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Date: OCT 21 2014
Symbol: ADESH-14-0109
LAUR: LA-UR-14-28034
Locates Action No.: N/A

Mr. Ryan Flynn, Secretary
New Mexico Environment Department
Harold Runnel Building
1190 Saint Francis Drive
P.O. Box 5469
Santa Fe, NM 87502

Dear Secretary Flynn:

Subject: Second Addendum, Reporting Additional Instances of Noncompliance with Hazardous Waste Facility Permit and Generator Requirements, Los Alamos National Laboratory

The purpose of this letter is to voluntarily report additional non-compliances with the Los Alamos National Laboratory (LANL) Hazardous Waste Permit and regulatory requirements applicable to generators under the New Mexico Hazardous Waste Act and Resource Recovery and Conservation Act (RCRA). This report is being made to the New Mexico Environment Department (NMED) by the U.S. Department of Energy National Nuclear Security Administration (NNSA), and the Los Alamos National Security, LLC (LANS) (collectively, NNSA/LANS or the Permittees). The Permittees previously self-identified and reported to NMED several non-compliances in the July 1, 2014 *Addendum to the Los Alamos National Laboratory Hazardous Waste Facility Permit Reporting on Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013* (ref: ADESH-14-030).

Permittees committed in the July 1, 2014 letter to update NMED should any additional noncompliance with Permit or other regulatory requirements be identified. Enclosure 1 to this letter provides details and documentation regarding additional non-compliances identified since the July 1, 2014 submittal.

If you have comments or questions regarding this submittal, please contact Mark P. Haagenstad at (505) 665-2014 or Gene E. Turner at (505) 667-5794.

Sincerely,



Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety & Health
Los Alamos National Laboratory

Sincerely,



Peter Maggiore
Assistant Manager
Environmental Projects Office
Los Alamos Field Office
DOE/NNSA

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Enclosures: (1) Second Addendum, Reporting Instances of Noncompliance - Hazardous Waste Facility Permit, Los Alamos National Laboratory

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Dear Secretary Flynn:

Subject: Second Addendum, Reporting Additional Instances of Noncompliance with Hazardous Waste Facility Permit and Generator Requirements, Los Alamos National Laboratory

The purpose of this letter is to voluntarily report additional non-compliances with the Los Alamos National Laboratory (LANL) Hazardous Waste Permit and regulatory requirements applicable to generators under the New Mexico Hazardous Waste Act and Resource Recovery and Conservation Act (RCRA). This report is being made to the New Mexico Environment Department (NMED) by the U.S. Department of Energy National Nuclear Security Administration (NNSA), and the Los Alamos National Security, LLC (LANS) (collectively, NNSA/LANS or the Permittees). The Permittees previously self-identified and reported to NMED several non-compliances in the July 1, 2014 *Addendum to the Los Alamos National Laboratory Hazardous Waste Facility Permit Reporting on Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013* (ref: ADESH-14-030).

Permittees committed in the July 1, 2014 letter to update NMED should any additional noncompliance with Permit or other regulatory requirements be identified. Enclosure 1 to this letter provides details and documentation regarding additional non-compliances identified since the July 1, 2014 submittal.

ENCLOSURE 1

Second Addendum

Reporting Instances of Noncompliance

Los Alamos National Laboratory Hazardous Waste Facility Permit
and Hazardous Waste Generator Requirements

ADESH-14-0109

LAUR-14-28034

Date: **OCT 21 2014**

**Second Addendum
Reporting Instances of Noncompliance
LANL's Hazardous Waste Facility Permit
and Hazardous Waste Generator Requirements**

October 17, 2014

Introduction

By letter dated July 1, 2014, the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) (collectively, the Permittees) submitted to the New Mexico Environment Department (NMED) an addendum to add information to the *Hazardous Waste Facility Permit Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013* to meet the reporting requirement of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA No. NM0890010515 (the LANL Permit). The July 1st addendum related to activities associated with the processing of the nitrate salt-bearing waste stream at the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) during fiscal years 2012 and 2013. In the July 1, 2014 addendum, the Permittees noted that they were in the process of reevaluating the waste characterization information concerning the nitrate salt-bearing waste stream, and would update NMED with information including acceptable knowledge and/or sampling activities that occur as necessary.

The noncompliances addressed in this document were identified as a result of the reevaluation activities conducted to date on the remediated and unremediated nitrate salt-bearing waste. LANL Permit Section 1.9.14 requires reporting of all instances of noncompliance that do not pose a threat to human health and the environment to be submitted by December 1 of each year, and addresses noncompliance information from October 1st through September 30th of each fiscal year. The noncompliances discussed in this document relate to activities required under the LANL Permit, and extend to prior fiscal years, as well as generator requirements under NMED rules incorporating 40 CFR Part 262.

On October 14, 2014, DOE/NNSA and LANS representatives met with NMED officials to orally notify the Department of these instances of noncompliance. Except for the noncompliance related to pre-transportation requirements, the nitrate salt-bearing waste containers associated with these noncompliances are addressed under NMED's Administrative Order No. 5-19001 (May 19, 2014) and *LANL's Revised Nitrate Salt Bearing Waste Container Isolation Plan* submitted pursuant to that Order.

Facility Information

Owner and Operator:
United States Department of Energy
3747 West Jemez Road
Los Alamos, NM 87544

Co-Operator:
Los Alamos National Security, LLC
PO Box 1663
Los Alamos, NM 87545

Facility:
Los Alamos National Laboratory
PO Box 1663
Los Alamos, NM 87545

I. Summary of Noncompliances

The Permittees are reporting the following instances of noncompliance as a result of reevaluating waste characterization information associated with the nitrate salt-bearing waste containers described in the Central Characterization Project (CCP) Acceptable Knowledge Summary Report CCP-AK-LANL-006. The 707 suspect nitrate salt-bearing waste containers identified by LANL are part of the following waste streams: LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001 and LA-MIN04-S.001. This document addresses noncompliances identified under the LANL Permit as well as NMED regulations applicable to hazardous waste generators. Section II addresses background facts regarding historical and current waste characterization and re-evaluation activities. Section III contains a detailed discussion of the noncompliances, and they are summarized below:

1. Failure to conduct an adequate hazardous waste determination (D001) (40 CFR §262.11)

The Permittees believe that they failed to conduct an adequate hazardous waste determination for the nitrate salt-bearing wastes with regard to EPA Hazardous Waste Number (HWN) D001 (ignitability characteristic). The Permittees' prior waste characterization activities for these legacy (pre-1991) wastes were based on the best available information at the time the wastes were managed, and included extensive reviews of available information; however, recent analytical testing has shown that these wastes carry HWN D001 as an oxidizer. As a consequence, the Permittees believe they failed to meet specific LANL Permit requirements identified below, as well as generator pre-transport requirements pursuant to 40 CFR §§262.30-31.

2. LANL Permit Requirements

A. D001 (Oxidizers)

- i. Special requirements for managing ignitable hazardous wastes (LANL Permit Sections 2.8.1, 2.8.2 and Attachment C.5.1) (unremediated nitrate salt-bearing waste containers);
- ii. Labeling hazardous waste containers with the HWN D001 (LANL Permit 3.6(1)) (remediated and unremediated nitrate salt-bearing waste containers); and
- iii. Placement of incompatible wastes and materials in the same container (LANL Permit Section 2.8.2) (remediated nitrate salt-bearing waste containers).

B. D007, D008, D009 (Characteristic metals)

Labeling hazardous waste containers with the HWNs D007, D008, D009 (chromium, lead and mercury) (LANL Permit 3.6(1)) (unremediated nitrate salt-bearing waste containers).

C. D002 (Corrosive wastes)

Failure to properly label specific waste containers with the HWN D002 (LANL Permit 3.6(1)) (unremediated nitrate salt-bearing waste containers).

3. Pre-Transport Requirements (40 CFR §§262.30-31)

- A. Transportation of nitrate salt-bearing wastes to an off-site facility (WIPP, WCS) without properly packaging the wastes for the HWN D001.
- B. Transportation of nitrate salt-bearing wastes to an off-site facility (WIPP, WCS) without properly relabeling the wastes with the HWN D001.

II. Background Facts

1. Historical Waste Characterization and Re-evaluation Activities

LANL generated “uncemented” nitrate salt waste from evaporator bottoms associated with the nitrate recovery process and plutonium operations at the Plutonium Processing Facility located at Technical Area (TA) 55 from 1979 to 1991. After 1991, wastes from the evaporator process were treated by cement fixation, and are referred to as “cemented” nitrate salt waste¹. The “uncemented” nitrate salt-bearing waste is a legacy waste that is also sometimes referred to as an “unconsolidated” waste. In the early 1990s, LANL began efforts to characterize its legacy transuranic (TRU) waste inventory in order to determine which waste streams had become subject to RCRA regulation as mixed TRU waste (MTRU). LANL initially assigned uncemented nitrate salts containers one or more of the following HWNs: D007, D008, and D009. Some nitrate-salt bearing wastes were not identified as hazardous wastes at the time and were not assigned an EPA HWN.

LANL characterization activities related to the uncemented nitrate salt-bearing wastes were also tied to the *Transuranic Waste Inspectable Storage Project* (TWISP), which involved the retrieval of waste containers under the Consent Agreement for Compliance Orders NMHWA 93-01, 93-02, 93-03, 93-04 approved by NMED on December 10, 1993. LANL compiled extensive waste characterization information for waste analysis plans prepared for TWISP and the permit applications submitted for the LANL Permit renewal. The TWISP project also coincided with two major initiatives to recharacterize LANL’s MTRU inventory for purposes of eventual WIPP disposal, including the LANL TRU Waste Characterization Project (TWCP) in the late 1990s, and its successor, the Central Characterization Project (CCP) in the early 2000s. These two projects resulted in significant reevaluations of and enhancements to acceptable knowledge (AK) information for all LANL TRU waste streams, including the cemented and un-cemented TA-55 nitrate salts.

In 2009, CCP issued a Nonconformance Report (NCR) (NCR-LANL-0509-09) that placed a hold on approximately 48 nitrate salt-bearing waste drums. The NCR identified new information from the generator (LANL) that these drums were potentially non-cemented evaporator salts and would require re-assignment to a separate waste stream. As a result, LANL convened an AK team to reevaluate the nitrate salts waste characterization information compiled to date. The team reviewed the current information in the LANL waste databases, and obtained and reviewed copies of the original data packages (as available) for the containers. They interviewed several subject matter experts (SMEs) and technical personnel involved with the original generation of the waste, and SMEs with expertise on the chemical and physical properties of concern with uncemented nitrate salts. At the same time, a separate LANL effort was underway to verify which drums in the LANL legacy TRU waste population were, in fact, uncemented nitrate salts, because the nitrate salts had never been originally identified as a discrete waste stream in the historical LANL TRU databases.

With regard to ignitability (HWN D001), the LANL AK team determined that the uncemented nitrate salt-bearing drums did not meet the 40 CFR §261.21(a)(4) DOT oxidizer definition based on review of the available information, which established that prior to the time the wastes were managed (i.e., 2009-2012), they had never exhibited oxidizer properties or other parts of the ignitability characteristic.² With

¹ From the mid-1980s until 1991, both uncemented and cemented salt wastes were being generated at TA-55. By the end of 1991, 100% of the nitrate salt evaporator bottom waste streams were cemented.

² The LANL AK team believed that the uncemented salts were not likely to be ignitable based on interviews of TA-55 SMEs and waste technicians who packaged the wastes, and reviews of historical evidence and the original waste description documents. Further, generator interviews emphasized that the uncemented nitrate salts were packaged wet.

regard to corrosivity (D002), the LANL AK team stated that some uncemented nitrate salts drums might contain measurable free liquids, and recommended that any liquids identified be managed as D002 hazardous waste unless shown otherwise by pH testing. Any liquids would be remediated prior to shipment to WIPP.

With regard to the toxicity characteristic, the AK team reviewed 2007 analytical results based on limited metals data from testing modern (non-legacy) TA-55 evaporator solutions (i.e., nitrate salts processed by cementation), and confirmed that RCRA toxicity characteristic codes D007, D008, and D009 should apply to the historical nitrate salt wastes prior to certification for shipment to WIPP. However, the AK team's findings/conclusions were based only on the AK information available at that time (i.e., 2009-2012); no ignitability, reactivity, or pH data then existed for the 267 containers.

In July 2012, LANL's TRU Waste Program (LTP) program issued *Solution Package Definitions Report-72, Salt Waste*, Rev. 1 ("SP-72"), which established the waste disposition path for the nitrate salt-bearing wastes (see Attachment 1). SP 72 identified a population of 305 legacy TA-55 containers suspected to be uncemented nitrate salts as of May 14, 2012, and identified the appropriate HWNs to be assigned to the containers as HWNs D007, D008, and D009. The report stated that each container would be verified individually by CCP during container certification prior to shipment to WIPP, and would be re-assigned to another appropriate AK waste stream if found not to be uncemented nitrate salts. Under SP 72, the nitrate salts drums would be relabeled with HWNs D007, D008 and D009 during the CCP certification process, when re-packaging the remediated waste at TA-50 WCRRF for subsequent shipment to WIPP.

2. 2014 LANL Waste Re-characterization Activities

The following summarizes the Permittees' re-characterization and evaluation efforts undertaken for the nitrate salt-bearing waste stream since submitting the July 1, 2014 addendum regarding *Hazardous Waste Facility Permit Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013*.

On July 30, 2014, the Permittees notified NMED that they had determined to conservatively apply the HWN D001 for characteristic of ignitability to 57 remediated nitrate salt-bearing waste containers and 29 unremediated nitrate salt-bearing waste containers stored at LANL (a copy of this letter is available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-259155>). The Permittees provided this notice under LANL Permit, Section 2.4.7, as part of their reevaluation efforts of the waste characterization information for the nitrate salt bearing waste streams including factual review, scientific analysis, and testing. On July 25, 2014, the Permittees placed HWN D001 on labels of unremediated and remediated nitrate salt-bearing waste containers stored at LANL (see Item 7 to LANL's September 30, 2014 *Response to the August 26, 2014 Request for Information, Treatment of Waste without a Permit and Failure to Reevaluate Acceptable Knowledge, Los Alamos National Laboratory*, available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-261912>). Additionally, the Permittees made timely notifications to NMED and off-site facilities (Waste Control Specialists (WCS), in Andrews, Texas and WIPP) regarding manifest discrepancies resulting from the application of the D001 HWNs as required under 40 CFR Part 262.

On September 5, 2014, upon NMED's request, the Permittees provided the "reasoning and analysis" for determining to assign HWN D001 to the remediated and unremediated nitrate salt-bearing waste containers (see Letter from Permittees to NMED Secretary Flynn dated September 5, 2014, referenced above). As described in that letter, the Permittees determined to apply the HWN D001 to the remediated and unremediated nitrate salt-bearing waste containers based on analytical results from two samples

taken from an empty unremediated nitrate salt-bearing parent drum stored at Area G, 231. The results showed the presence of nitrate compounds, including sodium and magnesium nitrates, which are identified by U.S. Department of Transportation (DOT) regulations as Division 5.1 DOT oxidizers under 49 CFR §172.101 and 49 CFR §173.127. Although the analytical results applied to samples from one unremediated drum, the Permittees determined to conservatively label all of the 29 unremediated nitrate-salt bearing drums and 57 remediated nitrate-salt bearing drums stored at LANL with the HWN D001.

Remediated Nitrate Salt-Bearing Waste Drums

As described above, the Permittees previously determined that the uncemented nitrate salt-bearing waste did not meet the definition of a D001 ignitable solid. However, to further support managing these specific nitrate salt wastes as “non-ignitable,” the Permittees determined to remediate and repackage the nitrate salt-bearing waste with an inert material (e.g., zeolite/kitty litter) with a minimum absorbent material to nitrate salts mixture ratio of 1.5 to 1 (see CCP’s *Acceptable Knowledge Summary Report for Los Alamos National Laboratory TA-55 Mixed Transuranic Waste* (CCP-AK-LANL-006, Rev. 13) at page 142) (Attachment 2). This ratio was based on results of oxidizing solids testing performed by the Energetic Materials Research and Testing Center (EMRTC) and a white paper authored by the LANL-Carlsbad Office Difficult Waste Team (DWT), *Amount of Zeolite Required to Meet the Constraints Established by the EMRTC Report RF 10-13: Application to LANL Evaporator Nitrate Salts* (Attachment 3). The EMRTC testing established the concentration at which the most reactive mixture of sodium and potassium nitrate becomes a non-oxidizer when mixed with either zeolite or grout. Based on the EMRTC testing, the LANL DWT concluded that the results could be applied to LANL’s uncemented nitrate salts.

As previously reported, LANL remediated and repackaged certain nitrate-salt bearing waste containers using an organic kitty litter, and not a zeolite-based kitty litter (see July 1, 2014 Letter from Permittees to NMED Secretary Flynn, *Addendum to the Los Alamos National Laboratory Hazardous Waste Facility Permit Reporting on Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013*). The type of absorbent did not comport with the EMRTC testing or the LANL DWT recommendation.

Analytical Test Results

In August 2014, the Permittees conducted analytical testing using surrogate samples of the remediated nitrate salt-bearing waste containers. Samples were tested by Southwest Research Institute of San Antonio, Texas using the DOT oxidizing solids test method specified in 49 CFR §§173.127(a)(1) (i.e., the United Nations (UN) *Manual of Tests and Criteria*, Section 34, Method O.1). Samples were also analyzed using US EPA’s *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846) Method 1040, Test Method for Oxidizing Solids. The test results indicated the presence of DOT 5.1 oxidizers. Prior to receiving the most recent test results, surrogate samples of remediated nitrate salt-bearing waste had been analyzed using SW-846, Method 1040. The earlier test results using SW-846, Method 1040 generally supported the conclusion that the surrogate samples of the remediated nitrate salt-bearing waste could be classified as oxidizers. LANL provided NMED this information, along with testing results, by letter from the Permittees to NMED Secretary Flynn dated September 19, 2014, titled *Response to LANL Nitrate Salt-Bearing Waste Container Isolation Plan* (see Attachment 2 of Enclosure 3), available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-261850>.

3. Numbers and Location of Nitrate Salt-Bearing Containers

LANL currently stores and manages eighty-six (86) suspect nitrate salt-bearing waste containers at TA-54, Area G, Dome 375 (contains 57 remediated drums) and Dome 231 (contains 29 unremediated

drums).³ These containers are subject to *LANL's Nitrate Salt-Bearing Waste Container Isolation Plan* approved by NMED under the May 19, 2014 Administrative Order. Twenty-nine (29) unremediated suspect nitrate salt-bearing waste containers have been stored at LANL ever since they were generated. Generation dates vary between 1979 and 1991.

LANL processed the remediated nitrate salt-bearing waste containers at TA-50 WCRRF between 2011 and 2014. Fifty-seven (57) remediated daughter containers are currently stored at LANL; one-hundred and thirteen (113) remediated daughter containers were shipped to WCS between April and early June, 2014; and 503 remediated daughter containers were shipped to WIPP between August 8, 2013 and January 29, 2014. A comprehensive list of the individual containers shipped to WIPP and WCS, and those remaining at LANL, was provided in Attachment 2 to LANL's September 30, 2014 *Response to the August 26, 2014 Request for Information, Treatment of Waste without a Permit and Failure to Reevaluate Acceptable Knowledge, Los Alamos National Laboratory* (available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-261912>).

III. Discussion of Specific Noncompliances

1. Failure to conduct an adequate hazardous waste determination (D001)

Under EPA and NMED regulations at 40 CFR §262.10, upon generation of a solid waste, the generator (LANL) is required to undertake a hazardous waste determination in order to determine how the waste should be managed, and to re-evaluate this characterization as appropriate and necessary. For the reasons described above, as a result of reevaluating waste characterization information, the Permittees believe that the prior waste characterization determination regarding HWN D001 was inadequate. As detailed in our response to NMED dated September 5, 2014, recent analytical testing results has supported this determination. Oxidizer tests performed on surrogates of the remediated waste in July and August 2014 confirmed that the surrogates were oxidizers under both the UN O.1 test and SW-846 Method 1040. Based on this information, on July 30, 2014 the Permittees notified NMED that they would conservatively label the fifty-seven (57) remediated nitrate salt-bearing waste containers and twenty-nine (29) unremediated nitrate-salt bearing waste containers currently stored at LANL.

2. LANL Permit Requirements

A. D001 (Oxidizers)

- i. Special requirements for managing ignitable hazardous wastes (LANL Permit Sections 2.8.1, 2.8.2 and Attachment C.5.1) (unremediated nitratesalt-bearing waste containers)

After review of the LANL Permit's storage requirements and interim status regulations, the Permittees believe that the containers now identified as D001 hazardous wastes were stored in locations authorized to store D001 mixed radioactive wastes. However, the population of nitrate salt-bearing drums did not fully meet the "special requirements" for managing ignitable hazardous wastes under LANL Permit Sections 2.8.1, 2.8.2 and Attachment C.5.1. Although many of the requirements were met, there are specific requirements for ignitable D001 wastes that likely were not met, including the requirement to segregate and separate ignitable wastes and to use non-sparking tools when managing containers with ignitable wastes.

³ The term "suspect" nitrate salt-bearing wastes refers to wastes that may contain either uncemented or cemented nitrate-salt bearing wastes; these containers may in fact hold cemented nitrate-salt wastes and are in the process of being evaluated.

- ii. Labeling, HWN D001 (LANL Permit 3.6(1)) (remediated and unremediated nitrate salt-bearing waste containers).

As previously reported, the Permittees first added a HWN D001 label to the nitrate salt-bearing waste drums on July 25, 2014. Since the remediated and unremediated nitrate-salt waste drums are now identified as D001 hazardous wastes, the Permittees do not believe they complied with LANL Permit 3.6(1), which requires that drums contain “all applicable EPA Hazardous Waste Number(s).”

- iii. Placement of incompatible wastes and materials in the same container (LANL Permit Section 2.8.2) (remediated nitrate salt-bearing waste containers).

The Permittees do not believe they complied with LANL Permit Section 2.8.2, which addresses placement of incompatible wastes and materials in the same container, and imposes special precautions. At WCRRF, operators placed an organic absorbent and neutralizer containing triethanolamine into drums with the nitrate salts-bearing wastes (D001) which, in turn, would constitute placement of incompatible wastes and materials in the same container based on the EPA Hazardous Waste Compatibility Chart (*A Method for Determining the Compatibility of Hazardous Wastes*, EPA-600/2-80-76, April 1980).

- B. D007, D008, D009 (Labeling, LANL Permit 3.6(1)) (unremediated nitrate salt-bearing waste containers)

The Permittees do not believe they complied with LANL Permit Section 3.6(1), which requires labeling of HWNs D007, D008 and D009 on containers stored at TA-54 Area G prior to remediation at WCRRF. SP 72 did not require that HWNs D007, D008, or D009 be placed on container labels until the container itself was verified to be uncemented nitrate salt-bearing wastes, as part of the CCP certification process prior to shipment to WIPP. Based on 2014 reviews of the historical LANL databases, of the 267 original unremediated parent nitrate salt bearing waste containers, fifteen (15) were labeled D007, fifty (50) were labeled D008, and one-hundred and sixty-nine (169) were labeled with all three HWNs prior to the commencement of nitrate salt drum remediation efforts in WCRRF. Thirty-three (33) nitrate salt-bearing waste containers were not originally identified as hazardous waste and were not originally assigned an EPA HWN. (See Item 3 and Attachment 2 of the LANL September 30, 2014 Response to NMED’s Information Request, available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-261912>). Although not properly labeled prior to remediation, LANL stored and managed these waste containers in areas that met all applicable permit and regulatory requirements. TA-54 Area G and TA-50 WCRRF have been authorized for storage of the HWNs D007-D009 since LANL submitted its Hazardous Waste Part A Permit Application for Mixed Waste, on January 25, 1991, and under the renewed LANL Hazardous Waste Facility Permit, approved in December, 2010. Additionally, these designations do not represent ignitable, reactive, or incompatible wastes and are not subject to the additional storage provisions for those types of wastes at those permitted units.

- C. D002 (Corrosive Wastes) (Labeling, LANL Permit 3.6(1)) (unremediated nitrate salt-bearing waste containers).

On June 5, 2014, the Permittees determined to add the HWN D002 label for the characteristic of corrosivity to the 26 unremediated nitrate salt-bearing waste containers with free liquids remaining on-site at LANL. NMED was notified of this decision on June 5, 2014

(<http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-524866>) during one of the technical calls held in accordance with the May 19, 2014 Administrative Order. RTR videos and the rationale for addition of the HWN D002 to 26 of the 29 remaining unremediated nitrate salt waste containers were included in the September 5, 2014 submittal by the Permittees. *See also*, Permittees' September 30, 2014 letter, *Response to the August 26, 2014 Request for Information, Treatment of Waste without a Permit and Failure to Reevaluate Acceptable Knowledge, Los Alamos National Laboratory*, available at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-261912>. Since these unremediated drums contained liquids and were not labeled, the Permittees do not believe they complied with LANL Permit 3.6(1), which requires that drums contain "all applicable EPA Hazardous Waste Number(s)."

With regard to the remediated nitrate salt-bearing waste containers, the Permittees remediated a total of fifteen (15) nitrate salt-bearing parent containers having liquids with a measured pH less than 2 (as documented in the table in Attachment 3 of the Permittees' September 30, 2014 letter). These parent containers likewise had not been labeled with the HWN D002.

3. Pre-Transport Requirements (40 CFR §§262.30-31)

Although not required by the LANL Permit, the Permittees are notifying NMED that they believe they did not comply with generator requirements under 40 CFR Part 262 by shipping nitrate salt-bearing waste containers to WIPP and WCS between August 2013 and June 2014. For the reasons discussed above, these containers should have been packaged and labelled appropriately for the D001 hazardous waste in the containers. As described in 40 CFR §§262.30 and 31, this required that the containers be packaged and labelled in compliance with the applicable Department of Transportation regulations in 49 CFR parts 172, 173, 178, and 179.

The DOT regulations apply in two instances that affect the 40 CFR part 262 regulations. The presence of an organic absorbent in some of the nitrate salt-bearing waste containers shipped to WIPP and WCS was not appropriate for the Type B package authorized for shipment and therefore not in compliance with 49 CFR §173.416. In addition, the determination to apply the HWN D001 retroactively to the waste stream for the shipped waste containers requires that the waste packages shipped should have been labelled for the additional hazard class by 49 CFR §172.402. By reference, these nonconformances with the DOT requirements were also not in compliance with 40 CFR §§262.30-31.

IV. Steps Taken or Planned to Reduce, Eliminate, and Prevent Recurrence

As required by Permit Section 1.9.14, the Permittees continue to investigate and evaluate steps to reduce, eliminate, and prevent recurrence of these noncompliances. The Permittees are confident that the nitrate salt-bearing wastes are being safely stored and managed on-site at LANL, as required by NMED under the Administrative Order No. 5-19001 (May 19, 2014) and *LANL's Revised Nitrate Salt Bearing Waste Container Isolation Plan* submitted pursuant to that Order. The Permittees continue to reevaluate and expand the waste characterization information concerning these nitrate salt waste streams, including the recent sampling and analytical campaigns. Upon completion of these activities, the Permittees intend to update the waste characterization information, including acceptable knowledge and/or any sampling activities that occur as necessary.

The steps taken or planned to reduce, eliminate, and prevent recurrence are summarized below in relation to each of the categories of noncompliance identified below:

1. Failure to Conduct an Adequate Hazardous Waste Determination

As previously described, the Permittees believe that all HWNs applicable to the population of

remediated and unremediated nitrate salt-bearing waste containers have been assigned appropriately, and that AK documentation and labels have been updated accordingly. LANL has undertaken numerous reevaluation activities including sampling and analysis through testing of an unremediated empty parent drum and surrogate remediated wastes. These activities are critical to understanding the nature of the nitrate salt-bearing wastes. LANL has not been able to sample a nitrate salt-bearing waste remediated drum, and is currently seeking necessary approvals to engage in this process to develop a more comprehensive understanding of the waste constituents.

Since this waste stream is no longer being generated at LANL, extensive “remediation” efforts are being undertaken to ensure that these wastes can be safely transported and accepted at WIPP. LANL has created a “Remediation Team” under the Isolation Plan that will address steps to prevent recurrence through long-term remediation of the nitrate salt-bearing containers. The Remediation Team is evaluating the options for remediation, including treatment plans or proposals, to render the nitrate salt-wastes safe for transportation and disposal at WIPP. The Remediation Team is required to work closely with NMED and discuss any permit modifications or authorizations necessary for treatment, including sampling, neutralization steps, reagents used, the location for processing the wastes and any other key information. See *LANL 's Nitrate Salt Bearing Waste Isolation Plan, Revision 2* (at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-261850>), and the Permittees’ September 30, 2014 submittal to NMED (at <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-261912>) for recent updates on the status and progress of Remediation Team efforts. The Permittees will work closely with NMED staff to ensure that they are informed of these activities, including through regularly scheduled technical calls that commenced June 4, 2014 and will continue as required under the Administrative Order. As emphasized previously, the Permittees will obtain all necessary permits and approvals from NMED prior to commencing treatment activities for the remediated and unremediated nitrate salt-bearing waste containers.

2. LANL Permit Requirements

Permittees have labeled all remediated and unremediated nitrate-salt bearing waste containers with the appropriate HWNs (D001, D002, D007, D008 and D009). Further, these containers are being managed in compliance with LANL Permit requirements for potentially ignitable and corrosive hazardous wastes (including compatibility, secondary containment of liquids, etc.). The steps to prevent recurrence are detailed in the Permittees’ Isolation Plan, Revision 2. The revised plan, submitted to the NMED on September 19, 2014 (see <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-261850>), incorporated all modifications required by NMED. It describes in detail how the Permittees are continuing to isolate, secure and/or treat all nitrate salt-bearing waste containers currently stored at LANL, and includes a schedule of immediate actions being undertaken in that regard. The status of these actions is regularly reported during twice-weekly technical calls between the NMED and the Permittees.

3. LANL Permit Pre-Transport Requirements

The basis for the nonconformances associated with DOT and RCRA packaging and labelling requirements are linked to the inadequate hazardous waste characterization regarding D001, as discussed above. Further transport of these waste containers will only occur in conjunction with the information developed through the reevaluation and further remediation of the waste stream as reported to the NMED.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety, and Health
Los Alamos National Security, LLC
Los Alamos National Laboratory
Operator

10/21/14

Date Signed



Peter Maggiore
Assistant Manager, Los Alamos Field Office
National Nuclear Security Administration
U.S. Department of Energy
Owner/Operator

10/21/14

Date Signed

**List of Attachments to Enclosure 1, Second Addendum,
Reporting Instances of Noncompliance, LANL's Hazardous Waste Facility
Permit and Hazardous Waste Generator Requirements, October 17, 2014**

- Attachment 1 Solution Package Definitions Report-72, Salt Waste, Rev. 1,
July, 2012 (LA-UR-14-28056)
- Attachment 2 Central Characterization Project (CCP) Acceptable Knowledge
Summary Report for Los Alamos National Laboratory TA-55
Mixed Transuranic Waste (CCP-AK-LANL-006), Revision 13,
February 10, 2014 (LA-UR #: Not Applicable)
- Attachment 3 LANL-Carlsbad Office Difficult Waste Team (DWT), Amount
of Zeolite Required to Meet the Constraints Established by the
EMRTC Report RF 10-13: Application to LANL Evaporator
Nitrate Salts, May 8, 2012 (LA-UR-14-26860)