 |
| MTRU | 102 | 7 | 0 | 180 | 289 |
| TRU | 39 | 16 | 0 | 92 | 147 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| WCRRF | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 1 | | | | | |
| Description | SP >200 mR/hr (AG Debris Drums) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 581 | 510 | 71 | | | |
| Volume (m3) | 125.047 | 110.279 | 14.768 | | | |
| PE-Curies | 6855.558 | 6220.45 | 635.108 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris

| | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 2 | | | | | |
| Description | Misc. Debris Drums (AG) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 4 | 2 | 2 | | | |
| Volume (m3) | 0.946 | 0.53 | 0.416 | | | |
| PE-Curies | 15.739 | 14.928 | 0.811 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 3 | | | | | |
| Description | SP Unvented (AG Debris Drums) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 219 | 217 | 2 | | | |
| Volume (m3) | 69.69 | 69.16 | 0.53 | | | |
| PE-Curies | 1739.392 | 1721.912 | 17.48 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 12 | | | | | |
| Description | SP Overweight (AG Debris) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 103 | 84 | 19 | | | |
| Volume (m3) | 25.169 | 21.104 | 4.066 | | | |
| PE-Curies | 204.735 | 184.518 | 20.216 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 13 | | | | | |
| Description | SP Container Issues #13 (AG Debris) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 129 | 117 | 12 | | | |
| Volume (m3) | 39.412 | 36.575 | 2.836 | | | |
| PE-Curies | 652.955 | 582.415 | 70.539 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 14 | | | | | |
| Description | SP NDA-Uncertain (AG Debris) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 3 | 2 | 1 | | | |
| Volume (m3) | 0.624 | 0.416 | 0.208 | | | |
| PE-Curies | 30.86 | 30.781 | 0.079 | | | |
| Process Path | | | | | | |

# Waste Category: AG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

| | |
|---|---|
| Solution Package | 15 |
| Description | SP NDA-RAD (AG Debris) |

| | Solution Set Total | Legacy | New Gen |
|---|---|---|---|
| Containers | 65 | 51 | 14 |
| Volume (m3) | 13.52 | 10.608 | 2.912 |
| PE-Curies | 995.048 | 802.063 | 192.985 |
| Process Path | | | |

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

| | |
|---|---|
| Solution Package | 16 |
| Description | SP PID in Matrix (AG Debris) |

| | Solution Set Total | Legacy | New Gen |
|---|---|---|---|
| Containers | 18 | 17 | 1 |
| Volume (m3) | 3.858 | 3.65 | 0.208 |
| PE-Curies | 135.434 | 133.171 | 2.262 |
| Process Path | | | |

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

| | |
|---|---|
| Solution Package | 17 |
| Description | SP WIPP WAC-Chem (AG Debris) |

| | Solution Set Total | Legacy | New Gen |
|---|---|---|---|
| Containers | 8 | 6 | 2 |
| Volume (m3) | 1.891 | 1.475 | 0.416 |
| PE-Curies | 28.979 | 8.652 | 20.327 |
| Process Path | | | |

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

| | |
|---|---|
| Solution Package | 19 |
| Description | SP Tritium (AG Debris) |

| | Solution Set Total | Legacy | New Gen |
|---|---|---|---|
| Containers | 12 | 12 | 0 |
| Volume (m3) | 3.064 | 3.064 | 0 |
| PE-Curies | 37.721 | 37.721 | 0 |
| Process Path | | | |

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

| | |
|---|---|
| Solution Package | 20 |
| Description | SP Multiple Issues (AG Debris) |

| | Solution Set Total | Legacy | New Gen |
|---|---|---|---|
| Containers | 6 | 5 | 1 |

# Waste Category: AG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume (m3) | 1.683 | 1.362 | 0.322 | | | |
| PE-Curies | 4.748 | 4.703 | 0.045 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 21 | | | | | |
| Description | SP No Issue (AG Debris) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 788 | 465 | 323 | | | |
| Volume (m3) | 168.444 | 101.26 | 67.184 | | | |
| PE-Curies | 7907.596 | 2951.086 | 4956.509 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 60A | | | | | |
| Description | AG MLLW Drums Debris | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 147 | 100 | 47 | | | |
| Volume (m3) | 32.846 | 23.07 | 9.776 | | | |
| PE-Curies | 5.008 | 1 | 4.008 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 70 | | | | | |
| Description | AG Debris Drums>300 PE-Ci | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 6 | 6 | 0 | | | |
| Volume (m3) | 1.816 | 1.816 | 0 | | | |
| PE-Curies | 2516.496 | 2516.496 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 71 | | | | | |
| Description | OSRP Issue Drums (AG Debris Drums) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 39 | 0 | 39 | | | |
| Volume (m3) | 8.112 | 0 | 8.112 | | | |
| PE-Curies | 668.33 | 0 | 668.33 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 72 | | | | | |
| Description | SP Salt Waste (#72) | | | | | |

# Waste Category: AG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris

| | Solution Set Total | Legacy | New Gen | | | |
|---|---|---|---|---|---|---|
| Containers | 206 | 201 | 5 | | | |
| Volume (m3) | 46.48 | 45.213 | 1.267 | | | |
| PE-Curies | 2353.525 | 2290.789 | 62.736 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

| | |
|---|---|
| Solution Package | X01 |
| Description | SP Empty TRU AG Debris Drums |

| | Solution Set Total | Legacy | New Gen | | | |
|---|---|---|---|---|---|---|
| Containers | 265 | 218 | 47 | | | |
| Volume (m3) | 84.744 | 69.633 | 15.111 | | | |
| PE-Curies | 19.05 | 17.075 | 1.974 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Debris SWBDL

2011-12-01 **DRAFT**

## Waste Description: Above Grade Direct Load Debris

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 85.5 | 85.5 | 225.4 |
| MTRU | 76 | 76 | 112.1 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | SWB-DL | 119 | 0 | 119 | |
| MTRU | SWB-DL | 59 | 0 | 59 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 113 | 6 | 119 | 0 | 0 |
| MTRU | 59 | 0 | 59 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 48 | | | | | |
| Description | SP SWB-DL | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 178 | 93 | 85 | | | |
| Volume (m3) | 337.493 | 175.993 | 161.5 | | | |
| PE-Curies | 2565.006 | 2369.612 | 195.393 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Debris SWBOP

2011-12-01 **DRAFT**

## Waste Description: Above Grade Drummed Debris in SWBOPs

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0.208 | 0.208 | 17.6 |
| MTRU | 0 | 0 | 2.5 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | SWB-55 | 52 | 0 | 52 | |
| MTRU | SWB-55 | 4 | 0 | 4 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 28 | 24 | 52 | 0 | 0 |
| MTRU | 4 | 0 | 4 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 69 | | | | | |
| Description | SP SWB-OP Debris | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 32 | 32 | 0 | | | |
| Volume (m3) | 15.116 | 15.116 | 0 | | | |
| PE-Curies | 670.265 | 670.265 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | X02 | | | | | |
| Description | SP Empty TRU AG Debris SWBOP | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 24 | 23 | 1 | | | |
| Volume (m3) | 4.992 | 4.784 | 0.208 | | | |
| PE-Curies | 0.883 | 0.883 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG No Waste Stream

2011-12-01 **DRAFT**

**Waste Description:** Above Grade No AK Waste Stream Number Determined

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 86.2 | 86.2 | 108.7 |
| MTRU | 2.9 | 2.9 | 2.9 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 30-GAL | 2 | 0 | 2 | |
| TRU | 55-GAL | 7 | 0 | 7 | |
| TRU | 85-GAL | 73 | 0 | 73 | |
| TRU | OTHER | 5 | 0 | 5 | |
| TRU | SWB-DL | 24 | 0 | 24 | |
| MTRU | 55-GAL | 4 | 0 | 4 | |
| MTRU | POC | 1 | 0 | 1 | |
| MTRU | SWB-DL | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 0 | 111 | 88 | 23 | 50 |
| MTRU | 0 | 6 | 6 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 74 | | | | | |
| Description | AG No Waste Stream No Issues | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 27 | 10 | 17 | | | |
| Volume (m3) | 55.836 | 22.452 | 33.384 | | | |
| PE-Curies | 37.965 | 5.98 | 31.985 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | X03 | | | | | |
| Description | FY11 NNG TA-21 Soil | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 17 | 0 | 17 | | | |
| Volume (m3) | 32.3 | 0 | 32.3 | | | |
| PE-Curies | 5.221 | 0 | 5.221 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |

# Waste Category: AG No Waste Stream

2011-12-01 **DRAFT**

## Waste Description: Above Grade No AK Waste Stream Number Determined

| | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | X04 | | | | | |
| Description | AG No Waste Stream Suspect TRU | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 50 | 0 | 50 | | | |
| Volume (m3) | 16.075 | 0 | 16.075 | | | |
| PE-Curies | 2.289 | 0 | 2.289 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | X05 | | | | | |
| Description | AG No Waste Stream Unvented | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 23 | 0 | 23 | | | |
| Volume (m3) | 7.395 | 0 | 7.395 | | | |
| PE-Curies | 4.172 | 0 | 4.172 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Solids

2011-12-01 **DRAFT**

## Waste Description: Above Grade Solids / Sludges

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 1.2 | 1.2 | 2.8 |
| MTRU | 3 | 3 | 68.9 |
| MLLW | 0 | 0 | 91.9 |
| LLW | 0.208 | 0.208 | 0.416 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 55-GAL | 9 | 0 | 9 | |
| TRU | 85-GAL | 1 | 0 | 1 | |
| TRU | POC | 3 | 0 | 3 | |
| MTRU | 55-GAL | 26 | 0 | 26 | |
| MTRU | 85-GAL | 191 | 0 | 191 | |
| MTRU | 110-GAL | 6 | 0 | 6 | |
| MLLW | 55-GAL | 332 | 327 | 5 | |
| MLLW | 85-GAL | 57 | 53 | 4 | |
| LLW | 55-GAL | 2 | 0 | 2 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 13 | 0 | 13 | 0 | 1 |
| MTRU | 66 | 157 | 71 | 152 | 6 |
| MLLW | 9 | 380 | 389 | 0 | 3 |
| LLW | 2 | 0 | 2 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| MLLW | 0 | 32 | 0 | 0 | 32 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| PermaCon | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 22 | | | | | |
| Description | SP Unvented (AG Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 152 | 152 | 0 | | | |
| Volume (m3) | 48.755 | 48.755 | 0 | | | |
| PE-Curies | 26.713 | 26.713 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 24 | | | | | |
| Description | SP >200 mR/hr (AG Solids) | | | | | |
| | | | | | | |

# Waste Category: AG Solids

2011-12-01 **DRAFT**

## Waste Description: Above Grade Solids / Sludges

| | Solution Set Total | Legacy | New Gen | | | |
|---|---|---|---|---|---|---|
| Containers | 3 | 3 | 0 | | | |
| Volume (m3) | 0.851 | 0.851 | 0 | | | |
| PE-Curies | 1.435 | 1.435 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 26 | | | | | |
| Description | SP Container Issues (AG Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 17 | 16 | 1 | | | |
| Volume (m3) | 5.432 | 5.11 | 0.322 | | | |
| PE-Curies | 23.22 | 19.867 | 3.353 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 29 | | | | | |
| Description | SP PID in Matrix (Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 22 | 22 | 0 | | | |
| Volume (m3) | 6.941 | 6.941 | 0 | | | |
| PE-Curies | 5.312 | 5.312 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 30 | | | | | |
| Description | SP Misc. Issues (Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 6 | 6 | 0 | | | |
| Volume (m3) | 1.929 | 1.929 | 0 | | | |
| PE-Curies | 0.322 | 0.322 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 31 | | | | | |
| Description | SP H-Gas (Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 1 | 1 | 0 | | | |
| Volume (m3) | 0.322 | 0.322 | 0 | | | |
| PE-Curies | 0.023 | 0.023 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Solids

2011-12-01 **DRAFT**

## Waste Description: Above Grade Solids / Sludges

| | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 56 | | | | | |
| Description | SP AG Solids No Issues (Solids) | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 35 | 16 | 19 | | | |
| Volume (m3) | 7.507 | 3.555 | 3.952 | | | |
| PE-Curies | 127.528 | 40.338 | 87.19 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 60B | | | | | |
| Description | AG MLLW Drums Solids | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 391 | 390 | 1 | | | |
| Volume (m3) | 92.337 | 92.129 | 0.208 | | | |
| PE-Curies | 22.127 | 22.123 | 0.004 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: AG Solids SWBOP

2011-12-01 **DRAFT**

**Waste Description:** Above Grade Solids / Sludges in SWBOPs

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 1.9 | 1.9 | 13.5 |
| MTRU | 0 | 0 | 31.6 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | SWB-55 | 7 | 0 | 7 | |
| TRU | SWB-DL | 1 | 0 | 1 | |
| MTRU | SWB-55 | 141 | 0 | 141 | |
| MTRU | SWB-85 | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 8 | 0 | 8 | 0 | 0 |
| MTRU | 141 | 1 | 141 | 1 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | | | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 73 | | | | | |
| Description | SP SWB-OP Solids | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 150 | 149 | 1 | | | |
| Volume (m3) | 45.076 | 43.176 | 1.9 | | | |
| PE-Curies | 479.109 | 476.709 | 2.4 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Cement Cans

2011-12-01 **DRAFT**

**Waste Description:** **Below Grade Cemented - Cans**

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| MTRU | 0 | 0 | 12.7 |
| MLLW | 0 | 0 | 0.624 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| MTRU | 55-GAL | 61 | 0 | 61 | |
| MLLW | 55-GAL | 3 | 0 | 3 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| MTRU | 61 | 0 | 61 | 0 | 0 |
| MLLW | 3 | 0 | 3 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | X | X | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| PermaCon | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 32 | | | | | |
| Description | BG Cemented Cans | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 64 | 64 | 0 | | | |
| Volume (m3) | 13.312 | 13.312 | 0 | | | |
| PE-Curies | 836.535 | 836.535 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Cement Mono

2011-12-01 **DRAFT**

## Waste Description: Below Grade Cemented - Monoliths

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| MTRU | 0 | 0 | 59.9 |
| MLLW | 0 | 0 | 15.2 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| MTRU | 55-GAL | 288 | 0 | 288 | |
| MLLW | 55-GAL | 73 | 0 | 73 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| MTRU | 0 | 288 | 288 | 0 | 0 |
| MLLW | 54 | 19 | 73 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | | | | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 42 | | | | | |
| Description | SP Retrieve and Vent BG Cin Mons | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 361 | 361 | 0 | | | |
| Volume (m3) | 75.088 | 75.088 | 0 | | | |
| PE-Curies | 30.282 | 30.282 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG CMPs

2011-12-01 **DRAFT**

## Waste Description: Below Grade Corrugated Metal Pipes

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| MTRU | 0 | 0 | 442.4 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| MTRU | OTHER | 158 | 0 | 158 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| MTRU | 0 | 158 | 158 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 52 | | | | | |
| Description | SP BG - CMPs | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 158 | 158 | 0 | | | |
| Volume (m3) | 442.4 | 442.4 | 0 | | | |
| PE-Curies | 10777.846 | 10777.846 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Debris Boxes

2011-12-01 **DRAFT**

## Waste Description: Below Grade Boxed Debris

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 16.7 |
| MTRU | 0 | 0 | 85.8 |
| MLLW | 0 | 0 | 579.7 |
| LLW | 0 | 0 | 123.1 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | OTHER | 5 | 0 | 5 | |
| MTRU | OTHER | 38 | 0 | 38 | |
| MLLW | OTHER | 121 | 0 | 121 | |
| LLW | OTHER | 33 | 0 | 33 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 5 | 0 | 5 | 0 | 0 |
| MTRU | 0 | 38 | 38 | 0 | 0 |
| MLLW | 0 | 121 | 121 | 0 | 0 |
| LLW | 3 | 30 | 33 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| B412 | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 51 | | | | | |
| Description | SP BG Boxes - Haz Cat 3 Boxes 412 <8.2m^3 | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 43 | 43 | 0 | | | |
| Volume (m3) | 102.509 | 102.509 | 0 | | | |
| PE-Curies | 435.901 | 435.901 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 65 | | | | | |
| Description | BG MLLW Boxes <8.2 m^3 | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 154 | 154 | 0 | | | |
| Volume (m3) | 702.754 | 702.754 | 0 | | | |
| PE-Curies | 0.203 | 0.203 | 0 | | | |
| Process Path | | | | | | |

# Waste Category: BG Debris Boxes

2011-12-01 **DRAFT**

**Waste Description:** **Below Grade Boxed Debris**

| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
|---|---|---|---|---|---|---|
| | | | | | | |

# Waste Category: BG Debris Drums

2011-12-01 **DRAFT**

## Waste Description: Below Grade Drummed Debris

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 337.7 |
| MTRU | 0 | 0 | 73.3 |
| MLLW | 0 | 0 | 24.1 |
| LLW | 0 | 0 | 156.7 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 30-GAL | 97 | 0 | 97 | |
| TRU | 55-GAL | 1570 | 0 | 1570 | |
| TRU | 85-GAL | 2 | 0 | 2 | |
| MTRU | 30-GAL | 83 | 0 | 83 | |
| MTRU | 55-GAL | 312 | 0 | 312 | |
| MLLW | 30-GAL | 54 | 0 | 54 | |
| MLLW | 55-GAL | 90 | 0 | 90 | |
| LLW | 30-GAL | 48 | 0 | 48 | |
| LLW | 55-GAL | 727 | 0 | 727 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 24 | 1645 | 1669 | 0 | 2 |
| MTRU | 1 | 394 | 395 | 0 | 0 |
| MLLW | 8 | 136 | 144 | 0 | 0 |
| LLW | 374 | 401 | 775 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| WCRRF | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 39 | | | | | |
| Description | SP Retrieve and Vent BG Debris TRU Drums | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 2064 | 2064 | 0 | | | |
| Volume (m3) | 410.937 | 410.937 | 0 | | | |
| PE-Curies | 4064.939 | 4064.939 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |
| Solution Package | 61 | | | | | |
| Description | BG MLLW Drums | | | | | |
| | | | | | | |

# Waste Category: BG Debris Drums

2011-12-01 **DRAFT**

**Waste Description:** **Below Grade Drummed Debris**

| | Solution Set Total | Legacy | New Gen | | | |
|---|---|---|---|---|---|---|
| Containers | 919 | 919 | 0 | | | |
| Volume (m3) | 180.793 | 180.793 | 0 | | | |
| PE-Curies | 32.351 | 32.351 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG HC3 Canisters

2011-12-01 **DRAFT**

## Waste Description: Below Grade Haz Cat 3 Canisters

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 5.3 |
| LLW | 0 | 0 | 1.4 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | OTHER | 4 | 0 | 4 | |
| LLW | OTHER | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 0 | 4 | 4 | 0 | 0 |
| LLW | 0 | 1 | 1 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 54 | | | | | |
| Description | SP BG Boxes - H3 Canisters | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 5 | 5 | 0 | | | |
| Volume (m3) | 6.668 | 6.668 | 0 | | | |
| PE-Curies | 3.104 | 3.104 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Hot Cell Liners

2011-12-01 **DRAFT**

## Waste Description: Below Grade Hot Cell Liners

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 10.2 |
| LLW | 0 | 0 | 40.8 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | OTHER | 1 | 0 | 1 | |
| LLW | OTHER | 4 | 0 | 4 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 0 | 1 | 1 | 0 | 0 |
| LLW | 0 | 4 | 4 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 53 | | | | | |
| Description | SP BG - Hot Cell Liners | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 5 | 5 | 0 | | | |
| Volume (m3) | 50.975 | 50.975 | 0 | | | |
| PE-Curies | 0.638 | 0.638 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG RH Canister

2011-12-01 **DRAFT**

**Waste Description:** **Below Grade Remote Handled Canister**

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 0.99 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | OTHER | 1 | 0 | 1 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 0 | 1 | 1 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| | X | | X | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 55 | | | | | |
| Description | SP BG Boxes - TRU (RH-17th) Canister | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 1 | 1 | 0 | | | |
| Volume (m3) | 0.99 | 0.99 | 0 | | | |
| PE-Curies | 1.5 | 1.5 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Solids

2011-12-01 **DRAFT**

**Waste Description:** **Below Solids / Sludges**

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 0.529 |
| MTRU | 0 | 0 | 59.5 |
| MLLW | 0 | 0 | 12.8 |
| LLW | 0 | 0 | 1.9 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | 30-GAL | 1 | 0 | 1 | |
| TRU | 55-GAL | 2 | 0 | 2 | |
| MTRU | 30-GAL | 222 | 0 | 222 | |
| MTRU | 55-GAL | 167 | 0 | 167 | |
| MLLW | 30-GAL | 10 | 0 | 10 | |
| MLLW | 55-GAL | 56 | 0 | 56 | |
| LLW | 55-GAL | 9 | 0 | 9 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 0 | 3 | 3 | 0 | 0 |
| MTRU | 0 | 389 | 389 | 0 | 0 |
| MLLW | 0 | 66 | 66 | 0 | 0 |
| LLW | 0 | 9 | 9 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| LLW | 0 | 0 | 0 | 0 | 0 |
| MLLW | 0 | 0 | 0 | 0 | 0 |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| PermaCon | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 41 | | | | | |
| Description | SP Retrieve and Vent BG Solids | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 467 | 467 | 0 | | | |
| Volume (m3) | 74.727 | 74.727 | 0 | | | |
| PE-Curies | 972.231 | 972.231 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# Waste Category: BG Trenches

2011-12-01 **DRAFT**

**Waste Description:** **Below Grade in Trenches**

| Volume (Cubic Meters) | | | |
|---|---|---|---|
| Hazard Type | EM (Goal 3) | NG | Total Volume |
| TRU | 0 | 0 | 303.2 |
| MTRU | 0 | 0 | 32 |

| Container Counts | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Container Type | Current Inventory | Waiting to Ship | Need Characterization | |
| TRU | OTHER | 451 | 0 | 451 | |
| MTRU | OTHER | 51 | 0 | 51 | |

| Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | On AK | Not on AK | Confirmed Vented | Confirmed Not Vented | Need Prescreen |
| TRU | 163 | 288 | 451 | 0 | 0 |
| MTRU | 26 | 25 | 51 | 0 | 0 |

| Characterization Status (Containers) | | | | | |
|---|---|---|---|---|---|
| Hazard Type | Characterization In Process | Fully Characterized | Certification In Process | Certification Approved | Total In Characterization |
| MTRU | 0 | 0 | 0 | 0 | 0 |
| TRU | 0 | 0 | 0 | 0 | 0 |

| Required Characterization Processing/Units | | | | | | |
|---|---|---|---|---|---|---|
| RTR | HE-RTR | HENC | S-HENC | HGAS | FGAS | |
| X | | X | | | X | |

| Remediation Facility | Production Rate (Containers/Day) | Expansion Rate | Containers/Shipment |
|---|---|---|---|
| WCRRF | | | |

| Special Conditions |
|---|
| |

| Containers and Process Path | | | | | | |
|---|---|---|---|---|---|---|
| Solution Package | 40 | | | | | |
| Description | SP Retrieve and Vent BG Trench | | | | | |
| | | | | | | |
| | Solution Set Total | Legacy | New Gen | | | |
| Containers | 502 | 502 | 0 | | | |
| Volume (m3) | 335.157 | 335.157 | 0 | | | |
| PE-Curies | 84393.761 | 84393.761 | 0 | | | |
| Process Path | | | | | | |
| Facility Modifications | Procedure Changes | Permit Modifications | Training Issues | AB Page Changes | Personnel Issues | Characterization Issues |
| | | | | | | |

# APPENDIX D

## Summary Schedule
## for
## 3,706 $m^3$ Above Grade Inventory

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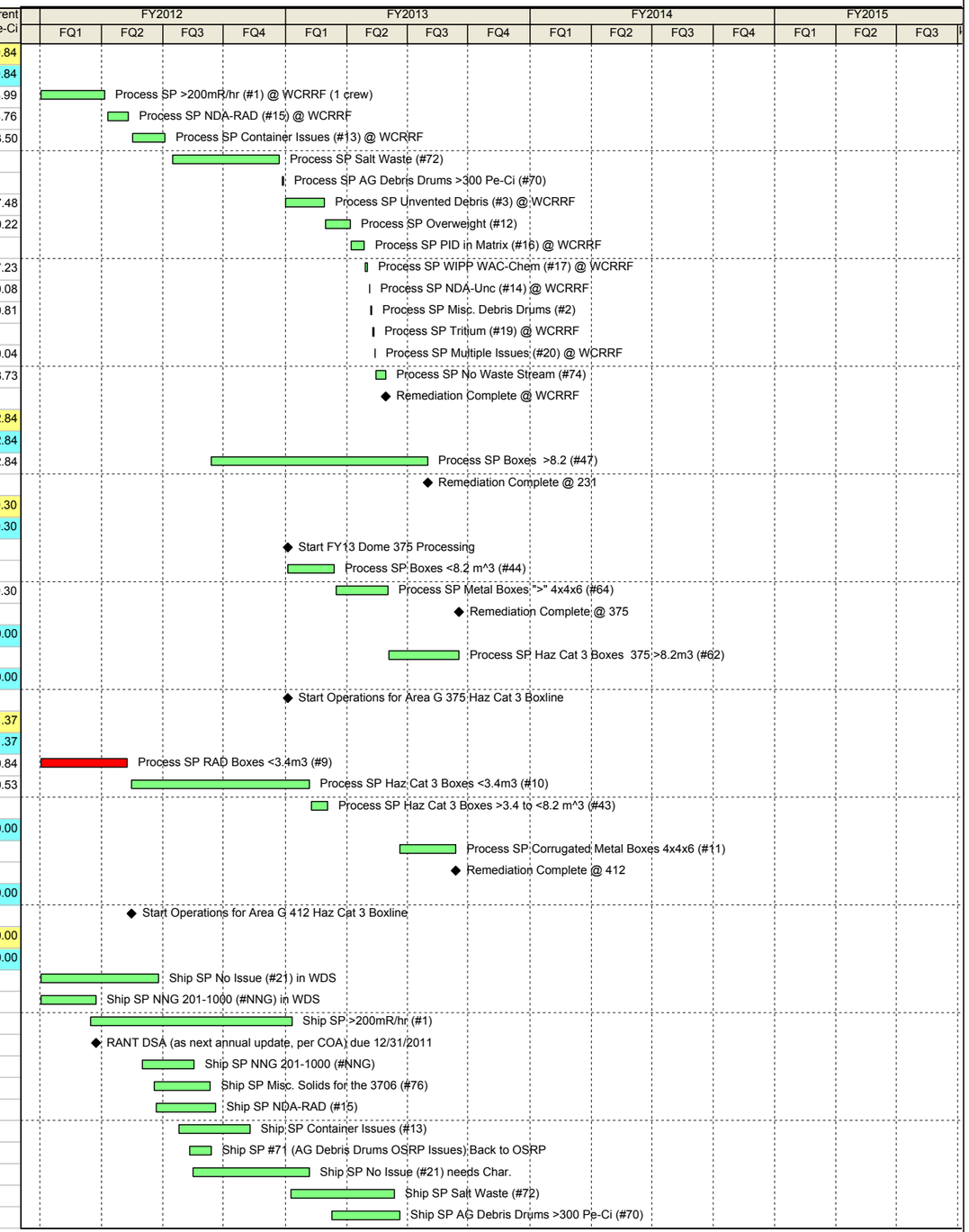
# Processing Summary of 3,706 Commitment

Nov-29-11 16:11

| Activity ID | Activity Name | Original Duration | Start | Finish | Leg. Parent Cont. | Leg. Parent Vol. | Leg. Parent Pe-Ci | NG Parent Cont. | NG Parent Vol. | NG Parent Pe-Ci |
|---|---|---|---|---|---|---|---|---|---|---|
| **WCRRF** | | 340.8d | Oct-03-11 | Feb-28-13 | 1211.00 | 318.68 | 11456.14 | 160.00 | 72.01 | 660.84 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TA.01.4 Process / Remediation** | | 340.8d | Oct-03-11 | Feb-28-13 | 1211.00 | 318.68 | 11456.14 | 160.00 | 72.01 | 660.84 |
| 1100 | Process SP >200mR/hr (#1) @ WCRRF (1 crew) | 60.0d | Oct-03-11* | Jan-06-12 | 547.00 | 117.86 | 6659.90 | 26.00 | 5.41 | 388.99 |
| 1130 | Process SP NDA-RAD (#15) @ WCRRF | 22.0d | Jan-11-12 | Feb-10-12 | 50.00 | 10.40 | 822.48 | 12.00 | 2.50 | 173.76 |
| 1160 | Process SP Container Issues (#13) @ WCRRF | 34.0d | Feb-16-12 | Apr-04-12 | 107.00 | 33.81 | 473.58 | 5.00 | 1.27 | 13.50 |
| 0128 | Process SP Salt Waste (#72) | 112.0d | Apr-16-12 | Sep-21-12 | 156.00 | 34.49 | 1655.97 | | | |
| 1150 | Process SP AG Debris Drums >300 Pe-Ci (#70) | 3.0d | Sep-26-12 | Sep-28-12 | 3.00 | 0.74 | 4.13 | | | |
| 1220 | Process SP Unvented Debris (#3) @ WCRRF | 77.0d | Oct-01-12 | Nov-28-12 | 210.00 | 67.00 | 1363.58 | 2.00 | 0.53 | 17.48 |
| 1240 | Process SP Overweight (#12) | 37.0d | Nov-30-12 | Jan-05-13 | 84.00 | 21.10 | 184.52 | 19.00 | 4.07 | 20.22 |
| 1260 | Process SP PID in Matrix (#16) @ WCRRF | 27.0d | Jan-08-13 | Jan-27-13 | 21.00 | 4.48 | 201.37 | | | |
| 1290 | Process SP WIPP WAC-Chem (#17) @ WCRRF | 4.0d | Jan-29-13 | Jan-31-13 | 6.00 | 1.48 | 8.65 | 1.00 | 0.21 | 7.23 |
| 1310 | Process SP NDA-Unc (#14) @ WCRRF | 2.0d | Feb-03-13 | Feb-04-13 | 1.00 | 0.21 | 7.57 | 1.00 | 0.21 | 0.08 |
| 1350 | Process SP Misc. Debris Drums (#2) | 1.0d | Feb-06-13 | Feb-06-13 | 2.00 | 0.53 | 14.93 | 2.00 | 0.42 | 0.81 |
| 1380 | Process SP Tritium (#19) @ WCRRF | 3.0d | Feb-08-13 | Feb-09-13 | 12.00 | 3.06 | 37.72 | | | |
| 1390 | Process SP Multiple Issues (#20) @ WCRRF | 2.0d | Feb-11-13 | Feb-12-13 | 5.00 | 1.36 | 4.70 | 1.00 | 0.32 | 0.04 |
| 0159 | Process SP No Waste Stream (#74) | 19.0d | Feb-14-13 | Feb-28-13 | 7.00 | 22.16 | 17.04 | 91.00 | 57.07 | 38.73 |
| 0214 | Remediation Complete @ WCRRF | 0.0d | | Feb-28-13 | | | | | | |
| **231** | | 217.5d | Jun-12-12 | May-02-13 | 22.00 | 359.42 | 38.42 | 4.00 | 51.85 | 2.84 |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.4 Process / Remediation** | | 217.5d | Jun-12-12 | May-02-13 | 22.00 | 359.42 | 38.42 | 4.00 | 51.85 | 2.84 |
| 7210 | Process SP Boxes >8.2 (#47) | 217.0d | Jun-12-12 | May-02-13 | 22.00 | 359.42 | 38.42 | 4.00 | 51.85 | 2.84 |
| 0215 | Remediation Complete @ 231 | 0.0d | | May-02-13 | | | | | | |
| **375** | | 168.5d | Oct-04-12 | Jun-17-13 | 86.00 | 1153.36 | 2161.22 | 22.00 | 206.86 | 139.30 |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.01.4 Process / Remediation** | | 168.5d | Oct-04-12 | Jun-17-13 | 52.00 | 345.99 | 351.22 | 22.00 | 206.86 | 139.30 |
| 5860 | Start FY13 Dome 375 Processing | 0.0d | Oct-04-12* | | | | | | | |
| 6430 | Process SP Boxes <8.2 m^3 (#44) | 90.0d | Oct-04-12 | Dec-12-12 | 36.00 | 109.73 | 150.40 | | | |
| 6440 | Process SP Metal Boxes ">" 4x4x6 (#64) | 95.0d | Dec-15-12 | Mar-03-13 | 16.00 | 236.26 | 200.82 | 22.00 | 206.86 | 139.30 |
| 0216 | Remediation Complete @ 375 | 0.0d | | Jun-17-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.4 Process / Remediation** | | 72.5d | Mar-05-13 | Jun-17-13 | 34.00 | 807.37 | 1810.00 | 0.00 | 0.00 | 0.00 |
| 7110 | Process SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | 142.0d | Mar-05-13 | Jun-17-13 | 34.00 | 807.37 | 1810.00 | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W5.VO Box Line - Retooling-Reconfiguration & Re...** | | 0.0d | Oct-04-12 | Oct-04-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0400 | Start Operations for Area G 375 Haz Cat 3 Boxline | 0.0d | Oct-04-12 | | | | | | | |
| **412** | | 414.0d | Oct-03-11 | Jun-12-13 | 140.00 | 376.56 | 455.73 | 2.00 | 7.42 | 1.37 |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.01.4 Process / Remediation** | | 286.0d | Oct-03-11 | Dec-02-12 | 94.00 | 258.80 | 226.17 | 2.00 | 7.42 | 1.37 |
| 6370 | Process SP RAD Boxes <3.4m3 (#9) | 82.0d | Oct-03-11* | Feb-08-12 | 47.00 | 79.86 | 6.22 | 1.00 | 4.87 | 0.84 |
| 6400 | Process SP Haz Cat 3 Boxes <3.4m3 (#10) | 185.0d | Feb-14-12 | Nov-05-12 | 36.00 | 116.12 | 77.99 | 1.00 | 2.55 | 0.53 |
| 6490 | Process SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | 28.0d | Nov-09-12 | Dec-02-12 | 11.00 | 62.82 | 141.96 | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.4 Process / Remediation** | | 59.0d | Mar-21-13 | Jun-12-13 | 46.00 | 117.76 | 229.56 | 0.00 | 0.00 | 0.00 |
| 7180 | Process SP Corrugated Metal Boxes 4x4x6 (#11) | 115.0d | Mar-21-13 | Jun-12-13 | 46.00 | 117.76 | 229.56 | | | |
| 0217 | Remediation Complete @ 412 | 0.0d | | Jun-12-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W5.VO Box Line - Retooling-Reconfiguration & Re...** | | 0.0d | Feb-14-12 | Feb-14-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0260 | Start Operations for Area G 412 Haz Cat 3 Boxline | 0.0d | Feb-14-12 | | | | | | | |
| **RANT** | | 588.0d | Oct-03-11 | Mar-06-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **1.4.2.7-30.1.4.2.7.01.CD.W4.J6.01 Ship AG-Debris Drums** | | 430.0d | Oct-03-11 | Jul-05-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0202 | Ship SP No Issue (#21) in WDS | 93.0d | Oct-03-11* | Mar-26-12 | | | | | | |
| 0203 | Ship SP NNG 201-1000 (#NNG) in WDS | 56.0d | Oct-03-11* | Dec-23-11 | | | | | | |
| 9360 | Ship SP >200mR/hr (#1) | 183.0d | Dec-15-11 | Oct-11-12 | | | | | | |
| 9380 | RANT DSA (as next annual update, per COA) due 12/31/2011 | 0.0d | | Dec-23-11* | | | | | | |
| 9340 | Ship SP NNG 201-1000 (#NNG) | 56.0d | Mar-02-12 | May-18-12 | | | | | | |
| 0212 | Ship SP Misc. Solids for the 3706 (#76) | 59.0d | Mar-20-12 | Jun-11-12 | | | | | | |
| 9390 | Ship SP NDA-RAD (#15) | 62.0d | Mar-22-12 | Jun-18-12 | | | | | | |
| 9420 | Ship SP Container Issues (#13) | 74.0d | Apr-26-12 | Aug-09-12 | | | | | | |
| 9400 | Ship SP #71 (AG Debris Drums OSRP Issues) Back to OSRP | 22.0d | May-11-12 | Jun-12-12 | | | | | | |
| 9350 | Ship SP No Issue (#21) needs Char. | 120.0d | May-16-12 | Nov-05-12 | | | | | | |
| 0134 | Ship SP Salt Waste (#72) | 79.0d | Oct-09-12 | Mar-13-13 | | | | | | |
| 9410 | Ship SP AG Debris Drums >300 Pe-Ci (#70) | 43.0d | Dec-10-12 | Mar-20-13 | | | | | | |




TASK filters: 3706, Processing Facility, revised.

Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

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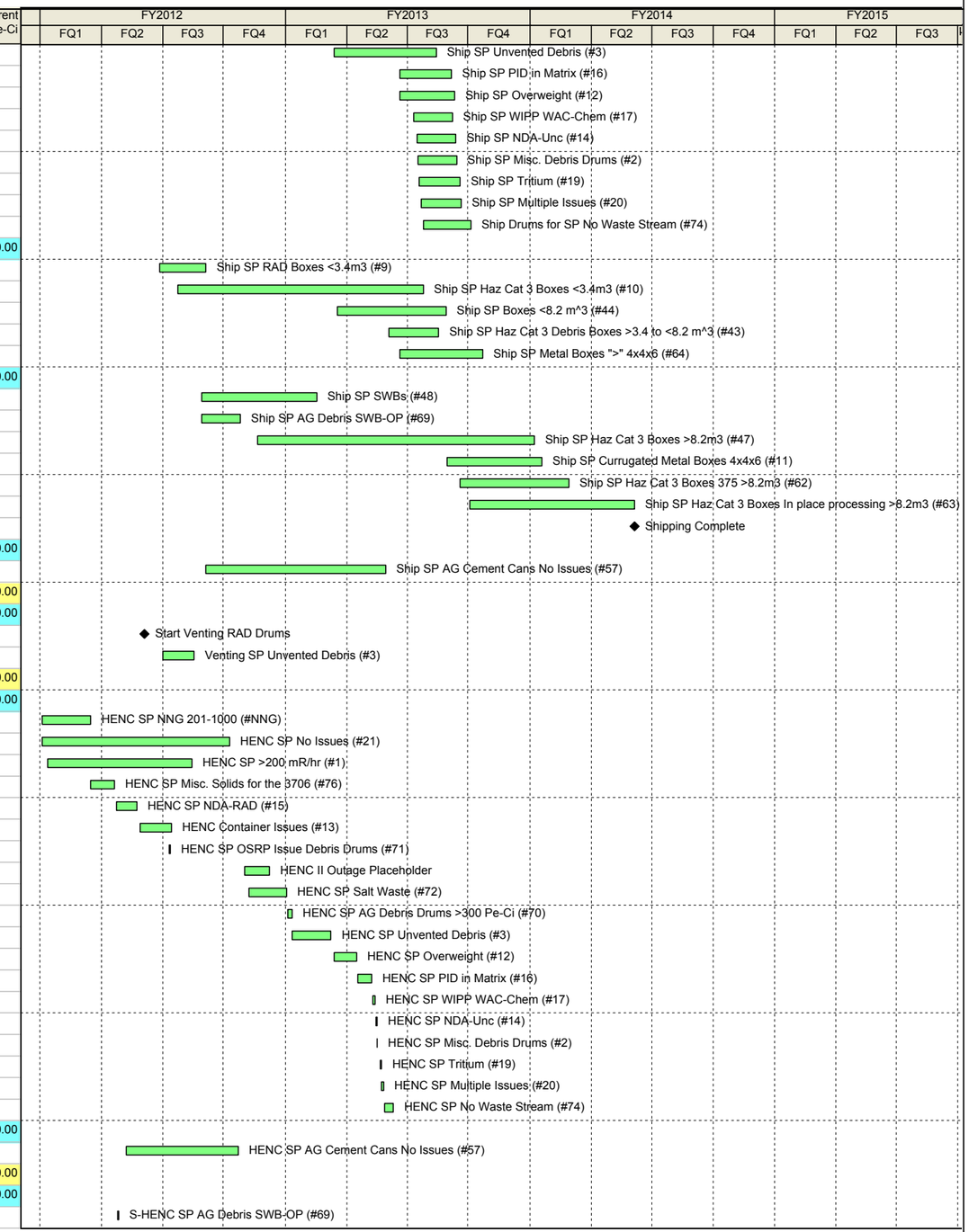
# Processing Summary of 3,706 Commitment

Nov-29-11 16:11

| Activity ID | Activity Name | Original Duration | Start | Finish | Leg. Parent Cont. | Leg. Parent Vol. | Leg. Parent Pe-Ci | NG Parent Cont. | NG Parent Vol. | NG Parent Pe-Ci |
|---|---|---|---|---|---|---|---|---|---|---|
| 9430 | Ship SP Unvented Debris (#3) | 79.0d | Dec-13-12 | May-14-13 | | | | | | |
| 9450 | Ship SP PID in Matrix (#16) | 54.0d | Mar-21-13 | Jun-05-13 | | | | | | |
| 9440 | Ship SP Overweight (#12) | 58.0d | Mar-21-13 | Jun-11-13 | | | | | | |
| 9460 | Ship SP WIPP WAC-Chem (#17) | 42.0d | Apr-10-13 | Jun-07-13 | | | | | | |
| 9470 | Ship SP NDA-Unc (#14) | 42.0d | Apr-15-13 | Jun-12-13 | | | | | | |
| 9480 | Ship SP Misc. Debris Drums (#2) | 41.0d | Apr-17-13 | Jun-13-13 | | | | | | |
| 9490 | Ship SP Tritium (#19) | 42.0d | Apr-19-13 | Jun-18-13 | | | | | | |
| 9500 | Ship SP Multiple Issues (#20) | 42.0d | Apr-22-13 | Jun-20-13 | | | | | | |
| 0165 | Ship Drums for SP No Waste Stream (#74) | 50.0d | Apr-25-13 | Jul-05-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W4.J6.02 Ship AG-Boxes Less than 8.2 m3** | | 326.6d | Mar-27-12 | Jul-22-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9510 | Ship SP RAD Boxes <3.4m3 (#9) | 48.0d | Mar-27-12 | Jun-04-12 | | | | | | |
| 9520 | Ship SP Haz Cat 3 Boxes <3.4m3 (#10) | 225.0d | Apr-24-12 | Apr-24-13 | | | | | | |
| 9530 | Ship SP Boxes <8.2 m^3 (#44) | 85.0d | Dec-18-12 | May-29-13 | | | | | | |
| 9550 | Ship SP Haz Cat 3 Debris Boxes >3.4 to <8.2 m^3 (#43) | 54.0d | Mar-05-13 | May-17-13 | | | | | | |
| 9540 | Ship SP Metal Boxes ">" 4x4x6 (#64) | 86.0d | Mar-21-13 | Jul-22-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W4.J6.05 Ship AG-Boxes Greater than 8.2 m3** | | 430.0d | May-29-12 | Mar-06-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9720 | Ship SP SWBs (#48) | 120.0d | May-29-12 | Nov-16-12 | | | | | | |
| 0141 | Ship SP AG Debris SWB-OP (#69) | 42.0d | May-29-12 | Jul-26-12 | | | | | | |
| 9780 | Ship SP Haz Cat 3 Boxes >8.2m3 (#47) | 257.0d | Aug-21-12 | Oct-08-13 | | | | | | |
| 9760 | Ship SP Currugated Metal Boxes 4x4x6 (#11) | 98.0d | May-31-13 | Oct-18-13 | | | | | | |
| 9730 | Ship SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | 113.0d | Jun-18-13 | Nov-27-13 | | | | | | |
| 9740 | Ship SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | 138.0d | Jul-03-13 | Mar-05-14 | | | | | | |
| 0218 | Shipping Complete | 0.0d | Mar-06-14 | | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W4.J6.06 Ship AG-Cemented Drums** | | 177.0d | Jun-04-12 | Feb-27-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9790 | Ship SP AG Cement Cans No Issues (#57) | 156.0d | Jun-04-12 | Feb-27-13 | | | | | | |
| **Dome 33** | | 54.0d | Mar-05-12 | May-17-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.T8 Drum Venting** | | 54.0d | Mar-05-12 | May-17-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0475 | Start Venting RAD Drums | 0.0d | Mar-05-12 | | | | | | | |
| 1080 | Venting SP Unvented Debris (#3) | 35.0d | Apr-02-12 | May-17-12 | | | | | | |
| **HENC** | | 346.0d | Oct-05-11 | Mar-11-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TA.01.5 Characterization** | | 346.0d | Oct-05-11 | Mar-11-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1500 | HENC SP NNG 201-1000 (#NNG) | 48.0d | Oct-05-11 | Dec-15-11 | | | | | | |
| 1530 | HENC SP No Issues (#21) | 186.0d | Oct-05-11 | Jul-10-12 | | | | | | |
| 1560 | HENC SP >200 mR/hr (#1) | 143.0d | Oct-13-11 | May-15-12 | | | | | | |
| 0209 | HENC SP Misc. Solids for the 3706 (#76) | 19.0d | Dec-16-11 | Jan-20-12 | | | | | | |
| 1590 | HENC SP NDA-RAD (#15) | 22.0d | Jan-23-12 | Feb-22-12 | | | | | | |
| 1650 | HENC Container Issues (#13) | 34.0d | Feb-28-12 | Apr-13-12 | | | | | | |
| 1690 | HENC SP OSRP Issue Debris Drums (#71) | 2.0d | Apr-11-12 | Apr-12-12 | | | | | | |
| 01710 | HENC II Outage Placeholder | 27.0d | Aug-01-12* | Sep-07-12 | | | | | | |
| 0130 | HENC SP Salt Waste (#72) | 39.0d | Aug-08-12 | Oct-02-12 | | | | | | |
| 1640 | HENC SP AG Debris Drums >300 Pe-Ci (#70) | 3.0d | Oct-05-12 | Oct-10-12 | | | | | | |
| 1720 | HENC SP Unvented Debris (#3) | 39.0d | Oct-11-12 | Dec-07-12 | | | | | | |
| 1760 | HENC SP Overweight (#12) | 18.0d | Dec-12-12 | Jan-15-13 | | | | | | |
| 1790 | HENC SP PID in Matrix (#16) | 14.0d | Jan-17-13 | Feb-06-13 | | | | | | |
| 1830 | HENC SP WIPP WAC-Chem (#17) | 2.0d | Feb-08-13 | Feb-11-13 | | | | | | |
| 1840 | HENC SP NDA-Unc (#14) | 2.0d | Feb-13-13 | Feb-14-13 | | | | | | |
| 1890 | HENC SP Misc. Debris Drums (#2) | 1.0d | Feb-15-13 | Feb-15-13 | | | | | | |
| 1910 | HENC SP Tritium (#19) | 2.0d | Feb-20-13 | Feb-21-13 | | | | | | |
| 1930 | HENC SP Multiple Issues (#20) | 2.0d | Feb-21-13 | Feb-25-13 | | | | | | |
| 0161 | HENC SP No Waste Stream (#74) | 10.0d | Feb-26-13 | Mar-11-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TK.02.5 Characterization** | | 116.0d | Feb-07-12 | Jul-23-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5060 | HENC SP AG Cement Cans No Issues (#57) | 116.0d | Feb-07-12 | Jul-23-12 | | | | | | |
| **S-HENC** | | 449.0d | Nov-23-11 | Sep-20-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TA.01.5 Characterization** | | 2.0d | Jan-24-12 | Jan-26-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0138 | S-HENC SP AG Debris SWB-OP (#69) | 2.0d | Jan-24-12 | Jan-26-12 | | | | | | |




TASK filters: 3706, Processing Facility, revised.

Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work ◆ | ◆ Milestone

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# Processing Summary of 3,706 Commitment

Nov-29-11 16:11

| Activity ID | Activity Name | Original Duration | Start | Finish | Leg. Parent Cont. | Leg. Parent Vol. | Leg. Parent Pe-Ci | NG Parent Cont. | NG Parent Vol. | NG Parent Pe-Ci |
|---|---|---|---|---|---|---|---|---|---|---|
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.01.5 Characterization** | | 276.6d | Jan-26-12 | Mar-12-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6540 | S-HENC SP RAD Boxes <3.4m3 (#9) | 8.0d | Jan-26-12 | Feb-07-12 | | | | | | |
| 6600 | S-HENC SP Haz Cat 3 Boxes <3.4m3 (#10) | 185.0d | Feb-24-12 | Nov-15-12 | | | | | | |
| 6630 | S-HENC SP RAD Boxes 375 <3.4 m^3 (#44) | 45.0d | Oct-16-12 | Dec-21-12 | | | | | | |
| 6690 | S-HENC SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | 14.0d | Nov-21-12 | Dec-12-12 | | | | | | |
| 6660 | S-HENC SP Metal Boxes ">" 4x4x6 (#64) | 46.0d | Jan-04-13 | Mar-12-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.5 Characterization** | | 449.0d | Nov-23-11 | Sep-20-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7300 | S-HENC SP SWBs (#48) | 36.0d | Nov-23-11 | Jan-24-12 | | | | | | |
| 7500 | S-HENC SP Boxes 412 >8.2 (#47) | 217.0d | Jun-21-12 | May-13-13 | | | | | | |
| 7350 | S-HENC SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | 97.0d | Mar-15-13 | Jul-31-13 | | | | | | |
| 7440 | S-HENC SP Corrugated Metal 4x4x6 (#11) | 58.0d | Apr-02-13 | Jun-21-13 | | | | | | |
| 7380 | S-HENC SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | 98.0d | May-03-13 | Sep-20-13 | | | | | | |
| 0219 | Characterization Complete | 0.0d | | Sep-20-13 | | | | | | |
| **RTR** | | 346.0d | Oct-03-11 | Mar-07-13 | 784.00 | 168.75 | 4336.16 | 679.00 | 141.22 | 8684.63 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TA.01.5 Characterization** | | 346.0d | Oct-03-11 | Mar-07-13 | 784.00 | 168.75 | 4336.16 | 679.00 | 141.22 | 8684.63 |
| 1490 | RTR SP NNG 201-1000 (#NNG) | 48.0d | Oct-03-11 | Dec-13-11 | | | | 245.00 | 50.96 | 2969.25 |
| 1520 | RTR SP No Issues (#21) | 186.0d | Oct-03-11 | Jul-06-12 | 648.00 | 139.21 | 4203.50 | 336.00 | 69.88 | 4862.44 |
| 1550 | RTR SP >200 mR/hr (#1) | 143.0d | Oct-11-11 | May-11-12 | | | | | | |
| 0208 | RTR SP Misc. Solids for the 3706 (#76) | 19.0d | Dec-14-11 | Jan-18-12 | 136.00 | 29.54 | 132.66 | 98.00 | 20.38 | 852.94 |
| 1580 | RTR SP NDA-RAD (#15) | 22.0d | Jan-19-12 | Feb-17-12 | | | | | | |
| 1610 | Pre Screen Container Issues (#13) | 28.0d | Jan-20-12 | Feb-29-12 | | | | | | |
| 1680 | RTR SP OSRP Issue Debris Drums (#71) | 2.0d | Apr-09-12 | Apr-10-12 | | | | | | |
| 0174 | Pre Screen 85 gals for SP #3 | 53.0d | May-18-12 | Aug-02-12 | | | | | | |
| 0181 | Prescreen SP Multiple Issues (#20) | 53.0d | May-18-12 | Aug-02-12 | | | | | | |
| 0129 | RTR SP Salt Waste (#72) | 39.0d | Aug-06-12 | Sep-28-12 | | | | | | |
| 0176 | Weigh Containers for SP Overweight (#12) | 5.0d | Aug-17-12 | Aug-23-12 | | | | | | |
| 1740 | Prescreen SP Overweight (#12) | 9.0d | Aug-24-12 | Sep-06-12 | | | | | | |
| 0175 | Pre-Cert SP Overweight (#12) | 18.0d | Sep-07-12 | Oct-02-12 | | | | | | |
| 0177 | Prescreen 85 gals SP PID in Matrix (#16) | 10.0d | Sep-07-12 | Sep-20-12 | | | | | | |
| 0178 | Pre-Cert 55 gals SP PID in Matrix (#16) | 5.0d | Sep-21-12 | Sep-27-12 | | | | | | |
| 1620 | RTR SP AG Debris Drums >300 Pe-Ci (#70) | 3.0d | Oct-03-12 | Oct-05-12 | | | | | | |
| 1710 | RTR SP Unvented Debris (#3) | 39.0d | Oct-09-12 | Dec-05-12 | | | | | | |
| 1750 | RTR SP Overweight (#12) | 18.0d | Dec-10-12 | Jan-11-13 | | | | | | |
| 1780 | RTR SP PID in Matrix (#16) | 14.0d | Jan-15-13 | Feb-04-13 | | | | | | |
| 1810 | RTR SP WIPP WAC-Chem (#17) | 2.0d | Feb-06-13 | Feb-07-13 | | | | | | |
| 1820 | RTR SP NDA-Unc (#14) | 2.0d | Feb-11-13 | Feb-12-13 | | | | | | |
| 1870 | RTR SP Misc. Debris Drums (#2) | 1.0d | Feb-13-13 | Feb-13-13 | | | | | | |
| 1880 | RTR SP Tritium (#19) | 2.0d | Feb-15-13 | Feb-19-13 | | | | | | |
| 1900 | RTR SP Multiple Issues (#20) | 2.0d | Feb-19-13 | Feb-21-13 | | | | | | |
| 0160 | RTR SP No Waste Stream (#74) | 10.0d | Feb-22-13 | Mar-07-13 | | | | | | |
| **HE-RTR** | | 490.0d | Sep-21-11 | Sep-18-13 | 1283.00 | 428.59 | 12450.63 | 85.00 | 161.50 | 195.39 |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TA.01.5 Characterization** | | 2.6d | Jan-19-12 | Jan-24-12 | 32.00 | 15.12 | 670.27 | 0.00 | 0.00 | 0.00 |
| 0137 | HE-RTR SP AG Debris SWB-OP (#69) | 2.0d | Jan-19-12 | Jan-24-12 | 32.00 | 15.12 | 670.27 | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TK.01.5 Characterization** | | 15.0d | Sep-21-11 | Oct-12-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3130 | Mod for HE-RTR 3 Drum Fixture (only for 55 gal) | 15.0d | Sep-21-11* | Oct-12-11 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W2.TK.02.5 Characterization** | | 116.8d | Feb-02-12 | Jul-19-12 | 1160.00 | 241.28 | 9410.85 | 0.00 | 0.00 | 0.00 |
| 5050 | Pre-Cert HE-RTR SP AG Cement Cans No Issues (#57) | 116.0d | Feb-02-12 | Jul-19-12 | 1160.00 | 241.28 | 9410.85 | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.01.5 Characterization** | | 276.6d | Jan-24-12 | Mar-08-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6530 | HE-RTR SP RAD Boxes <3.4m3 (#9) | 8.0d | Jan-24-12 | Feb-02-12 | | | | | | |
| 6590 | HE-RTR SP Haz Cat 3 Boxes <3.4m3 (#10) | 185.0d | Feb-22-12 | Nov-13-12 | | | | | | |
| 6570 | HE-RTR DSA/TSR Expiration (SO:3210-357890) | 1.0d | Mar-30-12 | Mar-30-12* | | | | | | |
| 6610 | HE-RTR SP RAD Boxes 375 <3.4 m^3 (#44) | 45.0d | Oct-12-12 | Dec-19-12 | | | | | | |
| 6560 | Prescreen SP Metal Boxes ">" 4x4x6 (#64) | 10.0d | Oct-16-12 | Oct-29-12 | | | | | | |
| 6680 | HE-RTR SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | 14.0d | Nov-19-12 | Dec-10-12 | | | | | | |
| 6650 | HE-RTR SP Metal Boxes ">" 4x4x6 (#64) | 46.0d | Jan-02-13 | Mar-08-13 | | | | | | |

TASK filters: 3706, Processing Facility, revised.

Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

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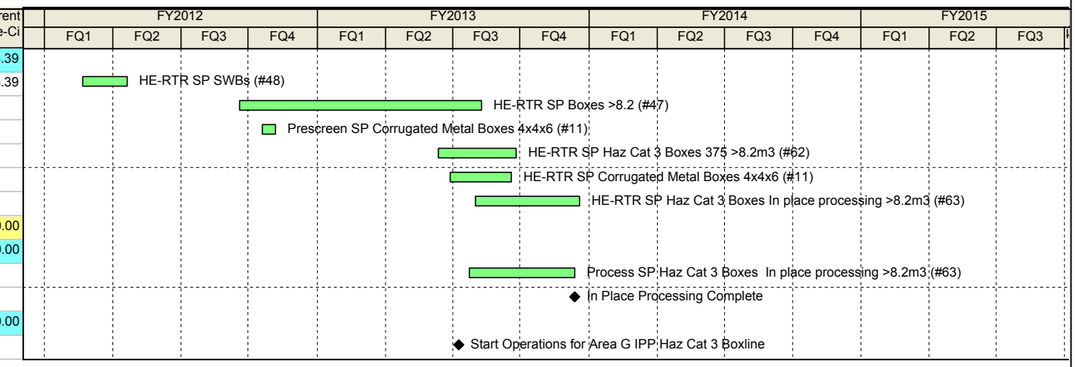
# Processing Summary of 3,706 Commitment

Nov-29-11 16:11

| Activity ID | Activity Name | Original Duration | Start | Finish | Leg. Parent Cont. | Leg. Parent Vol. | Leg. Parent Pe-Ci | NG Parent Cont. | NG Parent Vol. | NG Parent Pe-Ci |
|---|---|---|---|---|---|---|---|---|---|---|
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.5** | **Characterization** | 449.0d | Nov-21-11 | Sep-18-13 | 91.00 | 172.19 | 2369.51 | 85.00 | 161.50 | 195.39 |
| 7290 | HE-RTR SP SWBs (#48) | 36.0d | Nov-21-11 | Jan-19-12 | 91.00 | 172.19 | 2369.51 | 85.00 | 161.50 | 195.39 |
| 7480 | HE-RTR SP Boxes >8.2 (#47) | 217.0d | Jun-19-12 | May-09-13 | | | | | | |
| 7320 | Prescreen SP Corrugated Metal Boxes 4x4x6 (#11) | 12.0d | Jul-19-12 | Aug-06-12 | | | | | | |
| 7340 | HE-RTR SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | 73.0d | Mar-13-13 | Jun-24-13 | | | | | | |
| 7430 | HE-RTR SP Corrugated Metal Boxes 4x4x6 (#11) | 58.0d | Mar-29-13 | Jun-19-13 | | | | | | |
| 7370 | HE-RTR SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | 98.0d | May-01-13 | Sep-18-13 | | | | | | |
| **IPP** | | 109.0d | Apr-09-13 | Sep-11-13 | 7.00 | 257.43 | 294.34 | 0.00 | 0.00 | 0.00 |
| **1.4.2.7-30.1.4.2.7.01.CD.W3.HN.02.4** | **Process / Remediation** | 98.0d | Apr-24-13 | Sep-11-13 | 7.00 | 257.43 | 294.34 | 0.00 | 0.00 | 0.00 |
| 7120 | Process SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | 98.0d | Apr-24-13 | Sep-11-13 | 7.00 | 257.43 | 294.34 | | | |
| 0220 | In Place Processing Complete | 0.0d | | Sep-11-13 | | | | | | |
| **1.4.2.7-30.1.4.2.7.01.CD.W5.VO** | **Box Line - Retooling-Reconfiguration & Re...** | 0.0d | Apr-09-13 | Apr-09-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0450 | Start Operations for Area G IPP Haz Cat 3 Boxline | 0.0d | Apr-09-13 | | | | | | | |




TASK filters: 3706, Processing Facility, revised.

Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

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# APPENDIX E

## Activity Notebook
## for
## 3,706 $m^3$ Above Grade Inventory

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# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| **3706** | **3,706 Waste Shipping Commitment** | | |
| **WCRRF** | | | |
| 0128 | Process SP Salt Waste (#72) | Rationale | 10 drums/week on 5/8 work schedule<br>**70% facility availability = 7 drums/week |
| 1100 | Process SP >200mR/hr (#1) @ WCRRF (1 crew) | Rationale | 4 drums/day with 1 crews @ WCRRF for 20/week on standard 5/8 work week<br>**80% facility availability = 3.2 drums/day or 16 drums/week |
| 1240 | Process SP Overweight (#12) | Rationale | 20 drums/wk @ WCRRF on 7/12 work schedule<br>**70% facility availability = 14 drums/week |
| 1220 | Process SP Unvented Debris (#3) @ WCRRF | Rationale | 20 drums/wk @ WCRRF on 7/12 work schedule<br>**70% facility availability = 14 drums/week |
| 1290 | Process SP WIPP WAC-Chem (#17) @ WCRRF | Rationale | 20 drums/wk @ WCRRF on 7/12 work schedule<br>**70% facility availability = 14 drums/week (2/day) |
| 1260 | Process SP PID in Matrix (#16) @ WCRRF | Rationale | 20 drums/wk @ WCRRF on 7/12 work schedule<br>**70% facility availability = 14 drums/week |
| 1130 | Process SP NDA-RAD (#15) @ WCRRF | Rationale | 4 drums/day @ WCRRF for 20/week on 5/8 work schedule<br>**70% facility availability = 14 drums/week = 22 day duration (2.8/day)<br>2 day lag for training on SP #15 |
| 1310 | Process SP NDA-Unc (#14) @ WCRRF | Rationale | 20 drums/wk @ WCRRF on 7/12 work schedule<br>**70% facility availability = 14 drums/week |
| 1350 | Process SP Misc. Debris Drums (#2) | Rationale | 8 drums/day @ WCRRF for 56/week on 7/12 work schedule<br>**70% facility availability = 5.6 drums/day or 39.2 drums/week |
| 1150 | Process SP AG Debris Drums >300 Pe-Ci (#70) | Rationale | 4 drums/day @ WCRRF for 20/week on 5/8 work schedule<br>**70% facility availability = 14 drums/week (2.8/day) |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 1160 | Process SP Container Issues (#13) @ WCRRF | Rationale | 24 drums/week on 5/8 work schedule<br>**70% facility availability = 16.8 drums/week |
| 1380 | Process SP Tritium (#19) @ WCRRF | Rationale | 8 drums/day @ WCRRF for 56/week on 7/12 work schedule<br>**70% facility availability = 5.6 drums/day or 39.2 drums/week |
| 1390 | Process SP Multiple Issues (#20) @ WCRRF | Rationale | 8 drums/day @ WCRRF for 56/week on 7/12 work schedule<br>**70% facility availability = 5.6 drums/day or 39.2 drums/week |
| 0159 | Process SP No Waste Stream (#74) | Rationale | 4 drums/day @ WCRRF for 20/week on 5/8 work schedule<br>**70% facility availability = 14 drums/week (2.8/day)<br>2 crews = 5.6/day<br>combination of SWBs and Drums and 5 FRP boxes |
| **231** | | | |
| 7210 | Process SP Boxes >8.2 (#47) | Rationale | 0.15 Boxes/day<br>**80% facility availability = .12/day or .6 boxes/week<br>20 day lag to retool |
| **375** | | | |
| 7110 | Process SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | Rationale | 0.15 Boxes/day x 2 crews = 0.30 Boxes /day<br>**80% facility availability = .24/day or 1.2 boxes/week |
| 6440 | Process SP Metal Boxes ">" 4x4x6 (#64) | Rationale | .5 boxes/day w/two crews<br>**80% facility availability = .4/day or 2 boxes/week |
| 6430 | Process SP Boxes <8.2 m^3 (#44) | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day<br>**80% facility availability = .4/day or 2 boxes/week |
| 5860 | Start FY13 Dome 375 Processing | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day<br>**80% facility availability = .4/day or 2 boxes/week |
| **412** | | | |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 7180 | Process SP Corrugated Metal Boxes 4x4x6 (#11) | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day; 46 Parents<br>**80% facility availability = .4/day or 2 boxes/week |
| 6400 | Process SP Haz Cat 3 Boxes <3.4m3 (#10) | Rationale | 0.25 Boxes/day x 1 crew;<br>**80% facility availability = .2/day or 1 box/week<br>CR will be 1 box/week w/one crew |
| 6370 | Process SP RAD Boxes <3.4m3 (#9) | Rationale | 0.25 Boxes/day x 1 crew;<br>**80% facility availability = .2/day or 1 box/week |
| 6490 | Process SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day;<br>**80% facility availability = .4/day or 2 boxes/week = 39 days on 7/12 2 crew shift |

**RANT**

| | | | |
|---|---|---|---|
| 0165 | Ship Drums for SP No Waste Stream (#74) | Rationale | 85drums @ 22 drums/shipment = 4<br>18 SWBs @ 6/shipment = 3 |
| 9790 | Ship SP AG Cement Cans No Issues (#57) | Rationale | 22 drums/shipment<br>1:1<br>Lag an extra 40 days to level load |
| 0141 | Ship SP AG Debris SWB-OP (#69) | Rationale | 8 SWBs w/4 drums in each |
| 9720 | Ship SP SWBs (#48) | Rationale | 6 swb/shipment<br>increase duration to level load |
| 9760 | Ship SP Currugated Metal Boxes 4x4x6 (#11) | Rationale | 6 swb/shipment |
| 9740 | Ship SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | 6 swb/shipment |
| 9780 | Ship SP Haz Cat 3 Boxes >8.2m3 (#47) | Rationale | 6 swb/shipment |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 9730 | Ship SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | Rationale | 6 swb/shipment |
| 9540 | Ship SP Metal Boxes ">" 4x4x6 (#64) | Rationale | |
| 9530 | Ship SP Boxes <8.2 m^3 (#44) | Rationale | |
| 9550 | Ship SP Haz Cat 3 Debris Boxes >3.4 to <8.2 m^3 (#43) | Rationale | 6 swb/shipment = 4 shipments |
| 9520 | Ship SP Haz Cat 3 Boxes <3.4m3 (#10) | Rationale | 6 swb/shipment<br>74/6 = 12.3 shipments |
| 9510 | Ship SP RAD Boxes <3.4m3 (#9) | Rationale | 6 SWB/Shipment<br>48/6=8 shipments |
| 9360 | Ship SP >200mR/hr (#1) | Rationale | 1:2 parent:daugters |
| 9380 | RANT DSA (as next annual update, per COA) due 12/31/2011 | Rationale | 1:2 parent:daugters |
| 9410 | Ship SP AG Debris Drums >300 Pe-Ci (#70) | Rationale | 12 to 15 daughter drums/shipment for High FGE drums (use 14) |
| 9390 | Ship SP NDA-RAD (#15) | Rationale | 12 to 15 daughter drums/shipment for High FGE drums (use 14) |
| **Dome 33** | | | |
| 1080 | Venting SP Unvented Debris (#3) | Rationale | vent @ the rate of 8 drums/day on standard 4/10 work week<br>80% facility avail. = 6.4 drums/day = 25.6/wk |
| **HENC** | | | |
| 1560 | HENC SP >200 mR/hr (#1) | Rationale | 16/day @ 80% = 12.8/day (based on 2 HENCs) |
| **S-HENC** | | | |
| 0138 | S-HENC SP AG Debris SWB-OP (#69) | Rationale | HENC @ rate of 5 SWBs/day |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 7300 | S-HENC SP SWBs (#48) | Rationale | HENC @ rate of 5 SWBs/day |
| 7380 | S-HENC SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | HENC @ rate of 5 SWBs/day |
| 7440 | S-HENC SP Corrugated Metal 4x4x6 (#11) | Rationale | HENC @ rate of 5 SWBs/day |
| 7500 | S-HENC SP Boxes 412 >8.2 (#47) | Rationale | HENC @ rate of 5 SWBs/day |
| 7350 | S-HENC SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | Rationale | HENC @ rate of 5 SWBs/day |
| 6660 | S-HENC SP Metal Boxes ">" 4x4x6 (#64) | Rationale | HENC @ rate of 5 SWBs/day |
| 6630 | S-HENC SP RAD Boxes 375 <3.4 m^3 (#44) | Rationale | HENC @ rate of 5 SWBs/day |
| 6690 | S-HENC SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | Rationale | HENC @ rate of 5 SWBs/day |
| 6600 | S-HENC SP Haz Cat 3 Boxes <3.4m3 (#10) | Rationale | HENC @ rate of 5 SWBs/day |
| 6540 | S-HENC SP RAD Boxes <3.4m3 (#9) | Rationale | HENC @ rate of 5 SWBs/day |
| **RTR** | | | |
| 0208 | RTR SP Misc. Solids for the 3706 (#76) | Rationale | 20 drums/day @ 80% efficiency = 16/day<br>1:1 parent:daughters<br>containers are from Solution Packages 05,06,07,22,24,26,29,30,31,56,73 that were a part of the original 3,706 Governor's mark. |
| 1490 | RTR SP NNG 201-1000 (#NNG) | Rationale | 20/day 80 % avail. = 16 drums/day<br>spread out due to other packages running through RTR simultaneously |
| 1740 | Prescreen SP Overweight (#12) | Rationale | 20/wk<br>33 85 gal drums |
| 1550 | RTR SP >200 mR/hr (#1) | Rationale | 20 drums/day @ 80% efficiency = 16/day<br>1:2 parents to daughters |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 1750 | RTR SP Overweight (#12) | Rationale | 1:2 parents to daughters |
| 1810 | RTR SP WIPP WAC-Chem (#17) | Rationale | 1:2 parents to daughters |
| 1780 | RTR SP PID in Matrix (#16) | Rationale | 1:2 parent : daughter |
| 1580 | RTR SP NDA-RAD (#15) | Rationale | 2 daughters for each parent drum |
| 1820 | RTR SP NDA-Unc (#14) | Rationale | 1:2 parents to daughters |
| 1520 | RTR SP No Issues (#21) | Rationale | 20 drums/day @ 80% efficiency = 16/day |
| | | | spread out due to other SP running at same time |
| 1880 | RTR SP Tritium (#19) | Rationale | 1:2 parent to daughters |
| 1900 | RTR SP Multiple Issues (#20) | Rationale | 1:2 parent to daughters |
| 1710 | RTR SP Unvented Debris (#3) | Rationale | 1:1 parent to daughters |
| 1870 | RTR SP Misc. Debris Drums (#2) | Rationale | 1:2 parents to daughters |
| 0129 | RTR SP Salt Waste (#72) | Rationale | 1:2 parents to daughters |
| 1610 | Pre Screen Container Issues (#13) | Rationale | prescreen at rate of 20/wk |
| | | | 111 85 gal remain |
| | | | 1 110 gal |
| | | | may S-HENC |
| 1680 | RTR SP OSRP Issue Debris Drums (#71) | Rationale | 20 drums/day @ 80% efficiency = 16/day |
| 1620 | RTR SP AG Debris Drums >300 Pe-Ci (#70) | Rationale | 2 daughters for each parent drum |
| 0181 | Prescreen SP Multiple Issues (#20) | Rationale | Prescreen with SP #3 Unvented Drums |
| 0178 | Pre-Cert 55 gals SP PID in Matrix (#16) | Rationale | prescreen @ 20/wk |
| | | | 13 55 gal |
| 0177 | Prescreen 85 gals SP PID in Matrix (#16) | Rationale | prescreen @ 20/wk |
| | | | 40 85 gal |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 0176 | Weigh Containers for SP Overweight (#12) | Rationale | weigh 20/day |
| 0175 | Pre-Cert SP Overweight (#12) | Rationale | 20/wk |
| | | | 70 55 gal drums |
| 0174 | Pre Screen 85 gals for SP #3 | Rationale | 203 leg 85 gal |
| | | | 1 85 gal NG drum |
| | | | 5 110 gal leg |
| | | | 209 total to prescreen @ 20/wk = 53 day duration |
| **HE-RTR** | | | |
| 5050 | Pre-Cert HE-RTR SP AG Cement Cans No Issues (#57) | Rationale | 20 drums/day @ 70% efficiency = 10/day |
| | | | all 55 gals |
| 0137 | HE-RTR SP AG Debris SWB-OP (#69) | Rationale | 6.4 SWBs/day |
| | | | 32 drums 4 drums per SWB = 8 SWBs |
| 3130 | Mod for HE-RTR 3 Drum Fixture (only for 55 gal) | Rationale | allow 20+/day for prescreen |
| 7320 | Prescreen SP Corrugated Metal Boxes 4x4x6 (#11) | Rationale | 6.4/day 3days/week = 19.2/wk |
| 7290 | HE-RTR SP SWBs (#48) | Rationale | 5/day 4 days/week = 20/wk |
| 7430 | HE-RTR SP Corrugated Metal Boxes 4x4x6 (#11) | Rationale | 1:2 parent:daughters |
| 7480 | HE-RTR SP Boxes >8.2 (#47) | Rationale | 1:6 parents:daughters |
| | | | characterize @ rate of 6/day |
| 7370 | HE-RTR SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | 1:8 parent to daughter ratio |
| | | | characterize @ rate of 6/day |
| 7340 | HE-RTR SP Haz Cat 3 Boxes 375 >8.2m3 (#62) | Rationale | 1:6 parent:daughters |
| | | | characterize @ rate of 6/day |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 6570 | HE-RTR DSA/TSR Expiration (SO:3210-357890) | Rationale | 1:2 parents:daughters |
| 6560 | Prescreen SP Metal Boxes ">" 4x4x6 (#64) | Rationale | 1:2 parents:daughters<br>characterize @ rate of 6/day |
| 6650 | HE-RTR SP Metal Boxes ">" 4x4x6 (#64) | Rationale | 1:2 parent:daughters<br>characterize @ rate of 6/day |
| 6610 | HE-RTR SP RAD Boxes 375 <3.4 m^3 (#44) | Rationale | 1:2 parent:daughters<br>characterize @ rate of 6/day |
| 6680 | HE-RTR SP Haz Cat 3 Boxes >3.4 to <8.2 m^3 (#43) | Rationale | 1:2 parent:daughters<br>characterize @ rate of 6/day |
| 6590 | HE-RTR SP Haz Cat 3 Boxes <3.4m3 (#10) | Rationale | 1:2 parent daughter ratio<br>6.4/day 3days/week = 19.2/wk<br>74 SWBs = 19 day duration |
| 6530 | HE-RTR SP RAD Boxes <3.4m3 (#9) | Rationale | 1:2 parents:daughters<br>characterize @ rate of 6.4/day |
| **LANLNDA** | | | |
| 0194 | LANL Prescreen for SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | prescreen @ .5/week |
| 7330 | LANL Prescreen for SP Boxes >8.2 (#47) | Rationale | prescreen with LANL Mobile Prescreen |
| **FGA** | | | |
| 1570 | FGA SP >200 mR/hr (#1) | Rationale | 20/day @ 80% = 16/day |
| **IPP** | | | |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 7120 | Process SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | **80% facility availability = .5 boxes/week w/2 crews |

**No Operating Facility**

| | | | |
|---|---|---|---|
| 01730 | Super HENC Calibration Extension Complete | Rationale | allow 20+/day for prescreen |
| 01720 | Super HENC Calibration Extension | Rationale | allow 20+/day for prescreen |
| 01700 | Funding Milestone for CCP | Rationale | 1:2 parents:daughters |
| 700 | Perform TRU Transfer SP OSRP Issue Debris Drums (#71) | Rationale | started mining early FY11<br>mine at 20/day, but will take longer due to circumstances beyond the pail |
| 490 | Perform TRU Transfer SP >200 mR/hr (#1) | Rationale | 20 drums/day for transfering = duration |
| 510 | Perform TRU Transfer SP No Issues (#21) | Rationale | started mining early FY11<br>mine at 20/day, but will take longer due to circumstances beyond the pail |
| 1630 | RTR Container Issues (#13) | Rationale | 1:1 parent to daughters |
| 20 | WCRRF BIO next annual update due 5/27/2012 | Rationale | 1:2 parent:daugters |
| 6860 | Facility Mod for SP Haz Cat 3 Boxes In place processing >8.2m3 (#63) | Rationale | tent set up and prep time for IPP |
| 0200 | Additional RTR Crew Qualified | Rationale | 1:2 parents:daughters |
| 5850 | Train/Qual SOMs @ Area G | Rationale | 4 drums/day with 1 crews @ WCRRF for 20/week on standard 5/8 work week<br>**80% facility availability = 3.2 drums/day or 16 drums/week |

**No WASTE - 3,706 Commitment**

**WCRRF**

| | | | |
|---|---|---|---|
| 2210 | Process SP Retrieve and Vent BG Trenches (#40) | Rationale | 4 drums/day @ WCRRF for 28/week on 7/12 work schedule<br>**70% facility availability = 2.8 drums/day or 19.6 drums/week<br>(720 drums if you add LLW = 258 days) |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| | | | 3 day lag for re-tooling |
| 1120 | Train/Qual SOMs @ WCRRF | Rationale | 4 drums/day with 1 crews @ WCRRF for 20/week on standard 5/8 work week |
| | | | **80% facility availability = 3.2 drums/day or 16 drums/week |
| 2030 | Process SP Retrieve and Vent BG Debris (#39) | Rationale | 8 drums/day @ WCRRF for 56/week on 7/12 work schedule |
| | | | **70% facility availability = 5.6 drums/day or 39.2 drums/week |
| **231** | | | |
| 5390 | Process SP Retrieve and Vent BG Cemented Cans (#32) | Rationale | 4 drums/day production rate with 1 crew on 4/10 work week = 16 drums/week |
| | | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 5660 | Process SP Retrieve and Vent BG CIN Mon (#42) | Rationale | production rate of 8 containers/day with one crew on 4/10 schedule = 24/week |
| | | | **80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 4930 | Process SP WIPP-WAC (Cin Cans) (#27) | Rationale | 8 drums/day with one crew = 32 drums/week |
| | | | **80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 4980 | Process SP Multiple Issues CIN Cans (#59) | Rationale | 4 drums/day production rate with 1 crew on 4/10 work week = 16 drums/week |
| | | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 4960 | Process SP NDA-Unc CIN Cans (#58) | Rationale | 4 drums/day production rate with 1 crew on 4/10 work week = 16 drums/week |
| | | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 4920 | Process CIN01 SP CIN Cans Overweight (#38) | Rationale | 4 drums/day production rate with 1 crew on 4/10 work week = 16 drums/week |
| | | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 4890 | Process SP Unvented CIN Cans (#37) | Rationale | production rate of 6 containers/day with one crew on 4/10 schedule = 24/week |
| | | | **80% facility availability = 4.8 drums/day or 19.2 drums/week |
| 4870 | Process SP CIN01 Container Issues (#36) | Rationale | 8 drums/day with one crew = 32 drums/week |
| | | | **80% facility availability = 6.4 drums/day or 25.6 drums/week |
| | | | 5 day lag for re-tool fac. after CIN MON #34 |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 5530 | Process SP Retrieve and Vent BG Solids (#41) | Rationale | production rate of 8 containers/day with one crew on 4/10 schedule = 24/week |
| | | | **80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 3000 | Process SP Overweight CIN Mon (#35) | Rationale | 4 drums/day production rate with 1 crew on 4/10 work week = 16 drums/week |
| | | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 3040 | Process SP Unvented CIN Mon (#34) | Rationale | 8 drums/day with one crew = 32 drums/week |
| | | | **80% facility availability = 6.4 drums/day or 25.6 drums/week |
| | | | have to finish after venting |
| 2980 | Process CIN01 Lead Monoliths (#7) | Rationale | 12 drums/day on 4/10 work week = 48 drums/week |
| | | | **80% facility availability = 9.6 drums/day or 38.4 drums/week |
| 2940 | Process SP CIN Monoliths (#6) | Rationale | 12 drums/day on 4/10 work week = 48 drums/week |
| | | | **80% facility availability = 9.6 drums/day or 38.4 drums/week |
| 2920 | Process SP CIN02 Container Issues (#5) (AG Cement-Mono) | Rationale | 10 drums/day on 4/10 work week = 40 drums/week |
| | | | **80% facility availability = 8 drums/day or 32 drums/week |
| | | | 182 85 gals |
| | | | 6 110 gals |
| | | | 62 55 gals |
| 0195 | Complete Americium Box Disposition | Rationale | 10 drums/day on 4/10 work week = 40 drums/week |
| | | | **80% facility availability = 8 drums/day or 32 drums/week |
| | | | 182 85 gals |
| | | | 6 110 gals |
| | | | 62 55 gals |
| 4020 | Process SP Misc. Issues Solids (#30) @ 231 | Rationale | 4 drums/day with one crew = 16 drums/week |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| | ( ) @ | | **80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 3970 | Process SP H-Gas Solids (#31) @ 231 | Rationale | 4 drums/day with one crew = 16 drums/week<br>**80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 3980 | Process SP High NDA-RAD Solids (#25) @ 231 | Rationale | 4 drums/day with one crew = 16 drums/week<br>**80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 3890 | Process SP >200 mR/hr Solids (#24) @ 231 | Rationale | 8 drums/day with one crew = 32 drums/week<br>**80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 3850 | Process SP Unvented Solids (#22) @ 231 | Rationale | 8 drums/day with one crew = 32 drums/week<br>**80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 3900 | Process SP PID in Matrix Solids (#29) @ 231 | Rationale | 4 drums/day with one crew = 16 drums/week<br>**80% facility availability = 3.2 drums/day or 12.8 drums/week |
| 3840 | Process SP Container Solids (#26) @ 231 | Rationale | 8 drums/day with one crew = 32 drums/week<br>**80% facility availability = 6.4 drums/day or 25.6 drums/week |
| 3930 | Process SP Multiple Issues Solids (#33) @ 231 | Rationale | 4 drums/day with one crew = 16 drums/week<br>**80% facility availability = 3.2 drums/day or 12.8 drums/week |
| **375** | | | |
| 7590 | Process SP BG - CMPs (#52) | Rationale | 0.40/day x 2 crews = 0.80/day<br>**80% facility availability = .64/day or 3.2 boxes/week<br>3 day lag for re-tooling for Bolas Grande |
| 7870 | Process SP BG - Hot Cell Liners (#53) | Rationale | production rate of .5 containers/day with two crews on standard 5/8 schedule = 2.5/week<br>**80% facility availability = .4/day or 2 boxes/week |
| 8160 | Process SP BG - TRU (RH-17th) Canister (#55) | Rationale | production rate of .5 containers/day with two crews on standard 5/8 schedule = 2.5/week<br>**80% facility availability = .4/day or 2 boxes/week |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 8010 | Process SP BG - H3 Canisters (#54) | Rationale | production rate of .5 containers/day with two crews on standard 5/8 schedule = 2.5/week<br>**80% facility availability = .4/day or 2 boxes/week |
| **412** | | | |
| 7730 | Process SP BG -Haz Cat 3 Boxes 412 <8.2m^3 (#51) | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day; 50 Parents/0.5 = 100 days<br>**80% facility availability = .4/day or 2 boxes/week |
| **RANT** | | | |
| 8400 | Start Shipping AG MLLW Drums | Rationale | 22 containers shipped/day |
| 8430 | Shipping BG MLLW Drums Complete | Rationale | 22 containers shipped/day |
| 8420 | Ship SP BG MLLW Drums (#61) | Rationale | 22 containers shipped/day |
| 8410 | Ship SP AG MLLW Drums (#60) | Rationale | 22 containers shipped/day |
| 9960 | Ship SP BG Boxes - TRU (RH-17th) Canister (#55) | Rationale | production rate is to ship 6 containers/day |
| 9950 | Ship SP BG Boxes - H3 Canisters (#54) | Rationale | production rate is to ship 6 containers/day |
| 9940 | Ship SP BG Boxes - Hot Cell Liners (#53) | Rationale | production rate is to ship 6 containers/day |
| 9930 | Ship SP Retrieve and Vent BG Solids (#41) | Rationale | 22 containers shipped/day |
| 9910 | Ship SP Retrieve and Vent BG CIN Mons (#42) | Rationale | 4 drums into an SWB = 90.25 SWBs to ship |
| 9920 | Ship SP Retrieve and Vent BG Cemented Cans (#32) | Rationale | 4 drums into 1 SWB = 16 SWB<br>4 SWB/shipment |
| 9900 | Ship SP Retrieve and Vent BG Debris (#39) | Rationale | 22 containers shipped/day |
| 9890 | Ship SP BG Boxes - CMPs (#52) | Rationale | production rate is to ship 6 containers/day |
| 9880 | Ship SP BG -Haz Cat 3 Boxes 412 <8.2m^3 (#51) | Rationale | production rate is to ship 6 containers/day |
| 9870 | Ship SP BG MLLW Boxes <8.2 m^3 (#65) | Rationale | |
| 9860 | Ship SP Retrieve and Vent BG Trenches (#40) | Rationale | 12 containers per shipment |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| | ( ) | | 4:1 daughter:parents based on 668 Leg. TRU drums |
| 9840 | Ship SP NDA-Unc CIN Cans (#58) | Rationale | 1 drum will be added to an SWB |
| 9820 | Ship SP CIN Cans Overweight (#38) | Rationale | 4 drums/SWB = 1 SWB |
| 9810 | Ship SP CIN Unvented CIN Cans (#37) | Rationale | 4 drums into 1 SWB = 62.5 SWBs<br>4 SWB/shipment |
| 9800 | Ship SP SP CIN01 Container Issues (#36) | Rationale | 4 drums per SWB = 129<br>4 swb/shipment |
| 0148 | Ship SP AG AG Solids SWB-OP (#73) | Rationale | 38 SWBs w/4 drums in each |
| 9750 | Ship SP Bolas Grande (#49) | Rationale | |
| 9770 | Ship SP Caustic Tank (#50) | Rationale | 1 container/shipment |
| 9640 | Ship SP Container Issues Solids (#26) | Rationale | |
| 9620 | Ship SP Waiting to Ship AG Solids (#28) | Rationale | |
| 0198 | Ship 55 gal SP CIN01 Lead Monoliths (#7) | Rationale | 10 swbs and assume 55 gals will ship as is<br>4 swb/shipment & 15 drums/shipment 34.7 + 2.5=37.2 |
| 9590 | Ship SWB for SP CIN01 Lead Monoliths (#7) | Rationale | 10 swbs and assume 55 gals will ship as is<br>4 swb/shipment & 15 drums/shipment 34.7 + 2.5=37.2 |
| 9580 | Ship SP CIN Monoliths (#6) | Rationale | 18 drums/shipment |
| 9570 | Ship SP CIN02 Container Issues (#5) (AG Cement-Mono) | Rationale | 18 drums/shipment due to weight issues<br>47 swbs to ship from 85/110 gal drums<br>61 55 gal drums to ship |
| 062 | Ship SP CIN01 No Issues (#67) | Rationale | 18 drums/shipment |
| 9370 | FY11 Drums Shipped Prior to status (#66) | Rationale | |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| **Dome 33** | | | |
| 2200 | Vent SP Retrieve and Vent BG Trenches (#40) | Rationale | vent 4/day with one crew (to match processing rate and retrieval rate) |
| 4860 | Vent SP Unvented CIN Cans (#37) | Rationale | vent 8/day with one crew |
| 2020 | Venting Pit 9 Retrievals | Rationale | vent @ the rate of 16 drums/day w/2 creww on 7/12 schedule<br>80% facility avail. = 12.8 drums/day |
| 3070 | Vent Drums for SP Unvented CIN Mon (#34) | Rationale | vent @ the rate of 8 drums/day on standard 4/10 work week<br>80% facility avail. = 6.4 drums/day = 25.6/wk |
| 3810 | Venting SP Unvented Solids (#22) | Rationale | vent @ the rate of 8 drums/day on standard 4/10 work week<br>80% facility avail. = 6.4 drums/day = 25.6/wk |
| **HENC** | | | |
| 5450 | HENC SP Retrieve and Vent BG Cemented Cans (#32) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 5710 | HENC SP Retrieve and Vent BG CIN Mon (#42) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 2250 | Calibratoin extension for 1,200 Pe-Ci @ HENC (placeholder) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 2290 | HENC SP Retrieve and Vent BG Trenches (#40) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 5580 | HENC SP Retrieve and Vent BG Solids (#41) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 1470 | HENC SP NNG 1-200 (#NNG) | Rationale | HENC rate is 18/day, we use 80% production rate so that equals 14.4/day |
| 01 | HENC SP NNG 1-200 (#NNG-FY12) | Rationale | HENC rate is 18/day, we use 80% production rate so that equals 14.4/day |
| 011 | HENC SP NNG 1-200 (#NNG-FY13) | Rationale | HENC rate is 18/day, we use 80% production rate so that equals 14.4/day |
| 2080 | HENC SP Retrieve and Vent BG Debris (#39) | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 4190 | HENC SP >200 mR/hr Solids (#24) | Rationale | 18 drums/day @ 80% production rate = 14.4 drums/day |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| **S-HENC** | | | |
| 0201 | Issue Cert Letter Super HENC High Density Tier I | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 2240 | Define Scope/Schedule for HENC II Refurb | Rationale | HENC production rate is 18 drums/day operating at 80% capacity = 14.4/day |
| 2260 | Super HENC Calibration Runs | Rationale | |
| 0145 | S-HENC SP AG AG Solids SWB-OP (#73) | Rationale | HENC @ rate of 5 SWBs/day |
| 8380 | S-HENC SP BG MLLW Boxes <8.2 m^3 (#65) | Rationale | HENC @ rate of 5 SWBs/day |
| 7630 | S-HENC SP BG Boxes - CMPs (#52) | Rationale | HENC @ rate of 5 SWBs/day |
| 7410 | S-HENC SP Bolas Grande (#49) | Rationale | HENC @ rate of 5 SWBs/day |
| 7470 | S-HENC SP Caustic Tank (#50) | Rationale | HENC @ rate of 5 SWBs/day |
| 7910 | S-HENC SP BG Boxes - Hot Cell Liners (#53) | Rationale | HENC @ rate of 5 SWBs/day |
| 8200 | HENC SP BG Boxes - TRU (RH-17th) Canister (#55) | Rationale | HENC @ rate of 5 SWBs/day |
| 8050 | S-HENC SP BG Boxes - H3 Canisters (#54) | Rationale | HENC @ rate of 5 SWBs/day |
| 7770 | S-HENC SP BG -Haz Cat 3 Boxes 412 <8.2m^3 (#51) | Rationale | HENC @ rate of 5 SWBs/day |
| **RTR** | | | |
| 5700 | RTR SP Retrieve and Vent BG CIN Mon (#42) | Rationale | 1:1 put 4 into an SWB<br>16/day |
| 2270 | PreCert SP Retrieve and Vent BG Trenches (#40) | Rationale | 20/day |
| 2280 | RTR SP Retrieve and Vent BG Trenches (#40) | Rationale | 1:4 parent to daughter on average |
| 5570 | RTR SP Retrieve and Vent BG Solids (#41) | Rationale | 16/day 1:1 ratio |
| 1460 | RTR SP NNG 1-200 (#NNG) | Rationale | RTR rate is 20/day, we use an 80% production rate so that equals 16/day |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 010 | RTR SP NNG 1-200 (#NNG-FY13) | Rationale | RTR rate is 20/day, we use an 80% production rate so that equals 16/day |
| 00 | RTR SP NNG 1-200 (#NNG-FY12) | Rationale | RTR rate is 20/day, we use an 80% production rate so that equals 16/day |
| 2070 | RTR SP Retrieve and Vent BG Debris (#39) | Rationale | 1:1.5 parent to daughters on average |
| 3080 | Prescreen 85 gals SP CIN02 Container Issues (#5) (AG Cement-Mono) | Rationale | prescreen at rate of 20/day (only on fridays)<br>189 drums/20 = 48 days<br>6 are 110s |
| 3180 | RTR SP CIN Monoliths (#6) | Rationale | 1:1 parent to daughter ratio<br>assume majority pass pre cert |
| 3170 | PreCert of SP CIN Monoliths (#6) | Rationale | 55 drums @ 20/day (M-Th)<br>*all 55 gals. |
| 3110 | 55 gal PreCert SP CIN02 Container Issues (#5) (AG Cement-Mono) | Rationale | 61 55 gals<br>16 drums/day M-Th = 4 days |
| 057 | PreCert of SP CIN01 No Issues (#67) | Rationale | 55 drums @ 20/day (M-Th)<br>*all 55 gals. |
| 4170 | RTR SP >200 mR/hr Solids (#24) | Rationale | 20 drums/day @ 80% = 16/day |
| 4080 | RTR SP AG Solids No Issues (#56) | Rationale | 20 drums/day @ 80% efficiency = 16/day<br>1:1 parent:daughters |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 4110 | RTR Container Solids (#26) | Rationale | 1:1 parent:daughters |
| **HE-RTR** | | | |
| 5440 | HE-RTR SP Retrieve and Vent BG Cemented Cans (#32) | Rationale | 1;1 put 4 daughters into 1 SWB<br>16/day |
| 5690 | Prescreen SP Retrieve and Vent BG CIN Mon (#42) | Rationale | 16/day |
| 5210 | HE-RTR SP CIN Cans Overweight (#38) | Rationale | 1:1<br>put into 1 SWB<br>Char. 20/day |
| 5170 | HE-RTR SP Unvented CIN Cans (#37) | Rationale | 1:1<br>4 daughters into 1 SWB |
| 5130 | RTR SP SP CIN01 Container Issues (#36) | Rationale | 1:1 parents:daughters<br>RTR 20/day |
| 5160 | PreCert 55 gal SP Unvented Cans (#37) | Rationale | Pre-screen at rate of 20/day for HE-RTR |
| 5090 | Prescreen 85 gals SP CIN Cans Overweight (#38) | Rationale | Pre-screen at rate of 5/day for HE-RTR |
| 5080 | Prescreen 85 gal SP Unvented CIN Cans (#37) | Rationale | Pre-screen at rate of 16/day for HE-RTR |
| 5110 | Prescreen 85 gals SP CIN01 Container Issues (#36) | Rationale | Pre-screen at rate of 20/day for HE-RTR<br>80% = 16/day<br>516 are 85 gal or other |
| 0150 | PreCert 55 gal SP NDA-Unc Cans (#58) | Rationale | 1 55 gal drum = 1 day duration |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 3220 | Prescreen 85 gal SP CIN01 Lead Monoliths (#7) | Rationale | Pre-screen at rate of 16/day for HE-RTR 2 days/wk = 32/wk |
| 3320 | HE-RTR SP Unvented CIN Mon (#34) | Rationale | 8 containers into 2 SWBs |
| 3240 | HE-RTR CIN01 Lead Monoliths (#7) | Rationale | 3 containers into 1 SWB = 10 SWBs from 29 85 gals<br>Char. 6 SWB/day 4 days/wk = 24 SWBs/wk |
| 3120 | HE-RTR SP CIN02 Container Issues (#5) (AG Cement-Mono) | Rationale | 16/day<br>177 85 gals + 12 110 gal will produce 47 SWBs (w/4 drums in each) |
| 3280 | Prescreen HE-RTR SP (#34) Unvented CIN Mon | Rationale | 8 containers |
| 3230 | PreCert 55 gal SP CIN01 Lead Monoliths (#7) | Rationale | Pre-Cert at rate of 16/day for HE-RTR 2 days/wk = 32/wk=82 days |
| 0144 | HE-RTR SP AG AG Solids SWB-OP (#73) | Rationale | 151 drums/4 per SWB = 38 SWB<br>8 swb/day 80% efficiency = 6.4 swb/day 3days/wk = 19.2swb/wk |
| 8360 | Pre-Screen SP BG MLLW Boxes <8.2 m^3 (#65) | Rationale | characterize @ rate of 6/day |
| 8370 | HE-RTR SP BG MLLW Boxes <8.2 m^3 (#65) | Rationale | characterize @ rate of 6/day |
| 7620 | HE-RTR SP BG Boxes - CMPs (#52) | Rationale | characterize @ rate of 6/day<br>1:5 parents:daughters |
| 7400 | HE-RTR SP Bolas Grande (#49) | Rationale | 1:1 parents:daughters (1 bolas to 1 swb) |
| 7900 | HE-RTR SP BG Boxes - Hot Cell Liners (#53) | Rationale | characterize @ rate of 6/day<br>1:2 parent:daughters |
| 8190 | HE-RTR SP BG Boxes - TRU (RH-17th) Canister (#55) | Rationale | characterize @ rate of 6/day |
| 8040 | HE-RTR SP BG Boxes - H3 Canisters (#54) | Rationale | characterize @ rate of 6/day<br>1:1 H3 to SWB |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| 7760 | HE-RTR SP BG -Haz Cat 3 Boxes 412 <8.2m^3 (#51) | Rationale | characterize @ rate of 6/day<br>1:2 parents:daughters |
| 5230 | RTR SP NDA-Unc CIN Cans (#58) | Explanation | 1:1<br>put in with overweights to make 1 SWB |
| **LANLNDA** | | | |
| 5430 | Prescreen SP Retrieve and Vent BG Cemented Cans (#32) | Rationale | 70/day but match production rate of 20/day for mining |
| 5560 | Prescreen SP Retrieve and Vent BG Solids (#41) | Rationale | 70/day but match production rate of 20/day for mining |
| 2060 | LANL Prescreen SP Retrieve and Vent BG Debris (#39) | Rationale | 70/day but match production rate |
| **FGA** | | | |
| 1480 | FGA SP NNG 1-200 (#NNG) | Rationale | FGA rate is 20 drums/day, we use an 80% production rate = 16/day |
| 012 | FGA SP NNG 1-200 (#NNG-FY13) | Rationale | FGA rate is 20 drums/day, we use an 80% production rate = 16/day |
| 02 | FGA SP NNG 1-200 (#NNG-FY12) | Rationale | FGA rate is 20 drums/day, we use an 80% production rate = 16/day |
| 4210 | FGA SP >200 mR/hr Solids (#24) | Rationale | 20 drums/day with an 80% production rate = 16/day |
| **230** | | | |
| 8330 | Process SP BG MLLW Boxes <8.2 m^3 (#65) | Rationale | 0.25 Boxes/day x 2 crews = 0.50 Boxes /day; 26 Parents/0.5 = 52 days<br>**80% facility availability = .4/day or 2 boxes/week |
| **IPP** | | | |
| 7170 | Process SP Bolas Grande (#49) | Rationale | cut |
| 7190 | Process SP Caustic Tank (#50) | Explanation | 3 day lag before Hot Cell Liners to Re-Tool |

# Activity Notebook

**WASTE - 3,706 Commitment**

**Operating Facility**

| Activity ID | Activity | Notebook Topic | Notebook Description |
|---|---|---|---|
| **No Operating Facility** | | | |
| 2190 | Mining for SP Retrieve and Vent BG Trenches (#40) | Rationale | 4 drums/day with 2 crews for retrieval (720 drums total including LLW) |
| | | | 30 gal drums placed inside 55 gal drum during retrieval |
| 4680 | Perform TRU Transfer SP CIN Cans Overweight (#38) | Rationale | 20 containers transferred/day with one crew |
| 4600 | Perform TRU Transfer SP Unvented CIN Cans (#37) | Rationale | 20 containers transferred/day with one crew |
| 4830 | Perform TRU Transfer SP CIN01 Container Issues (#36) | Rationale | 20 containers transferred/day with one crew |
| 5520 | Perform TRU Transfer SP Retrieve and Vent BG Solids (#41) | Rationale | 20 containers transferred/day with one crew |
| 2010 | Mining for Pit 9 Retrievals | Rationale | Pit 9 retrieval will take 9 months (first 3 qtrs of FY13) |
| | | | retrieve at 20/day (all containers = 3,878) |
| 3630 | Perform TRU Transfer SP Unvented Solids (#22) | Rationale | 20 drums/day for transfers |
| 3670 | Perform TRU Transfer SP >200 mR/hr Solids (#24) | Rationale | 20 drums/day for transfers |
| 7580 | Perform TRU Transfer SP BG Boxes - CMPs (#52) | Rationale | 2 boxes transferred/day with one crew |
| 7860 | Perform TRU Transfer SP BG Boxes - Hot Cell Liners (#53) | Rationale | 2 containers transferred/day with one crew |
| 8150 | Perform TRU Transfer SP BG Boxes - TRU (RH-17th) Canister (#55) | Rationale | 2 containers transferred/day with one crew |
| 8000 | Perform TRU Transfer SP BG Boxes - H3 Canisters (#54) | Rationale | 2 containers transferred/day with one crew |

# Appendix F

## Quantitative Risk Summary
## Legacy Waste Disposition Project

# Qualitative Risk Summary for PBS VL-LANL-0013

## Operations

**PBS 013**

| Risk ID | Status | Project Description | Risk Score | Project Begin Date | Project End Date |
|---|---|---|---|---|---|
| 09-11 | Open | Off-Normal event at LANL prevents waste shipments to WIPP (e.g. prohibited items, some shielded drums discovered) . | High | 10/1/2010 | 7/1/2016 |
| 09-13 | Open | Numerous single-point failures within current program cause shut down of operation. (facilities, equipment, personnel). | High | 10/1/2010 | 7/1/2016 |
| 36-05 | Open | The SB for CMP will require additional engineering design, restrictions, or modifications of procedures, training, and qualification standards. | Moderate | 10/2/2006 | 9/30/2009 |
| 37-23 | Open | Tritium torpedo containers are breeched and require additional reinforcement. | Low | 11/7/2011 | 12/24/2014 |
| 38-06 | Open | Contractor personnel are not available with LANL site specific training for CH Retrieval (CMPs). | Low | 10/3/2011 | 10/2/2014 |
| 38-14 | Open | Schedule slippages and competing EM activities cause activity stacking,resource shortages and increased costs. | Low | 10/1/2011 | 9/22/2012 |
| 38-18 | Open | CMPs contain TRU quantities of material that is not solidified cement matrix resulting in spread of contamination during retrieval. | Low | 10/1/2011 | 9/22/2012 |
| 38-25 | Open | There are no domes open for processing operations for CMPs. | High | 10/1/2011 | 9/22/2012 |
| 38-31 | Open | Additional samples of the CMP's are required in excess of the original 5 planned samples. | Low | 10/1/2011 | 9/22/2012 |
| 39-19 | Open | The SB for Pit 9 identifies safety concerns that require additional engineering design, work restrictions, modifications of procedures, training, and qualification standards resulting in additional project costs. | Moderate | 10/1/2011 | 9/30/2012 |
| 44-16 | Open | We are unable to remove sodium contamination from the LAMPRE reactor stored in lined shafts (part of the 33 Shafts project scope) resulting in additional project costs/schedule delays. | Low | 10/1/2011 | 9/1/2007 |
| 45-01 | Open | Contamination is released due to use of heavy equpment for size reduction of the Hot Cell Liners. | Low | 10/1/2011 | 8/28/2009 |
| 47-02 | Open | Pueblo Involvement causes delays to project (San Ildefonso is adjacent to waste area.) | Low | 10/2/2006 | 9/22/2010 |
| 72-04 | Open | Inaccurate generator characterization data leads to a violation of the WIPP RCRA Permit. | High | 10/1/2009 | 3/1/2010 |
| 72-06 | Open | Pathways for stabilization/disposition of problematic waste are not fully identified. | High | 10/1/2006 | 3/1/2010 |
| 72-08 | Open | Confirmation of security risk discovered within a drum. | Moderate | 10/1/2009 | |
| 74-01 | Open | Radiological release occurs during repackaging/remediation SSSR of waste containers shutting down processing facility and resulting in additional project costs. | Moderate | 10/1/2010 | 11/19/2011 |
| 74-03 | Open | Radiological release occurs during processing of fiberglass-reinforced plywood boxes (FRPs) resulting in additional project costs. | Moderate | 10/1/2006 | 9/22/2010 |

**PBS 013**

| Risk ID | Status | Project Description | Risk Score | Project Begin Date | Project End Date |
|---|---|---|---|---|---|
| 74-10 | Open | TA-54 Building 412 not heated or cooled causing work delays. | Low | 3/1/2008 | 9/22/2010 |
| 74-13 | Open | Adequate historical data does not exist for above ground stored waste. | Low | 10/1/2009 | 9/22/2010 |
| 74-28 | Open | Confirmation of classied material or other security risk is discovered within a waste container resulting in work stoppage and additional project costs. | Low | 10/1/2010 | 11/19/2011 |
| 91-01 | Open | There is not adequate storage space for retrieved drums during retrieval activities. | Moderate | 10/1/2006 | 3/31/2010 |
| 92-03 | Open | TRUPACT shipping containers are not available when needed impacting planned production. | Low | 10/1/2010 | 11/19/2011 |
| 98-07 | Open | The Safety Basis for 33 Shafts and Hot Cell Liners will identify safety concerns that require additional engineering designs, facility upgrades, restrictions, or modifications of procedures, training, and qualification standards resulting in additional project costs. | Moderate | 10/1/2009 | 8/28/2008 |
| PRO-001 | Open | Lengthy review and approval of current facility safety basis and implementation/conduct of operations for readiness causes schedule delays. | Moderate | 10/1/2010 | 11/9/2011 |
| PRO-036 | Open | Advances in radioactive and chemical characterization method direction limits change waste type definitions currently planned in TSD's. | Low | 10/1/2012 | 10/1/2015 |
| PRO-060 | Open | TA-54 material-at-risk (MAR) or storage capacity limits adversely impact project cost or schedule. | High | 10/1/2009 | 10/15/2015 |
| PRO-062 | Open | Site support services and infrastructure resources are not sufficient to support project schedule. | Low | 10/1/2009 | 10/15/2015 |
| PRO-063 | Open | Waste containers are not able to be characterized, certified, and shipped to WIPP according to baseline schedule. | Moderate | 10/1/2010 | 11/9/2010 |
| PRO-073 | Open | The rate of drum/container degradation of above-ground stored waste is higher than anticipated causing schedule delays. | Low | 10/1/2010 | 11/9/2011 |
| PRO-088 | Open | Pathways for stabilization and/or disposition of problematic waste are not fully identified resulting in additional project costs. | High | 10/1/2012 | 10/1/2015 |
| PRO-089 | Open | Process disruption occurs at WCCR, RANT or Area G (transportation, contamination, etc.) resulting in stand down or shut down of operations. | Moderate | 10/1/2010 | 11/9/2011 |
| PRO-090 | Open | Current legacy facilities are not fire protection compliant resulting in requirements for significant upgrades. | High | 10/1/2010 | 1/1/2015 |
| PRO-091 | Open | NNSA annual budgets do not match current EM funding plan resulting in Program delays. | Moderate | 1/1/2012 | 1/1/2015 |
| PRO-092 | Open | Pajarito Road shut down for CMRR effects LWD project abillity to access WCCR facility resulting in schedule delays and additional costs. | Moderate | 1/1/2012 | 1/1/2015 |
| PRO-093 | Open | Storage and processing space is not adequate to support closure of domes and receipt of new waste shipments. | Moderate | 1/1/2012 | 1/1/2015 |

# Qualitative Risk Summary for PBS VL-LANL-0013

## Capital Asset

**PBS 013**

| Risk ID | Status | Project Description | Risk Score | Project Begin Date | Project End Date |
|---|---|---|---|---|---|
| 37-01 | Open | Sub-contractor personnel available with LANL site specific training are not available for CH Retrieval (Trenches A-D). | Low | 11/7/2011 | 12/24/2014 |
| 37-14 | Open | Retrieving Trenches A-D drums from casks results in Pu-238 or other waste contamination resulting in schedule delays and additional project costs. | Moderate | 11/7/2011 | 12/24/2014 |
| 37-15 | Open | Readiness assessment requires additional facility controls resulting in upgrades to retrieval process (Trenches A-D Retrieval) which will increase project cost and result in schedule delays. | Moderate | 11/7/2011 | 12/24/2014 |
| 37-16 | Open | The existing above ground MAR is not reduced to acceptable levels to allow Trenches A-D Retrieval. | Low | 11/7/2011 | 12/24/2014 |
| 37-27 | Open | The Safety Basis for Trenches A-D identifies additional safety concerns that require additional engineering design, restrictions or modifications of procedures, training, and qualification standards which results in additional project costs. | Moderate | 11/7/2011 | 12/24/2014 |
| 37-28 | Open | Availability of low-level waste (LLW) disposal facility delays Trenches A-D retrieval activities. | Moderate | 11/7/2011 | 12/24/2014 |
| 37-29 | Open | Storage space availability is not adequate to initiate retrieval operations for Trenches A-D. | Moderate | 11/7/2011 | 12/24/2014 |
| 38-05 | Open | Loss of Structural Integrity of CMPs will result in additional handling and contamination during retrieval. | Low | 10/3/2011 | 10/2/2014 |
| 38-09 | Open | During CMP retrieval operations Pit 29 is breached resulting in regulatory implications and additional project costs. | Low | 10/3/2011 | 10/2/2014 |
| 38-23 | Open | Readiness assessment forCMP Retrieval identifies additional safety concerns that require additional engineering design, restrictions, or modifications of procedures, training, and qualification standads which result in additional field requirements and project costs. | Low | 10/3/2011 | 10/2/2014 |
| 38-34 | Open | Availability of low-level waste (LLW) disposal facility delays CMP Retrieval activities. | Moderate | 10/1/2011 | 10/2/2014 |
| 38-35 | Open | Storage space availability is not adequate to initiate retrieval operations for Corrugated Metal Pipes. | Moderate | 10/3/2011 | 1/2/2013 |
| 39-02 | Open | Site survey discovers contamination in Pit 9 resulting in schedule delays and additional project costs. | High | 10/3/2011 | 1/2/2013 |
| 39-13 | Open | Pit 9 Retrieval drums are over pressurized resulting in additional repacking costs/schedule delays. | Moderate | 10/3/2011 | 1/2/2013 |
| 39-14 | Open | Pit 9 FRPs and drum integrity has been deteriorated resulting in the spread of contamination during retrieval. | Moderate | 10/3/2011 | 1/2/2013 |
| 39-17 | Open | DOE requires an ORR for Pit 9 Retrieval resulting in additional costs and schedule impacts. | Moderate | 10/1/2011 | 3/1/2010 |

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| Risk ID | Status | Project Description | Risk Score | Project Begin Date | Project End Date |
|---|---|---|---|---|---|
| 39-20 | Open | Availability of low-level waste (LLW) disposal facility delays Pit 9 Retrieval activities. | Moderate | 10/3/2011 | 1/2/2013 |
| 39-21 | Open | Storage space availablity is not adequate to initiate retrieval operations for Pit 9. | Moderate | 10/3/2011 | 1/2/2013 |
| 44-17 | Open | Integrity of the shafts has been breeched resulting in additional costs/schedule delays. | Moderate | 10/1/2011 | 9/1/2007 |
| 45-08 | Open | Availability of low-level waste (LLW) disposal facility delays Hot Cell Liners' Retrieval activities. | Moderate | 12/1/2011 | 3/29/2013 |
| 45-09 | Open | Storage space availability is not adequate to initiate retrieval operations for Hot Cell Liners. | Moderate | 12/1/2011 | 3/29/2013 |
| 45-10 | Open | The Safety Basis for Hot Cell Liners identifies additional safety concerns that require additional engineering design, restriction or modifications of procedures, training, and qualification standards resulting in additional project costs. | Moderate | 12/1/2011 | 3/29/2013 |
| 94-01 | Open | Schedule compression for retrieval projects results in congestion of roads and unavailability of equipment, personnel and facilities resulting in delays/additional costs | High | 10/3/2011 | 4/2/2012 |