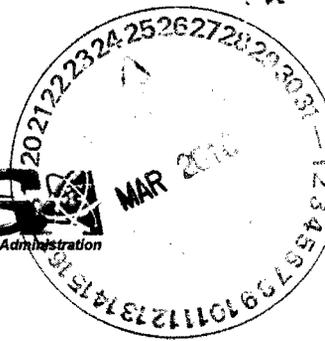




ENTERED



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Date: March 18, 2010  
Refer To: ENV-RRO-10-014

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

Mr. Timothy Hall  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303

Dear Mr. Hall:

**SUBJECT: PROPOSED EXTENSION OF COMPLIANCE DATES FOR ACTIVITY 3.2 (J) IN THE LOS ALAMOS NATIONAL LABORATORY SITE TREATMENT PLAN (STP) FISCAL YEAR 2009 (FY09) UPDATE AND REVISION 20.0**

Los Alamos National Laboratory (LANL) is requesting an extension of a Compliance Plan milestone in the Site Treatment Plan (STP) for *High Activity Waste* (LA-W934). Activity 3.2 (J) requires that LANL “*complete shipping of wastes to an off-site treatment facility, or submit documentation assigning waste items to applicable treatability groups or complete parallel option.*” *High Activity Waste* is described in Section 3.2 of the Compliance Plan (Mixed Waste Requiring Further Characterization or for which Technology Assessment Has Not Been Done).

I. Compliance Dates and Waste Description

Current approved compliance date: December 31, 2010  
Proposed Revision 20 compliance date: December 31, 2013

The *High Activity Waste* items in LANL’s inventory as of September 30, 2009 are identified in Table 1.



**Table 1. High Activity Waste in LANL's MLLW Inventory with Associated EPA Codes**

Container Number	Description	Associated EPA Codes	Volume (m <sup>3</sup> )
C08199082	Lead-lined glovebox	D008	4.9843
C08199080	Lead-lined glovebox	D008	4.1064
C05179323	Lead-lined glovebox	D008	19.3900
C00130818	Tritium traps with mercury contamination and unknown radioactivity	D009	0.0125
C00130819	Tritium traps with mercury contamination and unknown radioactivity	D009	0.0100
C00130820	Tritiated squib assemblies with unknown radioactivity	D008	0.0010
C00130821	Tritiated squib assemblies with unknown radioactivity	D008	0.0010
C01136479	Portsmouth debris	D004, D007, D008	0.2082
C01136480	Portsmouth debris	D004, D007, D008	0.2082
C05180336	Portsmouth debris	D007, D008	0.2082
C06186549	High tritium with reactive lithium	D001, D003	0.1136
C06186550	High tritium with reactive lithium	D001, D003	0.1136
C07190323	Sludges from MTRU program	D009, F001, F002	0.8496
C09203611	Mole sieves and squib assemblies with very high tritium	D008	0.3215
C09203612	Mole sieves and squib assemblies with very high tritium	D008	0.3215
C09203613	Mole sieves and squib assemblies with very high tritium	D008	0.3215
C09203614	Mole sieves and squib assemblies with very high tritium	D008	0.3215

II. Treatment Process

The preferred treatment processes for the *High Activity Waste* items include sorting and segregation, macroencapsulation, amalgamation, reaction and stabilization at commercial facilities to meet LDR.

III. Availability of Commercial Facilities

LANL contacted the facilities identified in Table 2 to determine if those facilities would accept these High Activity Waste items. Commercial treatment facilities are available for most, but not all, of the waste items listed in Table 1. Perma-Fix was the only positive respondent to LANL's request for

bids and treatment options for these wastes. The Perma-Fix facilities are the only commercial facilities that have the current capability to treat and dispose of LANL's *High Activity Waste*. LANL will provide additional correspondence information at NMED's request.

**Table 2. Commercial Facilities**

<b>Commercial Facility</b>	<b>Location</b>	<b>Comments</b>	<b>Results</b>
Perma-Fix	Florida		Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
M&EC (a Perma-Fix facility)	Tennessee	Now owned by Perma-Fix	Responded with bids and timeframes, dependant on facility upgrades and changes to their Authorization Basis; existing commitments prevent M&EC from accepting this waste until they have completed their existing commitments
DSSI (a Perma-Fix facility)	Tennessee	Now owned by Perma-Fix	Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
Perma-Fix Northwest	Washington	Now owned by Perma-Fix	Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
Waste Control Specialists	Texas		Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
EnergySolutions of Utah	Utah		Not able to accept Class C waste; unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license;
Bear Creek Operations	Tennessee	Now owned by EnergySolutions	Not able to accept Class C waste; unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
Nuclear Fuel Services	Tennessee		Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
Integrated Environmental Services	Tennessee		Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.
NNSI	Texas		Unwilling or unable to get the necessary exceptions or changes to their RCRA Permit or NRC license.

#### IV. Justification for Extension of Activity 3.2(J)

Three items (C01136479, C01136480, and C05180336) cannot be treated until the appropriate Perma-Fix facility has sufficient capacity to accept those items. Perma-Fix representatives have stated that, due to current Authorization Basis limitations, the facility is not likely to be able to accept those items before 2012.

Due to discrepancies in the documentation associated with several of the waste containers, LANL must provide additional characterization data in order to meet Perma-Fix's acceptance criteria and to ensure proper shipping according to DOT standards. LANL intends to perform additional characterization of the waste in four containers (C09203611, C09203612, C09203613, C09203614) at the WETF facility at TA-16, where the waste was generated. Although TA-16 is not currently authorized or operational to perform the characterization, it already possesses the engineering controls needed to handle tritium waste.

Before TA-16 can accept the waste, it must update its Authorization Basis to ensure that the engineering and administrative controls are appropriate for the kinds of hazards present in the waste. The process for updating the safety basis includes a phased approach of testing the capabilities of the facility for handling the waste. The safety basis is then customized for the unique characteristics of the waste that would be characterized and repackaged. At least eight months will be required for an approved Authorization Basis change to allow the facility to repackage and characterize these waste containers. Once the Authorization Basis is in place, LANL must arrange the transport of each container to the characterization facility in such a way that it is not removed from a permitted TSDF for more than one day (24 hour period).

TA-16 already possesses the calorimetry capability that is needed to analyze high levels of tritium that may be present, as well as the gloveboxes to protect workers, and the monitored stack to measure any tritium emissions. TA-54 lacks the calorimetry capability, the engineering controls, and the monitored stack needed for tritium work. Although TA-54 could be modified to perform the characterization, it would take considerably longer to purchase, fabricate, install, and obtain the Authorization Basis to operate the necessary capability than it would to perform the work at TA-16.

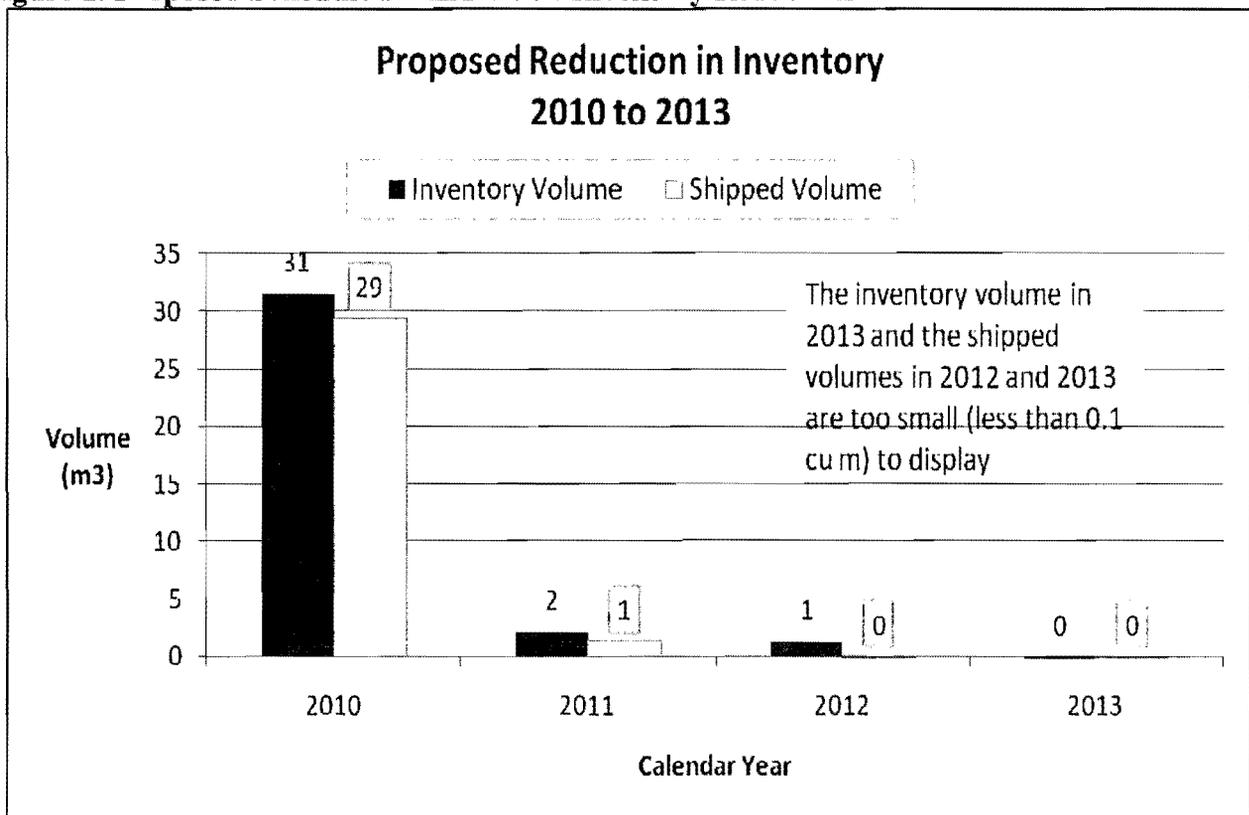
LANL intends to perform additional characterization of four waste containers (C00130818, C00130819, C00130820, C00130821) at TA-16 (or at TA-54 or another LANL facility if they can be authorized to conduct the work in a timely fashion). The additional Authorization Basis to accept the remaining containers at TA-16 or another LANL facility may not occur until the year 2013 due to the phased approach to establish the engineering and administrative controls for the Authorization Basis discussed above.

Perma-Fix expects the appropriate characterization to be completed before any arrangements are made to transport this waste. If the additional characterization demonstrates that tritium levels are significantly different from the current information, LANL may review the disposal options to determine if the waste may be treated, stored, or disposed of at another commercial facility.

LANL proposes to manage the remaining *High Activity Waste* in order to eliminate the onsite STP inventory of the *High Activity Waste* by end of 2013. First, LANL plans to characterize and repack certain containers of *High Activity Waste* in order to confirm that the most appropriate offsite treatment and disposal alternatives have been selected. The process required to characterize the waste will delay shipment until 2013. Second, LANL will continue to ship *High Activity Waste* offsite according to the schedule in Figure 1. Shipment of the remaining waste is contingent upon the Perma-Fix facility and the LANL facility having the appropriate Authorization Basis or new capabilities becoming available at other facilities.

LANL requests an extension of the milestone for shipment of the *High Activity Waste* items until December 31, 2013. Although many of the remaining items can be shipped offsite once they are more accurately characterized in 2010, 2011 and 2012, the currently permitted facilities may not have the capacity to accept the final waste until 2013 due to facility license limitations on inventory. Until that capacity is available, the only option is continued onsite storage of the waste.

**Figure 1. Proposed Schedule for LA-W934 Inventory Reduction**



In accordance with the requirements of Section XX, "*Documents, Information, and Reporting Requirements*," of the FFCO, we certify, as the project managers responsible for overseeing the implementation of the Site Treatment Plan for LANS and for Los Alamos Site Office/National Nuclear Security Administration, that, to the best of our knowledge and belief, the information in this document is true, accurate, and complete.

Sincerely,



Margaret A. Powers  
STP Project Manager  
Risk Reduction Office (ENV-RRO)  
Los Alamos National Laboratory

Sincerely,



George C. Henckel, III  
STP Project Manager  
Los Alamos Site Office  
National Nuclear Security Administration

MP/mcm

Cy: James Bearzi, NMED/HWB, Santa Fe, NM  
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James Blankenhorn, WDP-DO, J910  
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Brian P. Colby, PAD-WP, A107  
Paul Newberry, WDP-HMWO, J598  
Ellen Louderbough, LC-LESH, A187  
Dennis Hjeresen, ENV-DO, K404  
Patricia Gallagher, ENV-RRO, K404  
Peggy Powers, ENV-RRO, K404  
ENV-DO, File, J978  
ENV-RRO, File, K490  
IRM-RMMSO, A150