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NNSA National Nuclear Security Administration

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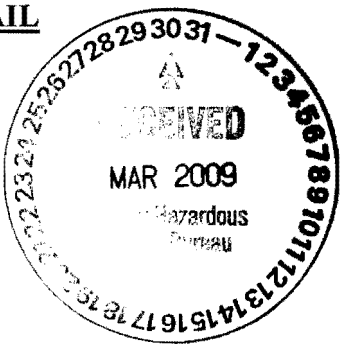
Date: March 25, 2009
Refer To: ENV-RRO-09-017

VIA HAND DELIVERY AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED



Ms. Rebecca Kay
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Ms. Kay:

SUBJECT: REQUEST FOR EXTENSION OF COMPLIANCE DATES FOR MILESTONE ACTIVITIES (3.18 AND 3.19), LOS ALAMOS NATIONAL LABORATORY, FEDERAL FACILITY COMPLIANCE ORDER, SITE TREATMENT PLAN (REVISION 18.0)

Los Alamos National Laboratory (LANL) is submitting the following updated information for each Site Treatment Plan (STP) Section milestone activity.

I.) Section 3.1.8 Compressed Gases Requiring Scrubbing, Treatability Group LA-W917
Activity 3.1.8 (A) *"Complete shipping of existing wastes to an off- site treatment facility or complete parallel option."*

Current approved compliance date: August 28, 2009.
Proposed Revision 19 compliance date: August 28, 2012.

1. Description of the waste in the treatability group:
Gas cylinders with internal radioactive contamination. Container number and volume (m^3) currently in storage:

31435

Gas cylinders with internal radioactive contamination

Container number	Volume (m^3)
C98100432	0.0020
C98100433	0.0030
C98100434	0.0030

2. **List of the EPA hazardous waste numbers associated with the wastes**
   D001

3. **Description of the treatment processes required for the treatability group:**
   The treatment process for the waste stream consisting of gas cylinders with internal radioactive contamination involves scrubbing or oxidation of the cylinder and/or a reaction to strip and recycle tritium.

4. **Full list of all commercial facilities the Respondents contacted requesting treatment and acceptance of the treatability group:**

There are eight facilities that are potential candidates for treating this waste. Perma-Fix owns a number of subsidiary facilities –Material & Energy Corporation (M&EC) in Tennessee; Diversified Scientific Services, Inc.(DSSI) in Tennessee, and Perma-Fix North West in Washington. The Perma-Fix parent facility is in Florida. Discussions with Perma-Fix included all of its subsidiary facilities. Energy Solutions, Inc in Utah also owns Bear Creek Operations in Texas.

Commercial Facility[1,2]	**Location**	**Contact Name**	**Contact telephone number**	**Comments**
Perma-Fix	Florida	Stacey McNamara Tammy Monday	865-599-0211 865-813-1309	Perma-Fix also owns the following TSDFs: Material & Energy Corporation in TN; Diversified Scientific Services, Inc. in TN; and Perma-Fix North West in WA
Waste Control Specialists	Texas	Sherrod Reavis	972-488-1495	
Energy Solutions of Utah	Utah	Jose Jerez	801-243-3506	
Bear Creek Operations	Tennessee	Jose Jerez	801-243-3506	Now owned by Energy Solutions

Commercial Facility[1,2]	Location	Contact Name	Contact telephone number	Comments
Nuclear Fuel Services	Tennessee	Norm Jacobs	423-743-2503	
Lawrence Livermore National Laboratory	California	Charley Hunt	925-422-3813	
Integrated Environmental Services	Tennessee	Jeff Gold	404-863-8175	
NSSI	Texas	Bob Gallagher	713-641-0391	

1. Also consulted with commercial and Department of Energy (DOE) facilities that have had previous successes with treating LANL waste including: the Idaho National Energy Lab's Waste Experimental Reduction facility (WERF), the Toxic Substances Control Act Incinerator at Oak Ridge (TSCAI), researchers here at LANL, American Radiation Services (ARS), Catholic University's Vitreous State Laboratory (CUA/VSL), Colorado Minerals Research Institute (CMRI), Nuclear Fuel Services (NFS), and Pacific Eco Solutions (PEcoS).

2. Also sought advice on treatment options from commercial and DOE facilities including: Oak Ridge National Laboratory, Nevada Test Site, Sandia National Laboratory, Hazen Research, StataG, Argonne/Chicago Office, and Portsmouth DOE Facility.

5. All correspondence, formal or otherwise, between LANS and the commercial facilities identified in item 4 above including the reasons for their denial of acceptance and treatment of the treatability group.

a) **Perma-Fix of Florida**. Numerous telephone, email, and personal contacts were made by the LANL Representative. Perma-Fix has declined to accept LANS waste because treatment options would involve building a special facility and Perma-Fix stated they are not interested in pursuing the necessary exceptions or changes to their Resource Conservation and Recovery Act (RCRA) Permit or Nuclear Regulatory Commission (NRC) license.

b) **Waste Control Specialists (WCS),** Texas. Numerous telephone and personal contacts were made by the LANS representative. WCS has declined to accept LANL waste because doing so would require building a special facility to treat LANL waste and permit modifications and exceptions to its RCRA Permit or NRC license.

c) **Energy Solutions of Utah.** Numerous telephone and personal contacts were made by the LANS representative. Energy Solutions declined to accept LANL waste because doing so would require building a special facility to treat LANL waste and permit modifications and exceptions to its RCRA Permit or NRC license.

d) **Bear Creek Operations in Tennessee.** Numerous telephone, email, and personal contacts were made by the LANS representative. Although Bear Creek Operations has recently obtained a new RCRA Permit that allows them to treat wastes, developing a process and issuing a cost for bid would take six months to a year. Bear Creek has determined that a Permit Modification will be necessary to treat the LANL waste, and therefore, they decline to treat LANL waste.

e) **Nuclear Fuel Services (NFS), Tennessee.** Numerous telephone and personal contacts were made by the LANL Representative. NFS has declined to accept LANL gas cylinders because the waste is not compatible with their RCRA Permit or NRC license.

f) **Lawrence Livermore National Laboratory (LLNL), California.** Email correspondence in early 2009 from Charles Hunt of LLNL state that they are unable to accept any LANL waste at this time. They will reconsider this decision in mid-2009.

g) **Integrated Environmental Services (IES), Tennessee.** Numerous telephone and personal contacts were made telephone/personal contacts made by the LANL representative. IES does not have a RCRA Permit and has not been audited or approved by the DOE Consolidated Audit Program, but they have indicated they may possibly collaborate and conduct a treatability study by working through Perma-Fix. If no other treatment options are available (with facilities that are permitted and the capability in place), LANL will explore the use of IES once they are approved to accept DOE waste.

h) **NSSI, Texas.** NSSI has shown interest in this waste stream. However, no waste has been shipped from LANL to NSSI in over ten years, and an approved audit of the facility would have to be performed to meet the requirements of DOE Order 435.1, which governs management of DOE radioactive waste. Possible treatment/recycle options have been under discussion. Pursuing these options is contingent upon NSSI obtaining the proper NRC license and permit modifications. The NNSA Los Alamos Site Office (LASO) has indicated that this is a viable option, but has not yet conducted an audit. The DOE Consolidated Audit Program has no current plans for an audit. LANS will explore assembling an audit team and performing an audit. If NSSI is granted an approval from a LASO audit, NSSI would then need to invest in the necessary equipment to process this waste. This could take an additional year or two before the LANL waste could be shipped for treatment. The earliest possible date for shipping this waste to NSSI would be FY12.

Justification for extension of Activity 3.1.8 (A).

NNSA/LANS requests the activity date be extended to August 28, 2012. An option had been developed with LLNL in California which had planned to perform a treatability study. This study would have consumed LANL's entire LA-W917 inventory. Before the cylinders could be shipped, LLNL management went through a management change in contractors and put all non-essential projects on hold indefinitely. LANL has re-established contact with Charles Hunt at LLNL to explore this option again. LLNL will reconsider this request in mid-2009.

In July 2008, LANS learned of a new option developed at Energy Solutions of Tennessee that could have treated LANL's remaining LA-W917 waste inventory. Energy Solutions officials understood their new RCRA Permit would allow them to accept and treat LANL's LA-W917 mixed low-level waste. LANL was moving forward with plans to ship the waste to Energy Solutions in August 2008. However, in early August, Energy Solutions informed LANS that they could not accept the waste because an accidental tritium release at their facility resulted in a temporary cessation of operations. LANS has

continued to pursue a treatment solution with Energy Solutions. In late October 2008, LANS learned that the regulator for Energy Solutions had determined that their current permit would not provide for treatment of this LA-W917 waste. Energy Solutions informed LANS personnel they are working with their regulator to obtain a permit modification to accommodate treatment of LANL's waste, but does not anticipate being able to accept this waste until at least 2011.

Currently no permitted treatment facilities are available to accept this waste. NNSA/LANS will continue to seek treatment options by contacting waste facilities that may be able to treat this waste type. During FY09, LANS will contact all the facilities listed in item 5 above to determine if they can treat the LA-W917 waste. LANS will also continue in FY09 to seek and contact any newly permitted mixed low-level waste facilities to determine if there are additional treatments available. Until such a treatment option is identified and secured, the only option is to continue onsite storage of the waste.

II.) Section 3.1.9 Compressed Gases Requiring Oxidation. Treatability Group LA-W918
Activity 3.1.9 (A) "*Complete shipping of existing wastes to an off- site treatment facility or complete parallel option.*"

Current approved compliance date: August 28, 2008.
Proposed Revision 18 compliance date: August 28, 2009.

1. **Description of the waste in the treatability group:**
   Gas cylinders with internal radioactive contamination. Container number and volume currently in storage:

   - Container number: C94042517
   - Volume: 0.0602 m^3

2. **List of the EPA hazardous waste numbers associated with the wastes:**
   D001

3. **Description of the treatment processes required for the treatability group:**
   The treatment process for the waste stream consisting of compressed gases requiring oxidation involves scrubbing or oxidation of the container and/or a reaction to strip and recycle tritium (or other radioactive component).

4. Full list of all commercial facilities the Respondents contacted requesting treatment and acceptance of the treatability group:

Commercial Facility[1,2]	Location	Contact Name	Contact telephone number
Perma-Fix	Florida	Stacey McNamara Tammy Monday	865-599-0211 865-813-1309
Waste Control Specialists	Texas	Sherrod Reavis	972-488-1495
Energy Solutions of Utah	Utah	Jose Jerez	801-243-3506
Bear Creek Operations	Tennessee	Jose Jerez	801-243-3506
Nuclear Fuel Services	Tennessee	Norm Jacobs	423-743-2503
Lawrence Livermore National Laboratory	California	Charley Hunt	925-422-3813
Integrated Environmental Services	Tennessee	Jeff Gold	404-863-8175
NSSI	Texas	Bob Gallagher	713-641-0391

1. Also consulted with commercial and Department of Energy (DOE) facilities that have had previous successes with treating LANL waste including: the Idaho National Energy Lab's Waste Experimental Reduction facility (WERF), the Toxic Substances Control Act Incinerator at Oak Ridge (TSCAI), researchers here at LANL, American Radiation Services (ARS), Catholic University's Vitreous State Laboratory (CUA/VSL), Colorado Minerals Research Institute (CMRI), Nuclear Fuel Services (NFS), and Pacific Eco Solutions (PEcoS).

2. Also sought advice on treatment options from commercial and DOE facilities including: Oak Ridge National Laboratory, Nevada Test Site, Sandia National Laboratory, Hazen Research, StataG, Argonne/Chicago Office, and Portsmouth DOE Facility.

5. All correspondence, formal or otherwise, between the commercial facilities and the LANL representative identified in item 4 above including the reasons for their denial of acceptance and treatment of the two treatability group.

a) **Perma-Fix of Florida.** Numerous telephone, email, and personal contacts were made by the LANS representative. Their reason for not accepting LANL waste are noted in item I.5.a) above.

b) **Waste Control Specialists, Texas.** LANS has no further written correspondence. Their reason for not accepting LANL waste is noted in item I.5.b) above.

c) **Energy Solutions of Utah.** LANS has no further written correspondence. Energy Solutions declined to accept LANL waste for the reasons outlined in item I.5.c) above.

d) **Bear Creek Operations in Tennessee.** Numerous telephone, email, and personal contacts were made by the LANS representative. Bear Creek Operations declined to accept LANL waste for the reasons outlined in item I.5.d) above.

e) **Nuclear Fuel Services, Tennessee.** LANS has no further written correspondence. NFS declined to accept LANL waste for the reasons outlined in item I.5.e) above.

f) **Lawrence Livermore, California.** In an email correspondence dated April 2, 2008, and again in early 2009, Charles Hunt of LLNL stated that LLNL was unable to accept waste for the forseeable future, but would reconsider this decision in mid-2009.

g) **Integrated Environmental Services, Tennessee.** LANS has no further written correspondence. IES's reasons for declining to accept LANL waste are outlined in item I.5.g) above.

h) **NSSI, Texas.** The possible treatment/recycle options under discussion. The successful outcome is dependent upon license and permit modifications being approved for this facility. Additionally, an audit and NNSA approval are needed. For a detailed description, refer to I.5.h) above.

Justification for extension of Activity 3.1.9 (A).

NNSA/LANS requests the activity date be extended to August 28, 2012. An option had been developed with LLNL to perform a treatability study. Arrangements were in progress, however before the cylinder could be shipped, LLNL management stopped the project. The LLNL transition to a new Prime Contractor put all non-essential projects on hold. LLNL has not determined if this project will be re-started. LANL has re-established contact with Charlie Hunt at LLNL to explore this option again in mid-2009.

In July 2008, LANS learned of a new option developed at Energy Solutions of Tennessee that could have treated LANL's remaining LA-W918 waste inventory. Under this option, Energy Solutions understood their new RCRA Permit would allow them to accept and treat LANL's LA-W918 mixed low-level waste. LANS was moving forward with plans to ship the waste in August 2008. However, in early August, Energy Solutions informed LANS they could not accept the waste because an accidental tritium release at their facility resulted in a temporary cessation of operations. LANS continued to pursue a treatment solution with Energy Solutions. In late October 2008, LANS learned the regulator for Energy Solutions determined that their current permit would not allow treatment of LANL's LA-W918 waste. Energy Solutions informed LANS personnel they are working with their regulator to obtain a permit modification to accommodate LANL's waste, but does not anticipate being able to accept this waste until at least 2011.

Currently no permitted treatment facilities are available to accept this waste NNSA/LANS will continue to seek treatment options by contacting waste facilities that may be able to treat this waste type. During FY09, LANS will contact all the facilities listed in item 5 above to determine if they can treat the LA-W918 waste. LANS will also continue in FY09 to seek and contact any newly permitted mixed low-level waste facilities to determine if there are new options available. Until such a treatment option is identified and secured, the only option is continued onsite storage of the waste.

If you have any questions, please contact Peggy Powers at 665-5717 or peggy.powers@lanl.gov or George Henckel at 606-0960 or ghenckel@doeal.gov.

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:bb

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ENV-DO, File, w/o enc., J978
ENV-RRO, File, w/enc., K490
IRM-RMMSO, w/enc., A150