U.S. DEPARTMENT OF ENERGY

ESHID-603575

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*Date:* MAR 04 2020
*Symbol:* EPC-DO: 20-073
*LA-UR:* 20-21857
*Locates Action No.:* Not applicable

Mr. Kevin Pierard, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Dear Mr. Pierard:

Subject: Response to Request for Supplemental Information Regarding TRU Waste Containers Stored at Area G, TA-54, Los Alamos National Laboratory

Reference: Letter to Doug Hintze, DOE Environmental Management Los Alamos Field Office and Michael Weis, DOE/National Nuclear Security Administration Los Alamos Field office, *Request for Supplemental Information TRU Waste Containers Stored at Area G, TA-54 Los Alamos National Laboratory EPA ID #NM0890010515 HWB-LANL-MISC*, dated February 3, 2020

This correspondence is submitted in response to the New Mexico Environment Department – Hazardous Waste Bureau (NMED - HWB) referenced supplemental request for information (SRFI) regarding transuranic (TRU) waste containers stored at Los Alamos National Laboratory (LANL). The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and the DOE/National Nuclear Security Administration (NNSA) Los Alamos Field Office (NA-LA) are providing additional information regarding TRU waste containers stored at Technical Area 54 (TA-54), Material Disposal Area G (Area G) in response to the letter dated February 3, 2020 and referenced above. The attached enclosures provide the information requested for any additional containers in the SRFI that required supplemental information prior to acceptance by the DOE's Central Characterization Program (CCP).

The enclosures contain a summary, and tables by each responsible Permittee with the requested information. Enclosure 1 provides background information on the overall approach for achieving waste acceptance for disposal at the DOE Waste Isolation Pilot Plant (WIPP). Enclosures 2 and 3 provide

more detailed information in tables for each container under the responsibility of EM-LA/N3B and NA-LA/Triad, respectively. Information provided in the tables includes:

1. any documentation associated with the characterization of the waste in the containers, including known or estimated quantities of potentially hazardous constituents/waste within the container;
2. the numbers assigned to the containers and dates of generation;
3. the specific location where the wastes were generated, including the technical area, building, room, glove box, etc., (other than those areas where it may be deemed a security concern per Permit Section 1.9.2); and
4. the hazardous waste numbers (e.g., D002) if associated with these containers and the dates that those numbers were assigned to the containers.

Should you have any additional questions with respect to these responses, please do not hesitate to contact Arturo Duran, EM-LA, at 505-257-7907, or Karen Armijo, NA-LA, at 505-665-7314.

Sincerely,

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
Los Alamos Field Office

Sincerely,

David J. Nickless
Acting Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

Enclosure(s): 1) Permittees' Summary
2) Request for Supplemental Information for Waste Containers Under Responsibility of EM-LA/N3B
3) Request for Supplemental Information for Waste Containers Under Responsibility of NA-LA/Triad

cc w/enclosures:
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This correspondence is submitted in response to the New Mexico Environment Department – Hazardous Waste Bureau (NMED - HWB) referenced supplemental request for information (SRFI) regarding transuranic (TRU) waste containers stored at Los Alamos National Laboratory (LANL). The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and the DOE/National Nuclear Security Administration (NNSA) Los Alamos Field Office (NA-LA) are providing additional information regarding TRU waste containers stored at Technical Area 54 (TA-54), Material Disposal Area G (Area G) in response to the letter dated February 3, 2020 and referenced above. The attached enclosures provide the information requested for any additional containers in the SRFI that required supplemental information prior to acceptance by the DOE's Central Characterization Program (CCP).

The enclosures contain a summary, and tables by each responsible Permittee with the requested information. Enclosure 1 provides background information on the overall approach for achieving waste acceptance for disposal at the DOE Waste Isolation Pilot Plant (WIPP). Enclosures 2 and 3 provide

# ENCLOSURE 1

## Summary

EPC-DO-20-073

LA-UR-20-21857

Date: MAR 0 4 2020

# Summary

## Introduction

The New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) letter, *Request for Supplemental Information TRU Waste Containers Stored at Area G, TA-54 Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-MISC*, dated February 3, 2020, requested specific information for any containers that did not meet the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC) as assessed by the Central Characterization Program (CCP) due to the potential presence of nitrates and organics or incompatible wastes. The information was compiled from a data request to CCP regarding the containers that have been put on a Noncomformance Report (NCR) since the implementation of the Basis of Knowledge (BoK) process for which the NCR status has not been determined to be "Closed". Detailed information in response to this request, on a container-by-container basis, is provided in table format within Enclosures 2 and 3, for containers under the responsibility of Environmental Management Los Alamos Field Office and Newport News Nuclear BWXT - Los Alamos (EM-LA/N3B) and the US Department of Energy (DOE)/National Nuclear Security Administration Los Alamos Field Office and Triad National Security (NA-LA/Triad), respectively that have an unresolved BoK status.

Additional information explained in this summary, and included in a flow chart provided herein, is intended to offer perspective to the detailed information in the tables, and to more fully describe the overall approach to achieve waste disposal acceptance at the WIPP. The Permittees provide this summary in part due to NMED's request to "complete investigation" of containers (S863122 [EM-LA/N3B], 57457, 53700 and 62450 [NA-LA/Triad]) and produce results within 30 days. As indicated in Enclosures 2 and 3, in some cases, the initial evaluation determined that some containers may require further remediation (e.g., opening of the container under engineered controls, inspecting the contents, performing waste segregation, performing permitted treatment such as the addition of absorbent material, etc.). The capability for performing all of the remediation activities does not currently exist at the Facility; however, the Permittees are in the process of developing and/or permitting these capabilities. In the interim, and as explained more fully below, all waste has been properly characterized and is in a safe and compliant storage configuration, in accordance with the conditions of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit.

## Waste Streams Background

All of the wastes in the waste containers for which supplemental information was requested are identified by the waste streams LA-MHD01.001 or LA-MHD03.001. Waste streams LA-MHD01.001 and LA-MHD03.001 consist of mixed heterogeneous debris waste from research and development as well as decommissioning activities at Technical Area (TA)-55 and TA-03. Waste within some of these containers has been repackaged during remediation activities.

### LA-MHD01.001

The LA-MHD01.001 waste stream is a transuranic (TRU)-mixed debris waste stream originating from the Plutonium Facility Building (PF-4) located TA-55 and is composed predominately of mixed heterogeneous debris and lesser quantities of homogeneous solids (less than 50 percent by volume). This debris waste was generated from 1978 to present and may contain rags, plastic, paper, rubber, wood based high-efficiency particulate air filters, other plastic based and cellulose

based items (e.g. personal protective equipment), and noncombustible items (e.g. metal or glass). Secondary compatible waste may have been generated during remediation/repackaging operations and added to the waste containers. When generated from decontamination and decommissioning, waste debris may include sectioning, size reduction, and packaging operations that are both combustible and noncombustible materials.

**LA-MHD03.001**

LA-MHD03.001 is a TRU mixed debris waste stream originating from the Chemistry and Metallurgy Research (CMR) facility located in TA-3. It is comprised primarily of mixed heterogeneous debris and lesser quantities of homogeneous solids (less than 50 percent by volume). This debris waste was generated from 1971 to present. The presence of waste organic rags and cloth wipes potentially contaminated with nitric acid or neutralized solutions of nitric acid cannot be ruled out in some containers. However, LANL and CCP have determined these materials are not capable of yielding oxygen readily to cause or enhance the combustion of organic materials based upon the physical and chemical contents of the waste stream. Therefore, no treatment is required for the organic rags and wipes. No organic sorbent pads or pillows were identified in the population.

## Waste Characterization and Compliant Storage

The requested information for additional waste containers that were put on a NCR by CCP, have been evaluated and do not contain nitrate salt waste or cemented waste that may have dewatered over time. None of the waste characterization documentation for these wastes include any indication that the wastes are hazardous for the characteristics of ignitability or corrosivity (U.S. Environmental Protection Agency [EPA] Hazardous Waste Numbers D001 and D002). Additionally, none of the waste containers contain waste items with the reactive characteristic (i.e., EPA Hazardous Waste Number D003). The contents of each of the waste containers are included in tables within Enclosures 2 and 3. All of the transuranic waste described herein has been characterized as hazardous for the EPA Hazardous Waste Numbers D004-D011, D018, D019, D021, D022, D035, and D038-D040 and listed hazardous waste from non-specific sources (F001, F002 and F005), based on acceptable knowledge (AK) information compiled and verified by the Permittees. This waste characterization information, the condition of the containers, and the proper storage at the permitted units are verified through the respective Inspection Record Forms (IRFs). The IRFs are utilized to determine that these waste containers are stored safely, compliantly, and do not present an inherent incompatibility.

## Background on the WIPP WAC/ BoK Process

The WAC for the WIPP requires a comprehensive evaluation to be conducted for each waste container prior to shipment for disposal at WIPP. As part of this program, the DOE Carlsbad Field Office issued *Basis of Knowledge for Evaluating Oxidizing Chemicals in TRU Waste* (also known as the BoK), which provides criteria to be used in conjunction with AK procedures of the WIPP Certified Programs for evaluating TRU waste with one or more oxidizing chemicals to determine

acceptability at the WIPP as-is, identify when additional evaluation or treatment is required, and evaluate waste for acceptability post-treatment. In 2017, WIPP implemented the BoK process that not only affected waste containers generated after 2017, but also containers generated prior to 2017. Detailed AK information of waste containers generated prior to 2017 may not have been consistent with the now required BoK documentation process (evaluation testing and treatment criteria). The process is referred to as the "Enhanced Acceptable Knowledge" and is a focused collection, verification, and validation of AK to ensure the receipt of WIPP WAC compliant waste containers at the WIPP. A process flow diagram is included after this summary for clarification. The BoK was designed as part of the evaluation process for the WIPP Certified Programs, specifically for TRU waste that may have the potential of containing oxidizing chemicals and to determine acceptability at the WIPP. This BoK also includes options and requirements to be used by TRU waste sites when further evaluation, testing, and/or treatment are required. It is not designed to change the generating facilities' hazardous waste determination of whether the waste does or does not exhibit the hazardous waste characteristic of ignitability due to oxidizer properties (*Section 2.0, Basis Of Knowledge For Evaluating Oxidizing Chemicals In TRU Waste, Rev.1, U.S. Department of Energy Carlsbad Field Office, 2018* ). The evaluation is required to implement the WIPP Documented Safety Analysis (DSA) to conservatively ensure that any potential for any oxidizing chemical is identified and then minimized or mitigated prior to a waste container being shipped to the WIPP.

A container may be initially put on a NCR prohibiting shipment to the WIPP when any documentation associated with the container is identified to include an oxidizing chemical or use of a sorbent, not specifically allowed by the BoK. When a container is outside of the criteria established in the BoK, the generating site generally begins with a document search to determine the reason the container falls outside of the criteria. Results of this NCR interim disposition may be any of the following:

- a request for further evaluation of information on the contents of the waste container;
- a request that sorbent equivalency evaluation be conducted;
- visual examination of waste within the container to determine that the waste is not outside the criteria of the BoK;
- performance of tests on the waste within the waste container as outlined in the BoK;
- treatment of the waste in a BoK compliant manner; or
- a request for further evaluation of a technical justification that the waste container does not present a hazard.

The NCR is an indication that a waste container may be comprised of waste that has not met the BoK process, and the verification is conducted with the intent to meet the WIPP WAC for shipment and disposal at the WIPP, not a requirement for the re-characterization (changing of the EPA numbers) of the waste itself. To re-emphasize, the NCR does not necessarily indicate that the container(s) are **NOT** WIPP-WAC compliant, rather often it is recapturing the additional information that is needed to establish whether or not the container is WIPP-WAC compliant.

## Path Forward for Resolving Potentially Nonconforming Containers

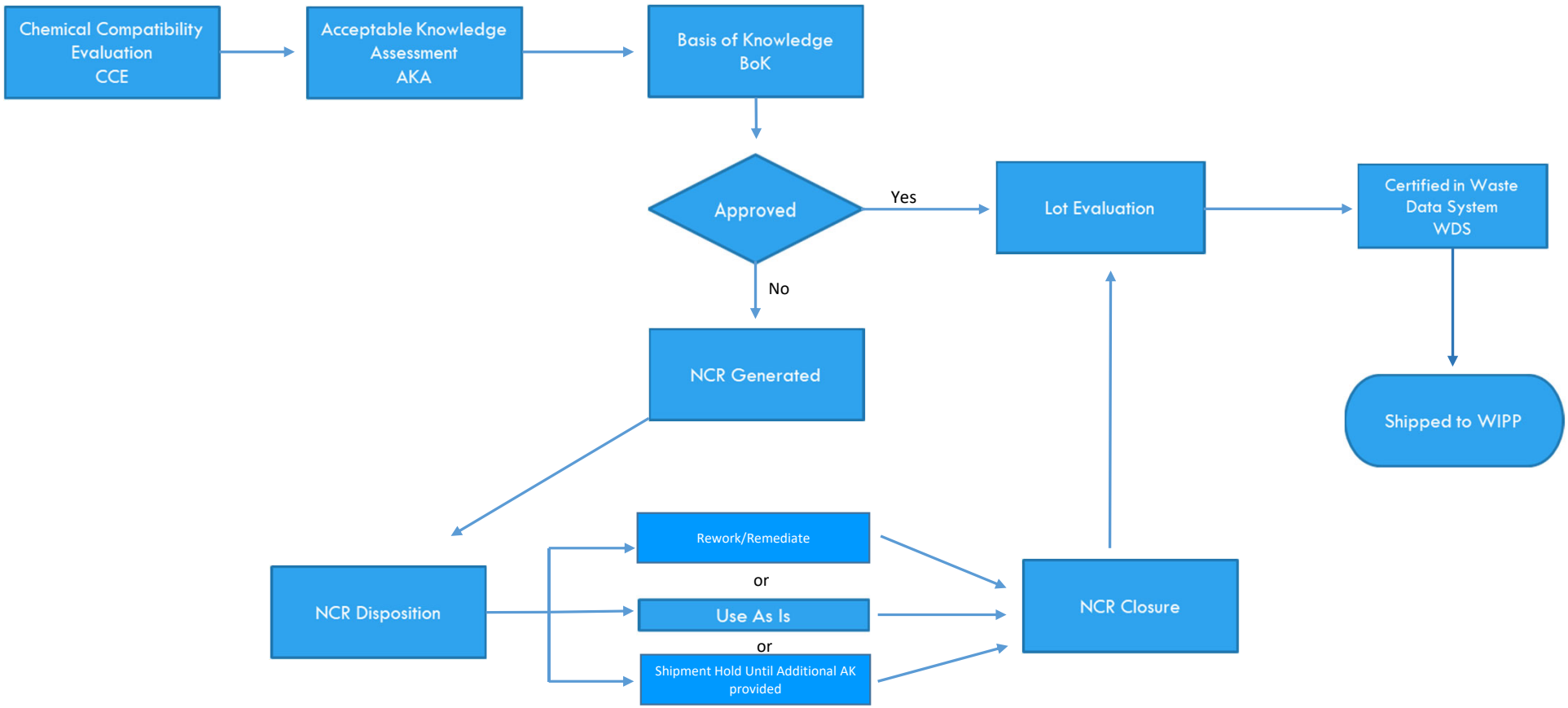
The NCRs received from CCP require resolution to achieve certification for transportation and acceptance at WIPP. However, all waste containers have already been determined to be safe in their

current configuration and compliantly stored in accordance with the LANL Hazardous Waste Facility Permit. As described above, nothing in the NCRs received would alter the existing Resource Conservation and Recovery Act (RCRA) characterization for these containers.

The tables in Enclosures 2 and 3 provide information and status on ongoing actions to resolve the items identified by CCP. In some cases, additional information has been provided and a response from CCP is pending. In other cases, the containers will require some form of remediation to support resolution (e.g. opening of the container under engineered controls, inspection, waste segregation, permitted treatment, etc.). When waste remediation is deemed as the necessary path forward for waste containers, it will be conducted with the intent to resolve specific noncomformances identified as part the BoK evaluation process, rather than to remove EPA Hazardous Waste Numbers from the waste, as the characterization has already determined that these containers do not have any prohibited waste numbers (D001, D002, or D003).

If a waste container is determined to require further remediation prior to acceptance for shipment to the WIPP, the appropriate remediation process will be chosen and the container will be added to the campaign as determined by the Permittees. The Permittees are currently working to stand up several remediation process lines to accommodate treatment/repackaging/segregation activities as appropriate. A deliberate process is being utilized for each of these activities to ensure that all necessary permitting, safety protocols, procedures, and other operational requirements have been taken into account prior to the start of these activities. It is also important for the Permittees to create efficiencies as containers are routed through the process lines. These efforts will be coordinated by NA-LA and EM-LA to effectively work through the WIPP WAC approval process for TRU waste containers. A result of this coordination includes a plan to conduct the remediation process lines at TA-54, Area G as a centralized location. As containers are remediated through these process lines, the applicable NCRs for the containers will be resolved. Scheduling for the start of all necessary process lines is beyond this calendar year, due to the various start up activities that are required for permitting and as part of nuclear facility safety requirements. The Permittees are committed to a consolidated effort to ensure that TRU waste is shipped offsite to the WIPP and can provide regular updates to the NMED-HWB regarding transuranic waste certification progress and the remediation activities conducted by the Permittees.

## Enhanced Acceptable Knowledge




EPC-DO-20-073
LA-UR- 20-21857

# ENCLOSURE 2

Request for Supplemental Information for Containers under Responsibility of EM-LA/N3B at TA-54, Area G, Dome 49

Date: MAR 04 2020

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| LA00000064778 (BoK 20) | See column labeled “(4)” for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. | 06/26/2013<br>No Parent | TA-03-0029 (CMR) | Date Codes Assigned 09/15/2014<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000064786(BoK 20) | See column labeled “(4)” for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 11/7/2012<br>No Parent | TA-03-0029 (CMR) | Date Codes Assigned 05/07/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069044 (BoK 20) | See column (4) for hazardous waste characteristics. Contains plastic and kitty litter and 6 oz. of free liquid was sorbed onto 10 kg of polyol organic kitty litter. BoK) process conservatively assumes that all liquid is nitric acid. In addition the BoK process assumes that polyol organic kitty litter (10 kg) was utilized to sorb the 6 oz. of liquid. Polyol organic sorbents with oxidizing liquids are prohibited per the BoK. This was the issue requiring further information to resolve the Nonconformance Report (NCR). These BoK assumptions do not change the original waste characterization as reflected in column (4). | 09/30/1986<br>S863122 | TA-3-29 (CMR)<br>TA-50-0069 (WCCRF) | Date Codes Assigned 08/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | The unknown liquid was originally absorbed with "kitty litter". Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069199 (BoK 20) | See column labeled “(4)” for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 07/25/1984<br>S845017 | TA-03-0029 (CMR) | Date Codes Assigned 08/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000068154 (BoK24) | See column labeled “(4)” for hazardous waste characteristics. This container contains nitric acid that was then neutralized with sodium hydroxide to a pH of 7 prior to being absorbed with 3 cups of Waste Lock 770 and surrounded by gray polypropylene pig wipes. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad-Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. This glovebox (GB) remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. | 05/25/1995<br>56066 | TA-55-PF4 | Date Codes Assigned 08/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | A re-evaluation under the BoK process was requested and the container passed BoK on 10/03/2019, currently waiting for CCP to close NCR. |

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| LA00000068161 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. This container contains nitric acid that was then neutralized with sodium hydroxide to a pH of 7 prior to being absorbed with 3 cups of Waste Lock 770 and surrounded by gray polypropylene pig wipes. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad-Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. | 06/25/1993<br>55193 | TA-55-PF4 | Date Codes Assigned 08/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | A re-evaluation under the BoK process was requested and the container passed BoK on 10/03/2019, currently waiting for CCP to close NCR. |
| LA00000068264 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. This container contains nitric acid that was then neutralized with sodium hydroxide to a pH of 7 prior to being absorbed with 3 cups of Waste Lock 770 and surrounded by gray polypropylene pig wipes. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad-Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. | 10/03/1988<br>55121 | TA-55-PF4 | Date Codes Assigned 01/28/2014<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | A re-evaluation under the BoK process was requested and the container passed BoK on 10/03/2019, currently waiting for CCP to close NCR. |
| 53629 (BoK 24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 10/11/88<br>No Parent | TA-55-PF4<br>TA-50-0069 (WCCRF) | Date Codes Assigned 08/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000068658 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 10/04/82<br>S824612 | TA-55-PF4<br>TA-50-0069 (WCCRF) | Date Codes Assigned 11/14/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000068677 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 1/5/1981<br>S814931 | TA-55-PF4<br>TA-50-0069 (WCCRF) | Date Codes Assigned 8/23/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| LA00000068830 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). SWB with 4 55 gallon drums inside | 2/15/1982<br>S824077<br>S852918<br>S822779<br>S825713 | TA-55-PF4 | Date Codes Assigned 2/20/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000068984 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 8/31/1982<br>S824498 | TA-55-PF4 | Date Codes Assigned 11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069029 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 7/8/1985<br>S853560 | TA-55-PF4 | Date Codes Assigned 11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069042 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 5/13/1985<br>S852928 | TA-55-PF4<br>TA-50-0069 (WCCRF)) | Date Codes Assigned 12/14/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069057 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 5/4/1981<br>S813373 | TA-55-PF4 | Date Codes Assigned 12/13/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069059 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 12/29/1982<br>S825773 | TA-55-PF4<br>TA-50-0069 (WCCRF) | Date Codes Assigned 12/13/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069524 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 2/9/1981<br>S81357 | TA-55-PF4<br>TA-50-0069 (WCCRF) | Date Codes Assigned 11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| 88968 (BoK24) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 11/9/1982<br>S824975 | TA-55-PF4 | Date Codes Assigned 11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| LA00000069026 (BoK 20) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 12/28/1981<br>S818422 | TA-03-0029 (CMR)<br>TA-50-0069 (WCCRF) | Date Codes Assigned 12/03/2013<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| 85072 (BoK 20) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 12/18/1979<br>S792740 | TA-03-0029 (CMR) | Date Codes Assigned 11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |
| S844686 (BoK 20) | See column labeled "(4)" for hazardous waste characteristics. Per the BoK process, it is assumed that this container potentially contains vermiculite. The BoK prohibits the use of vermiculite as an sorbent. These BoK assumptions do not change the original waste characterization as reflected in column (4). | 5/9/1984<br>No Parent | TA-03-0029 (CMR) | Date Codes Assigned 12/04/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container has the potential to contain liquids sorbed with vermiculite, which is not an allowed sorbent. Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. |

# ENCLOSURE 3

Request for Supplemental Information for Containers under Responsibility of NA-LA/Triad at TA-54, Area G, Dome 49

EPC-DO-20-073

LA-UR-20-21857

Date: MAR 04 2020

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| LA00000068163 (BoK 20) | See column heading *Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4)* for hazardous waste characteristics. Container includes a repackaged fiberglass re-enforced plywood box and plastic. An unknown amount of liquid waste potentially sorbed either an engineered organic polymer sorbent or an inorganic sorbent. Per the BoK process, it is assumed that Waste Lock 770 was used as the sorbent. it is not possible to do a defensable mass balance for this container and is conservatively returned back to host site. | 3/7/2014<br>57457 | TA-03-0029 (CMR) | Date Codes Assigned<br>3/25/2014<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container was remediated on 3/28/14 at TA-54-375. Waste records and processing information from the remediation activities indicate that LA00000068163 contains a ¾" conduit and Radiation Control Technician (RCT) generated trash. This container originally did not pass the Basis of Knowledge (BoK) Evaluation because at the time, an unknown amount of liquid was potentially absorbed into 10kg of Waste Lock 770. Additional information regarding potential oxidizers are currently being verified through the certification process. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad- Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. Since this decon operation would have been run multiple times using the same amounts, we have confidence in this ratio. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. Please use this ratio with your BoK calculation of these containers and not the 100:1 per manufacturer recommendation. Passed BoK 10-3-2019, currently waiting for CCP to close NCR. |
| LA00000069506 (BoK20) | See column heading *Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4)* . Lead-lined gloves, plastic vials, wood, plastic, cheese cloth, and 3 oz. of containerized absorbed liquid. Basis of knowledge (BoK) process conservatively assumes that all liquid is nitric acid. In addition the BoK process assumes that polyol organic kitty litter (10 kg) was utilized to sorb the 3 oz of liquid. This was the issue requiring further information to resolve the Nonconformance Report (NCR). These BoK assumptions do not change the original waste characterization as reflected in column 4. | 02/27/2014<br>53700 | TA-03-0029 (CMR) | Date Codes Assigned<br>11/01/2017<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | The unknown liquid was originally absorbed with "kitty litter". Remediation efforts are being planned for containers that fall into this category. The container will once again be sent for re-evaluation by CCP after treatment/remediation to meet the WIPP certification criteria for disposal at the WIPP. This container was remediated at TA-54-412 on 2/15/14 and subsequently at the Waste Characterization, Reduction and Repackaging Facility (WCCRF) on 2/28/14. Processing information from the WCCRF remediation activities indicate the original container contained approximately 3 oz. of liquid (unknown) that was absorbed with "kitty litter", lead lined gloves, plastic vials, wood, cardboard, plastic, cheese cloth, and light bulbs. This container is still under evaluation due to the specific kitty litter absorbent and the liquid could not be identified during remediation activities. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad- Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. Since this decon operation would have been run multiple times using the same amounts, we have confidence in this ratio. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. Please use this ratio with your BoK calculation of these containers and not the 100:1 per manufacturer recommendation. Passed BoK 10-3-2019, currently waiting for CCP to close NCR. |
| LA00000067854 (BoK24) | See column heading *Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4)* . This is a 55-gallon drum with a 12" standard pipe overpack. | 06/01/2015<br>802518 | TA-55-PF4 | Date Codes Assigned<br>1/11/2019<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container went through NDA on 04/23/2015. Nochar was used to absorb chiller water, Sent objective evidence to CCP and passed BoK on 9/4/19. |
| LA00000067862 (BoK24) | See column heading *Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4)* . This is a 55-gallon drum with a 12" standard pipe overpack. | 06/01/2015<br>822196 | TA-55-PF4 | Date Codes Assigned<br>10/15/2018<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container went through NDA on 04/27/2015. Nochar was used to absorb chiller water, Sent objective evidence to CCP and passed BoK on 9/4/19. |

| Containers put on administrative hold by CCP due to the potential presence of nitrates and organics, or incompatible wastes | Known/Estimated Quantities of Potentially Hazardous Constituents/Waste within the container (1) | Numbers Assigned to Containers and Dates of Generation (2) | Specific Location of Waste Generation (Technical Area, building, room, glove box, etc.) (3) | Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4) | Path Forward |
|---|---|---|---|---|---|
| LA00000067875 (BoK24) | See column heading *Hazardous Waste Numbers and Dates Numbers Assigned to Containers (4)* . This is a 55-gallon drum with a 12" standard pipe overpack. | 06/01/2015<br>800712 | TA-55-PF4 | Date Codes Assigned 11/25/2019<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | Nochar was used to absorb plenum oil. Passed BoK on 9-4-19. |
| LA00000067891 (BoK24) | <1% unknown after NDA | 06/01/2015<br>744432 | TA-55-PF4 | Date Codes Assigned 4/23/2015<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | Nochar was used to absorb chiller water. Passed BoK on 9/4/19. |
| LA00000068155 (BoK 24) | Less than 1 liter of the mixture was absorbed on to Waste Lock 770 and gray polypropylene pig wipes. This container was remediated at TA-54-375 on 3/8/14 and remediation activities were completed on 3/11/2014. This container contains nitric acid that was then neutralized with sodium hydroxide to a pH of 7 prior to being absorbed with 3 cups of Waste Lock 770 and surrounded by gray polypropylene pig wipes. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad-Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. | 3/7/2014<br>62450 | TA-55-PF4 | Date Codes Assigned 3/25/2014<br>D004-D011, D018, D019, D021, D022, D035, D038-D040, F001, F002 and F005 | This container was remediated at TA-54-375 on 3/8/14 and remediation activities were completed on 3/11/2014. This container contains nitric acid that was then neutralized with sodium hydroxide to a pH of 7 prior to being absorbed with 3 cups of Waste Lock 770 and surrounded by gray polypropylene pig wipes. Additional information regarding potential oxidizers and liquid are currently being verified through the certification process. The Rad-Release II step 1 (acid with nitric acid) was sprayed into glovebox and then the Rad-Release II step 2 (base NaOH) was added after it to neutralize the pH at about 7. Then 3 cups of Waste lock 770 would be added to a 1 liter pool in the glovebox absorbing the majority of the spent rad-release solution. Some remaining liquid would be wiped up with Pig wipes (gray polypropylene). The ratio was actually 1.4: 1 to 2:1 solution to absorbent. Since this decon operation would have been run multiple times using the same amounts, we have confidence in this ratio. These GB remediation would have been done in Dome 412, 231 and 375 with a date range of 9-30-13 to 4-2014. Please use this ratio with your BoK calculation of these containers and not the 100:1 per manufacturer recommendation. Passed BoK 10-3-2019, currently waiting for CCP to close NCR. |