Los Alamos
NATIONAL LABORATORY
EST. 1943

Associate Director for ESH
Environment, Safety, and Health
P.O. Box 1663, MS K491
Los Alamos, New Mexico 87545
505-667-4218/Fax 505-665-3811

National Nuclear Security Administration
Los Alamos Field Office, A316
3747 West Jemez Road
Los Alamos, New Mexico, 87545
(505) 667-5794/Fax (505) 667-5948

Date: JUL 01 2014
Ref: ADESH-14-030

Mr. Ryan Flynn
Cabinet Secretary
New Mexico Environment Department
Harold L. Runnels Building
1190 St. Francis Drive, Suite N4050
Santa Fe, New Mexico 87505

Dear Secretary Flynn,

Subject: 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 purpose of this letter is to transmit an addendum to the Hazardous Waste Facility Permit Reporting Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013 submitted to the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) by the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (collectively, the Permittees) to meet reporting requirements under the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (EPA No. NM0890010515) (the LANL Permit). The LANL Permit, at Section 1.9.14, requires the Permittees to report all instances of noncompliance with the Permit on an annual basis that would not pose a threat to human health or the environment. The enclosed addendum is submitted to meet this requirement.

On June 3, 2014, DOE and LANS representatives met with NMED officials and provided oral notice of potential noncompliances with the LANL Permit as a result of processing nitrate salt-bearing waste drums at LANL's Waste Characterization, Reduction, and Repackaging Facility (WCRRF) facility. These noncompliances, which are described in the enclosed addendum (Enclosure 1), were discovered as a result of investigating the February 14, 2014 radioactive release at the Waste Isolation Pilot Plant (WIPP) and the damaged LANL container identified in Panel 7 where the release occurred. These reported noncompliances relate to the Permittees' obligations under the LANL Permit. At this time, there is insufficient information to conclude that these noncompliances relate to the radioactive release at WIPP. As the investigation continues, the

Permittees intend to provide NMED-HWB with an updated addendum, as necessary, regarding any other noncompliance with the Permit.

We would like to meet with you at your convenience to discuss this addendum and report, and potential resolution of this matter. If you have questions please contact Michael Brandt (LANS) at (505) 667-4218, or Pete Maggiore (DOE) at (505) 665-5025.

Sincerely,

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

Peter Maggiore
Assistant Manager
Environmental Projects Office

Enclosure: (1) Addendum to the LANL Hazardous Waste Facility Permit Reporting Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013

Cy: Tom Blaine, NMED, Santa Fe, NM, (E-File)
John Kieling, NMED, Santa Fe, NM, (E-File)
Steve Pullen, NMED/HWB, Santa Fe, NM, (E-File)
Timothy Hall, NMED/HWB, Santa Fe, NM, (E-File)
Trais Kliphuis, NMED, Santa Fe, NM, (E-File)
Peter Maggiore, NA-LA, (E-File)
Lisa Cummings, NA-LA, (E-File)
Gene E. Turner, NA-LA, (E-File)
Eric L. Trujillo, NA-LA, (E-File)
Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)
Michael T. Brandt, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
Jeffery D. Mousseau, ADEP, (E-File)
Daniel R. Cox, ADEP, (E-File)
Victoria A. George, REG-DO, (E-File)
Anthony R. Grieggs, ENV-CP, (E-File)
Deborah K. Woitte, LC-ESH, (E-File)
Bill D. Zwick, MQ, (E-File)
Mark P. Haagenstad, ENV-CP, (E-File)
Luciana Vigil-Holterman, ENV-CP, (E-File)
lasomailbox@nnsa.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
env-correspondence@lanl.gov, (E-File)

ENCLOSURE 1

Addendum to Fiscal Year 2012 and Fiscal Year 2013 Reporting of Instances of Noncompliance and Releases

Los Alamos National Laboratory Hazardous Waste Facility Permit

ADESH-14-030

LAUR-14-24846

Date: JUL 01 2014

Addendum to the LANL Hazardous Waste Facility Permit
Reporting Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013

June 30, 2014

1. Introduction

This addendum has been prepared by the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS), collectively the Permittees, to add information to the *Hazardous Waste Facility Permit Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013* submitted to the New Mexico Environment Department – Hazardous Waste Bureau (NMED-HWB) to meet the reporting requirement of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA No. NM0890010515 (the LANL Permit). 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 that occurred during Fiscal Years 2012 and 2013, and therefore, the Permittees are submitting this information as an addendum to the *Hazardous Waste Facility Permit Instances of Noncompliance and Releases for Fiscal Years 2012 and 2013*.

The Permittees discovered the noncompliances addressed in this addendum as a result of investigating the February 14, 2014 radioactive release at the Waste Isolation Pilot Plant (WIPP) and the damaged nitrate salt-bearing container identified in Panel 7 where the released occurred. On June 3, 2014, DOE and LANS representatives met with NMED officials to orally notify the Department of potential non-compliances under the LANL Permit. This addendum concerns noncompliances under the LANL Permit. At this time, there is insufficient information to conclude that these reported noncompliances relate to the radioactive release at WIPP. The nitrate salt-bearing waste containers resulting from activities associated with the non-compliances, however, are under evaluation as part of NMED's Administrative Order No. 5-19001 (Administrative Order) issued to Permittees on May 19, 2014.

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

2. Instances of Noncompliance with the Permit

The following instances of noncompliances involve the processing of remediated nitrate salt-bearing wastes described in the Central Characterization Project (CCP) Acceptable Knowledge Summary Report CCP-AK-LANL-006, as homogenous absorbed waste stream LA-MIN02-V.001. "Remediated" nitrate salt-bearing waste is defined as LANL's unconsolidated nitrate salt-bearing drums that were remediated with absorbent material (i.e., kitty litter) and repackaged into new drums. The Permittees will notify NMED promptly and update this report and addendum, as appropriate, if further investigation reveals additional noncompliances with the Permit.

A. Unpermitted Treatment (40 CFR §§264.1(g)(6) (10))

LANL's Waste Characterization, Reduction, and Repackaging Facility (WCRRF) is a permitted storage unit under the Permit located at Technical Area 50, Building 69 (TA-50-69). In 2011, LANL processed the uncemented nitrate salt waste drums described above at WCRRF for remediation to remove free liquids. The remediation process was necessary to ensure that any free liquids from the nitrate salt parent drums were removed for acceptability at WIPP as necessary to meet the WIPP Permit requirement that TRU waste containers do not contain free liquids greater than 1% volume of the waste (WIPP Permit, §2.3.3.1). The remediation process occurred at the WCRRF Glove Box, and involved decanting liquids from "parent" nitrate salt-bearing drums and repackaging these "parent" drums into new "daughter" drums.

The Permittees conducted the remediation and repackaging process under *WCRRF Waste Characterization Glovebox Operations*, EP-WCRR-WO-DOP-0233 (Revisions 29, 36 and 37). These procedures contained requirements (1) to perform a pH test for liquids, and in March 2013, a requirement to neutralize liquids encountered during the remediation of the nitrate salt drums; and (2) to add absorbents to sorb free liquids, and in August 2012, the procedure was changed to authorize use of an organic absorbent. Under these procedures, glovebox operators (operators) performed a pH test of the liquid and added neutralizing agents (powder and liquids) as necessary to neutralize the liquid waste. During this process, the operators encountered liquids that had a pH of less than 2 or greater than 12.5 and were therefore corrosive.[1] After the neutralizers were added, the operators would add absorbent material to sorb the liquids at different locations, including bag-out stubs,[2] a catch-pan located on the floor of the glove-box, the daughter drum(s), and into the parent drum. At the conclusion of the processing, the new "daughter" drums(s) and the "parent drum" would be bagged-off and closed.

The Permittees conclude that the processing of the unconsolidated nitrate salt-bearing waste drums, as described above, falls outside the permit exemptions for treatment activities required by NMED rules incorporating 40 CFR §§264.1(g)(6)(10) and 40 CFR §§ 270.1(c)(2)(iv) and (vii). The processing of the nitrate salt-bearing waste involved adding neutralizing agents to a waste stream and did not qualify for the elementary neutralization treatment permit exemption because this waste stream was assigned multiple EPA Hazardous Waste Numbers D and F, and was not a hazardous waste solely due to the corrosivity (D002) characteristics or listing.[3] Further, the second step of the nitrate salt-bearing waste processing involved the addition of absorbents in some deviating locations (e.g., parent drums and

[1] A hazardous waste is "corrosive" (D002) if it is "aqueous and has a pH of less than or equal to 2 or greater than or equal to 12.5 * * *." *See* 40 CFR §261.22(a)(1).

[2] Bag-out stubs are small containers designed to hold between two and four gallons of liquids.

[3] CCP assigned the following RCRA EPA hazardous waste numbers to this waste stream: F001, F002, F005, D004 through D011, D018, D019, D021, D022, D035, D038 through D040.

glovebox floor) that do not appear to meet the permit exception that absorbent be added "the first time" the waste is placed in a "container." For these reasons, the Permittees conclude that the processing of the remediated nitrate salt-bearing wastes constituted a noncompliance that resulted in unpermitted treatment.

B. Failure to Reevaluate Acceptable Knowledge Determination (Section 2.4.7, §264.13(b)(4))

The LANL Permit, at Section 2.4.7, requires the Permittees to ensure that the "initial characterization of any hazardous waste stream managed under this Permit is reviewed or repeated to verify that the characterization is accurate and up-to-date" (40 CFR §264.13(b)(4)). Permit Section 2.4.7(2) requires the Permittees to "recharacterize hazardous wastes whenever there is a change in the waste generating process which includes a change in the status of the waste for purposes of [LDR] or when analytical results indicate a change in the waste stream." The review or reevaluation of the waste stream is required to be documented in the Facility Operating Record.

In the early 1990s, the Permittees conducted initial hazardous waste characterization of all mixed transuranic waste streams, which included extensive information on acceptable knowledge and other documentation. As a result of subsequent waste characterization of the unconsolidated nitrate salt-bearing waste drums, the Permittees concluded that there was a potential to encounter measurable free liquids. During the processing of the nitrate salt-bearing waste drums, as described above, operators conducted pH tests and determined that some of the liquids decanted from the parent drum(s) had a pH of less than 2 and were corrosive for D002. Based on these analytical results, the Permittees conclude they had an obligation to reevaluate the unconsolidated nitrate salt-bearing waste to assess the accuracy of the initial waste characterization in accordance with Permit Section 2.4.7(2).

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

As required by Permit Section 1.9.14, the Permittees are undertaking a thorough investigation and evaluation of steps to reduce, eliminate, and prevent recurrence of these noncompliances. The following represents immediate steps taken to reduce, eliminate, and prevent recurrence of these noncompliances. After the Permittees conduct their investigation, they will notify NMED if additional steps are determined to be necessary to ensure that these noncompliances do not recur.

A. Unpermitted Treatment

The Permittees have paused work at WCRRF, including the processing of remediated and unremediated nitrate salt-bearing waste drums. The Permittees are carefully evaluating their options to address processing and/or treatment for the remaining 57 remediated nitrate salt-bearing drums and 29 unremediated nitrate salt-bearing drums currently in isolated storage at Dome 375 and Dome 231 Permacons, respectively, at TA-54, Area G. These nitrate salt-bearing waste drums are subject to NMED's Administrative Order and *LANL's Nitrate Salt Bearing Waste Isolation Plan* submitted under that Order on May 23, 2014 and the revised plan submitted on May 29, 2014. Under the Isolation Plan, the Permittees created a "Remediation Team" to identify a path forward for remediation, including treatment plans or proposals, as appropriate and necessary. The Remediation Team is required to work closely with NMED and discuss any permit modifications or authorizations necessary for treatment, including neutralization steps, reagents used, the location for processing the wastes and any other key information. See *LANL's Nitrate Salt Bearing Waste Isolation Plan* at Sections IV.10 and V.8 (May 29, 2014). As a result, the Permittees will obtain all necessary permits and approvals from NMED-HWB prior to commencing treatment activities for the remediated and unremediated nitrate salt-bearing waste containers.

B. Obligation to Reevaluate the Nitrate Salt Waste Stream

The Permittees are currently reevaluating the waste characterization information concerning these nitrate salt waste streams. This reevaluation includes a significant amount of factual review and scientific analysis and work. Pending completion of this reevaluation, Permittees conservatively added the D002 code to the remaining unremediated nitrate salt waste containers that contained free liquids. 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 Permittees will work closely with NMED-HWB 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.

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.

Raeanna Sharpe for

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

07/01/14
Date Signed

Peter Maggiore

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

7/1/14
Date Signed