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DEC 0 4 2017

Date:
Symbol: EPC-DO: 17-486
LA-UR: 17-30477
Locates Action No.: N/A

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

SUBJECT: Transmittal of Revised Memorandum Evaluating Non-Sparking Process and the Los Alamos National Laboratory (LANL), EPA ID No. NM890010515

Dear Mr. Kieling:

The purpose of this letter is to provide supplemental information regarding a notification to the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) delivered on October 24, 2017 (LA-UR-17-29388 or EPC-DO: 17-437). The correspondence provided the NMED-HWB with notice of an anticipated noncompliance as required by Permit Section 1.9.11 of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit).

The Permittees (the US Department of Energy and the Los Alamos National Security, LLC) described the unremediated nitrate salt-bearing waste containers located at LANL and specified the processes that may be utilized for cutting unremediated nitrate salt-bearing waste overpack and waste containers away from the inner High Density Polyethylene (HDPE) liners. The Permittees will repackage the HDPE liner within each of the 27 original 55-gallon unremediated nitrate salt waste containers into new and compliant 55-gallon waste containers to enable shipment to the TA-50, Building 69, Waste Characterization, Reduction, and Repackaging Facility (WCRRF) to undergo treatment.

The process for repackaging the unremediated nitrate salt waste remains the same as described in the original notification. To the extent possible, opening of the 85-gallon overpack containers and the 55-gallon waste containers will be conducted by use of non-sparking tools. These tools will be made of a combination of aluminum, bronze, copper and/or beryllium. However, because the degradation of the original 55-gallon container is likely, the HDPE liner will be pulled upward out of the overpack and the original 55-gallon container. In order to access the HDPE liner, it is necessary to cut away portions of the

85-gallon and potentially the original 55-gallon containers. The Permittees plan on using cutting tools to perform the necessary tasks in a non-sparking capacity even if they are not considered "non-sparking tools" as required by Permit Section 2.8.1(4). The process for cutting the containers has been evaluated to ensure that the tools can be operated in a non-sparking capacity. Documentation of the evaluation conducted was included with the original notification. The revised evaluation (Enclosure 1) adds the use of a drilling process; that was also evaluated as a non-sparking process because the drill bits being used are not non-sparking. The revision also clarifies considerations for tool housings, and language was added to specify the processes to be used for repackaging are all determined to be non-sparking processes that meet the intent of the permit condition at Permit Section 2.8.1(4).

This letter updates the *Notification of Anticipated Noncompliance with the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM890010515* (LA-UR-17-29388 or EPC-DO: 17-437 provided to the NMED-HWB on October 24, 2017. Tracking of the noncompliance will conducted as outlined in previous correspondence as required by Permit Section 1.9.14.

If you have comments/questions or would like to meet regarding this submittal, please contact Mark P. Haagenstad, LANS, at (505) 665-2014 or David S. Rhodes, Environmental Management Los Alamos Field Office, at (505) 665-5325.

Sincerely,

John C. Bretzke
Division Leader

Sincerely,

David S. Rhodes
Director, Office of Quality & Regulatory Compliance

JCB/DSR/MPH: am

Enclosure(s)

1) Memorandum: Evaluation of UNS Drum Cutting Process as a Non-sparking Process

Copy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)
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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.

11-16-17

John C. Bretzke
Division Leader
Environmental Protection and Compliance Programs
Los Alamos National Laboratory

Date Signed

11/29/17

Arturo Q. Duran
Permitting Manager
Environmental Management
Los Alamos Field Office
U.S. Department of Energy

Date Signed

ENCLOSURE 1

Memorandum: Evaluation of UNS Drum Cutting Process as a Non-sparking Process

EPC-DO: 17-486

LA-UR-17-30477

Date: DEC 0 4 2017

Los Alamos
NATIONAL LABORATORY
EST. 1943

memorandum

EWMO-DO
Environmental Waste Management
Operations - Division Office

To: Wayne. P. Hohs, WD-DO, MS J910
Thru: Julie. Minton-Hughes, ES-EWMO, MS J910
From: Greg Carey, ES-EWMO, MS J565 11/9/17
Phone: 505-667-1399
Symbol: ADEM-17-0277, Rev. 2
Date: November 7, 2017

Subject: Evaluation of UNS Drum Cutting Process as a Non-Sparking Process

At 0730 on Tuesday, October 3, 2017, I witnessed a demonstration of several cutting tools being used on a steel drum to determine the ability of each tool to perform in a non-sparking capacity. Three tools were evaluated to the same standards:

1. Whether any visible sparking was observed
2. Minimal local temperature increase on subject drum
3. Ease of use for operator

Figure 1: Snipping Tool

Figure 2: Shearing Tool

Figure 3: Nibbling Tool

All three tools performed as desired. The shears (Figure 2) will be used to "start" a drum, giving the operator access to a lower portion of the drum with another tool. During the shear demonstration, there was no visible sparking and no recordable temperature increase. The shears are slow while in operation, which is the likely reason for no sparks or increase in temperature.

Once access is gained below the lip of the drum, either the snipping tool (Figure 1) or nibbler (Figure 3) can be used. During the demonstration, both tools had their advantages. The snipping tool creates one strip of waste (easier for controlling cleanup) and cuts at a faster rate. There were no sparks witnessed, and there was only an average 11°F increase in temperature while measuring the waste ribbon. It was tested three times. The nibbler is easier for the operator to change direction. Its cutting bit rotates at a high rate of speed, and the cutting results in small shards. The cutting waste from the nibbler could be harder to control for cleanup when compared to the snipping tool's ribbon. During the demonstration with the nibbler, there were no sparks visible, and the average local temperature increase was 15°F. This was expected because the nibbler creates more friction during cutting.

On November 7, 2017, I was asked to evaluate the activity of drilling a pilot hole for the nibbling tool observed on October 3rd. Non-sparking (non-ferrous) drill bits were not available for the drill on-hand. A pilot hole will be drilled into the outer 85-gallon or 110-gallon drum, leaving the inner drum(s) and liner as barriers between the drill bit and the waste. The depth of the pilot hole will be controlled to ensure that the bit does not make contact with the inner drum. Headspace gas is analyzed for flammability prior to opening of the drum to ensure it is not flammable. Additionally, the drum lid will be removed prior to drilling the pilot hole to ensure that no buildup of flammable gases occurs, thereby removing the hazard associated with ignition of the head space gases. In conclusion, while the use of the drill bit was not witnessed during field tests, ferrous drill bits are deemed compliant for this application.

The arcing inside a tool housing when the brushes make contact with the armatures is normal during operation. The waste is an oxidizer and carries the Resource Conservation and Recovery Act (RCRA) Hazardous Characteristic of Ignitability. However, as noted above, the atmosphere above the waste is not ignitable (head space gas measurements), and combustibles are controlled. As a result, arcing inside of the housing is incapable of igniting a fire and does not present a safety concern. Based on the above field observations, all three tools are viable options and the overall process is non-sparking and meets the intent of the RCRA permit for managing containers that hold Ignitable waste.

GC:JMH:sc

cc:
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