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ESHID-603198

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Date: SEP 2 6 2018
Symbol: EPC-DO: 18-291
LA-UR: 18-27810
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 87505-6303

Subject: **Notification of a Class 1 Permit Modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit Waste Analysis Plan, EPA ID# NM0890010515**

Dear Mr. Kieling:

The purpose of this letter is to notify the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (the Permit). The Permit authorizes the U.S. Department of Energy (DOE); Los Alamos National Security, LLC (LANS); and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) to manage, store, and treat hazardous waste at LANL. This permit modification provides informational updates to general descriptions of waste and waste generating processes listed in Attachment C, *Waste Analysis Plan.*

The Permittees have prepared this permit modification in accordance with Title 40 of the Code of Federal Regulations (40 CFR) §270.42(a)(l). The changes made to the Permit as part of this modification fall under the conditions of Appendix I of 40 CFR §270.42 for Class 1 permit modifications. A full description of the permit modification, rationale for the classification type, pages of revised text from Permit Attachment C, and a signed certification page are included in Enclosure 1.

Three hard copies and one electronic copy of this submittal will be delivered to the NMED-HWB. The hardcopy submittal contains pages or sections where text has been changed, rather than copies of the entire Permit Attachment. The electronic copy, provided only to the NMED-HWB, contains a reproduction of the

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hardcopy in portable document format (pdf) along with all the word processing files used to create the hardcopy.

Notice of this permit modification will be sent to the NMED-HWB maintained LANL facility mailing list in accordance with 40 CFR §270.42(a)(1)(ii) within ninety days of the NMED-HWB incorporating the changes. If you have comments or questions regarding this permit modification, please contact Patrick Padilla at (505) 667-3932 (LANS) or Karen Armijo at (505) 665-7314 (NA-LA).

Sincerely,

Enrique Torres
Division Leader

Sincerely,

Karen E. Armijo
Permitting and Compliance Program Manager

ET/KEA/PLP:kr

Enclosure: 1) Class 1 Permit Modification to Update General Descriptions in the Waste Analysis Plan

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ENCLOSURE 1

Class 1 Permit Modification to Update General Descriptions in the Waste Analysis Plan

EPC-DO-18-291

LA-UR-18-27810

Date: SEP 2 6 2018

Class 1 Permit Modification to Update General Descriptions in the Waste Analysis Plan

This document contains a notification for a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit). The Permit authorizes the U.S. Department of Energy (DOE); Los Alamos National Security, LLC (LANS); and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) to manage, store, and treat hazardous waste at LANL. Attachment 1 of this modification provides updates to general descriptions of waste and waste generating processes listed in Attachment C, *Waste Analysis Plan*. Changes to Permit text are identified with red editing marks in Attachment 1 and described below. A certification page in accordance with the requirements of Title 40 of the Code of Federal Regulations (40 CFR) §270.11 is included in Attachment 2.

Summary of Changes

Attachment C, *Waste Analysis Plan* of the Permit provides descriptive information on hazardous waste types and hazardous waste generating processes at the Facility. For informational purposes, Waste Matrix Code S5100 was added to Attachment C to provide a description of a waste type generated and managed by LANS at Technical Area 55. Waste Stream LA-MIN06-NS.001 was also added to Attachment C for informational purposes to provide a description of the waste generating process associated with treated nitrate salt wastes. A summary of changes associated with the addition of WMC S5100 and Waste Stream LA-MIN06-NS.001 are outlined below:

Waste Matrix Code – WMC S5100

- A description for *Waste Matrix Code (WMC) S5100* was added to Section C.1.2.3, *Mixed Transuranic Waste,* page 11.
- Table C-4, *Facility MTRUW Stream Waste Matrix Codes Correlated with Facility Waste Identification Systems* and Table C-5, *Descriptions of Mixed Transuranic Waste Stored at the Facility* were updated to reflect the addition of WMC S5100.
- Footnotes in Table C-4, Page 47 were updated to clarify that Radioactive Solid Waste Disposal Code and Item Description Code usage was discontinued prior to 2010.

Waste Stream – LA-MIN06-NS.001

- A description for Facility TRU Waste Stream ID LA-MIN06-NS.001 was added to Section C.1.2.3, page 14.
- Accordingly, a general description of an MTRUW waste stream (Homogeneous Inorganic, Vermiculite) in Section C.1.2.3, page 11 was updated for clarification.

Basis

This permit modification incorporates updated information that meets the conditions for Class 1 permit modifications without prior approval listed within Appendix I of 40 CFR §270.42 and has been drafted in accordance with 40 CFR §270.42(a)(1). Attachment C, *Waste Analysis Plan* requires updates that meet the conditions specified in 40 CFR §270.42, Appendix I, Item A.1 – administrative and informational changes.

Attachment 1

Replacement Pages for Permit Attachment C, *Waste Analysis Plan*

ATTACHMENT C

WASTE ANALYSIS PLAN

TABLE OF CONTENTS

C.1.2.3 Mixed Transuranic Waste

Transuranic isotopes are those with atomic numbers greater than 92. MTRUW contains both a hazardous waste component and a TRU waste component.

MTRUW is generated at the Facility primarily from R&D activities, processing and recovery operations, and D&D projects. Limited quantities of MTRUW from off-site facilities will be accepted at LANL for additional characterization and management. (*see* Table C-8). MTRUW at the Facility includes four broad categories that can be described by a Summary Category Group, which is further subdivided into Waste Matrix Codes.

Summary Category Groups are used to define waste characterization groupings for the Federal Facility Compliance Order (Los Alamos National Laboratory) (New Mexico Environment Department [NMED], 1995) requirements and are based on the physical and chemical forms of the waste. Complete descriptions of the Summary Category Groups are contained in DOE Waste Treatability Groups Guidance (DOE, 1995).

The Summary Category Groups applicable to the MTRUW stored and treated at the Facility are listed as follows:

1. *Summary Category Group S3000 (Homogeneous Solids)*: defined as solid waste materials, excluding soil and gravel, that do not meet the EPA LDR criteria for classification as debris;
2. *Summary Category Group S4000 (Soil/Gravel)*: defined as solid waste materials that are at least 50 percent by volume soil and gravel;
3. *Summary Category Group S5000 (Debris)*: defined as heterogeneous waste materials that are at least 50 percent by volume solid materials exceeding a 2.36-inch particle size that are intended for disposal and include manufactured objects, plant or animal matter, or natural geologic material. Particle sizes smaller than 2.36 inches in size may be considered debris if the debris is a manufactured object and if it is not a particle of S3000 or S4000 material; and
4. *Summary Category Group L1000 (Aqueous Liquids/Slurries)*: defined as aqueous liquids and slurries that meet the EPA LDR criteria for wastewaters (*i.e.*, <1 percent total suspended solids).

Summary Category Groups are applied to MTRUW streams to distinguish between waste types. More specific waste identification systems (*i.e.*, Waste Matrix Codes [WMC] and Facility TRU Waste Stream ID numbers) are used for supplementary purposes as part of waste management operations. The WMCs that are applicable to the solid MTRUW stored at the Facility are:

1. *WMC S3100 (Inorganic Homogeneous Solid Waste)*: includes mixed inorganic homogeneous waste (cemented inorganics, organics on vermiculite, non-cemented, salts, and cemented organics);
2. *WMC S4100 (Soil)*: consists of radioactive contaminated solid waste materials that are at least 50 percent by volume soil/gravel;

3. *WMC S5100 (Inorganic Debris Waste)*: consists of mixed non-combustible debris waste (scrap metal, concrete, brick, and glass) and up to approximately 10% of incidental organic waste forms;

~~3.~~4. *WMC S5300 (Organic Debris Waste)*: consists of mixed combustible debris waste (plastic, cellulosics, and rubber); and

~~4.~~5. *WMC S5400 (Heterogeneous Debris Waste)*: includes mixed heterogeneous debris waste (varying amounts of combustible and noncombustible debris, with a small amount of homogeneous waste present).

Solid MTRUW is assigned a WMC and is further identified with a Facility TRU Waste Stream ID number. Using the WMC, waste streams are further delineated based on the following prioritized criteria: 1) waste-generating process (to the degree to which waste has been segregated by process); 2) Summary Category Group (*i.e.*, homogeneous or debris waste); 3) waste matrix; and 4) hazardous chemical content (*i.e.*, organics and/or inorganics).

The following are general descriptions of types of MTRUW waste streams:

1. *Homogeneous Inorganic, Cemented*: includes solidified aqueous or homogeneous inorganic solids, solidified inorganic process solids, leached process residues, evaporator bottoms/salts, and/or cement paste;
2. *Homogeneous Inorganic, Cemented Organics*: major portion of the waste is cement (*i.e.*, inorganic) containing a minor portion of cemented solidified organic process solids;
3. *Homogeneous Inorganic, Non-cemented*: includes solid (non-cemented) inorganic waste, ash, dewatered aqueous sludge, and/or chemical treatment sludge;
4. *Homogeneous Inorganic, Salts*: includes pyrochemical, nitrate, and/or chloride salts; hydroxide cake; and/or other salt waste;
5. *Homogeneous Inorganic, Vermiculite*: includes vermiculite-absorbed hydrocarbon oil, vermiculite-absorbed silicon-based liquid, inorganic particulates, and solidified (non-cemented) organic waste.
6. *Soil*: includes all radioactive-contaminated soil;
7. *Combustible debris*: includes greater than 50% by volume combustible decontamination waste, cellulosics, plastics, rubber, laboratory trash, building debris, hot cell waste, and/or other combustibles; and
8. *Heterogeneous debris*: includes greater than 50% by volume noncombustible waste, metal scrap, glass, metal waste, metal crucibles and dies, precious metals, filter media and residue, beryllium-contaminated debris, ion-exchange resins, irradiation sources, firing point sources, leaded rubber, graphite waste, high-efficiency particulate air (HEPA) filter waste, skull and oxide, slag and porcelain, and/or other noncombustible waste.

The WMCs correspond to other historical and current waste identification systems used at the Facility. Table C-4 lists the MTRUW streams stored at the Facility by their Summary Category

Group, WMC, and general matrix description and provides a cross-reference between past and present waste identification systems.

Facility TRU Waste Stream ID numbers are applied to the MTRUW streams described above. Facility TRU Waste Stream ID numbers are assigned the prefix "LA", followed by a unique identifier that further specifies the waste stream. MTRUW information is summarized in Table C-5.

The following are some examples of MTRUW waste streams stored, and in some cases treated, at the Facility.

LA-TA-55-19: Mixed Combustible Debris Waste

This waste stream consists of mixed combustible debris waste generated by plutonium recovery, R&D processes, and facility and equipment operations and maintenance. The debris waste includes paper, rags, plastic, rubber, wood-based HEPA filters, and other plastic-based and cellulose-based items.

LA-TA-55-30: Mixed Heterogeneous Debris Waste

This waste stream consists of mixed heterogeneous debris waste generated by plutonium recovery, R&D processes, and facility and equipment operations and maintenance. The waste includes plutonium-contaminated noncombustible and combustible debris waste.

LA-MIN01-CIN: Mixed Inorganic Homogeneous Waste, Cemented Inorganics

This waste stream consists of mixed inorganic homogeneous waste generated by plutonium recovery, R&D processes, facility and equipment operations and maintenance, and liquid waste treatment operations. The waste includes cemented sludge, solidified aqueous waste, and solidified inorganic process solids.

A portion of the waste stream that requires treatment for off-site disposition includes evaporator bottom solutions (i.e., nitrate salts concentrates) generated prior to 1992 from nitrate recovery operations at TA-55. Evaporator bottoms solution is the liquid residual that results when a volume of ion-exchange effluents, oxalate filtrates, vacuum-seal water, or negative chilled waters is processed and concentrated in evaporator processes. The procedure for stabilization of the evaporator bottoms solution in a cement matrix was in development until 1992 when the process was successfully standardized. Prior to 1992, several alternate cementation methods were used and some of the cemented matrices have dewatered over time. Sampling of the liquids has shown elevated levels of nitrates and a range of corrosive pHs requiring the addition of EPA Hazardous Waste Number D001 and D002, along with other applicable EPA Hazardous Waste Numbers.

LA-MIN02-V: Mixed Inorganic Homogeneous Waste, Organics on Vermiculite

This waste stream consists of mixed inorganic homogeneous waste generated by plutonium recovery, R&D processes, and facility and equipment operations and maintenance. The waste is comprised of organic liquids (oils and solvents) adsorbed on vermiculite.

Portions of this waste stream that require treatment for off-site disposition are unremediated and remediated nitrate salts. As described for waste stream LA-MIN01-CIN, evaporator bottoms (i.e., nitrate salts) have been generated continuously from nitrate recovery operations at TA-55. In some cases, the evaporator bottoms solution was cooled, which causes a precipitation of solids (i.e., nitrate salts). The unremediated nitrate salt-bearing waste stream are nitrate salts that were double bagged and placed in containers. Reevaluation of the characterization of this waste required the addition of EPA Hazardous Waste Numbers D001, and D002, along with other applicable EPA Hazardous Waste Numbers.

The unremediated nitrate salts were mixed with various types of absorbents (e.g., WasteLok 770 [sodium polyacrylate] and Swheat Scoop [organic kitty litter]). Up to 50 percent by volume of debris including plastic packaging, lead (e.g. shielding), personal protective equipment (PPE), and metal fines may also be present in this waste stream. Some secondary waste generated during mixing/repackaging operations may also have been added to the waste containers, including but not limited to: tools, paper/plastic tags and labels, plastic/metal wire tires, leather gloves, lead-lined gloves, PPE, plastic sheeting used for contamination control, rags and wipes (e.g., Kimwipes, or Wypalls), and some packaging material (e.g., plastic bags, fiberboard liners, rigid liner lids cut into pieces).

LA-MHD01.001: Mixed Heterogeneous Debris

Waste stream LA-MHD01.001 consists of mixed heterogeneous debris waste generated in TA-55. The debris waste includes paper, rags, plastic, rubber, wood based high-efficiency particulate air (HEPA) filters, other plastic based and cellulose based items (e.g., PPE), noncombustible items (e.g., metal, glass), and lesser quantities of homogenous solids (less than 50 percent by volume) contaminated with radioactive materials. Some secondary waste generated during the remediation/repackaging operations may have been added to the waste containers. Nitrate salts in the form of homogenous solids can be found in some of the containers holding this waste stream and will require further treatment for disposition. Evaluation of the characterization of this waste required the addition of EPA Hazardous Waste Numbers D001 and D002, along with other applicable EPA Hazardous Waste Numbers.

LA-MIN03-NC: Mixed Inorganic Homogeneous Waste, Non-cemented

This waste stream consists of mixed inorganic homogeneous waste generated by plutonium recovery, R&D processes, and liquid waste treatment operations. It consists of vacuum filter cake solid waste.

LA-MIN04-S: Mixed Inorganic Homogeneous Waste, Salts

This waste stream consists of mixed inorganic homogeneous waste generated by plutonium recovery, R&D processes, and facility and equipment operations and maintenance. It is comprised of non-cemented inorganic process solids (salts).

LA-MIN05-COR: Mixed Inorganic Homogeneous Waste, Cemented Organics

This waste stream consists of mixed inorganic homogeneous solidified (cemented) organic process solids and emulsified solvents and oils generated by plutonium recovery, R&D processes, and facility and equipment operations and maintenance.

LA-MHD02-238: Mixed Heterogeneous Debris Waste, Pu-238

This waste stream consists of mixed heterogeneous debris waste generated by Pu-238 processing operations (primarily heat-source fabrication) and facility and equipment operations and maintenance. The waste includes Pu-238 contaminated noncombustible and combustible debris waste.

LA-MIN06-C238: Mixed Inorganic Homogeneous Waste, Cemented Inorganics, Pu-238

This waste stream consists of mixed inorganic homogeneous waste comprised of solidified (cemented) inorganic process solids. This waste stream is generated by Pu-238 processing operations (primarily heat-source fabrication) and facility and equipment operations and maintenance.

LA-MHD03-DD: Mixed Heterogeneous Debris Waste, D&D

This waste stream consists of mixed heterogeneous debris waste generated from facility and equipment D&D, including associated sectioning, size reduction, and packaging operations. The waste is comprised of plutonium-contaminated noncombustible and combustible debris waste.

LA-MHD05-ITRI: Mixed Heterogeneous Debris Waste, ITRI

This waste stream consists of mixed heterogeneous debris generated between 1975 and 1984 by the Inhalation Toxicology Research Institute, which is currently operated by Lovelace at the Kirtland Air Force Base, New Mexico. The waste is comprised of laboratory waste that may contain rags, tools, and biological waste contaminated with Pu-239.

LA-MHD04-RH: Mixed Heterogeneous Debris Waste, Remote-Handled

This waste stream consists of mixed remote-handled heterogeneous debris waste generated by hot cell operations. This waste is comprised of combustible and noncombustible waste.

LA-MIN06-NS.001: Mixed Inorganic Homogeneous Waste, Solids mixed with Zeolite

This waste stream consists primarily of inorganic homogeneous solids generated from the evaporator process at TA-55 and treated at TA-50. This waste is comprised of transuranic waste solids (evaporator bottoms consisting primarily of nitrate salts, which may be mixed with organic-based kitty litter or Waste Lock 770) mixed with zeolite (aluminosilicate mineral).

Table C-4
Facility MTRUW Stream Waste Matrix Codes Correlated with Facility Waste Identification Systems
(This table is for informational purposes only)

Summary Category Group	Waste Matrix Code	Waste Stream Description	RSWD Code[a]		IDC[b]		TRUCON Code[c]	
S3000 - Homogeneous	S3100	Homogeneous Inorganic, Cemented	A-25	Leached Process Residues	002	Cemented Aqueous Waste	LA111	Solidified Aqueous or Homogeneous Inorganic Solids
			A-26	Evaporator Bottoms/Salts	006	Solidified Inorganic and Organic Process Solids	LA114	Solidified Inorganic Process Solids
			A-76	Cement Paste				
	S3100	Homogeneous Inorganic, Cemented Organics					LA126	Solidified Organic Process Solids
	S3100	Homogeneous Inorganic, Non-cemented	A-75	Chemical Treatment Sludge	003	Stabilized Aqueous Waste (dewatered sludge)	LA122	Solid Inorganic Waste
							LA130	Ash
	S3100	Homogeneous Inorganic, Salts	A-27	Nitrate Salts		Salt Waste	LA124	Pyrochemical Salt Waste
			A-28	Chloride Salts				
			A-29	Hydroxide Cake				
	S3100	Homogeneous Inorganic, Vermiculite	A-20	Hydrocarbon Oil – Liquid (Absorbed)			LA112	Solidified Organic Waste
			A-21	Silicon-Based - Liquid (Absorbed)				
S4000 – Soil/Gravel	S4100	Soil	A-90	Radioactively-Contaminated Soil				

Table C-4 (continued)

Summary Category Group	Waste Matrix Code	Waste Stream Description	RSWD Code[a]		IDC[b]		TRUCON Code[c]	
S5000 - Debris	S5100	Non-Combustible Debris					LA117	Metal Wastes
	S5300	Combustible Debris	A-14	Combustible Decon Waste	004	Combustible Waste	LA116	Combustible Debris
			A-15	Cellulosics				
			A-16	Plastics				
			A-17	Rubber Materials				
			A-18	Combustible Lab Trash				
			A-35	Combustible Building Debris				
			A-40	Combustible Hot-Cell Waste				
			A-60	Other Combustibles				
	S5400	Heterogeneous Debris	A-10	Graphite Solids	001	Metal Scrap and Incidental Combustibles	LA115	Graphite Waste
			A-19	Combined Combustible/Non-Combustible Lab Trash	005	Combined Noncombustible / Combustible Waste	LA117	Metal Waste
			A-30	PN Equipment	005LG	Glass Waste	LA118	Glass Waste
			A-31	Non-PN Equipment	005LM	Metal Waste	LA119	HEPA Filter Waste
			A-36	Noncombustible Building Debris	005P1	Leaded Rubber and Metal Waste	LA123	Leaded Rubber and Metal Waste

Table C-4 (continued)

Summary Category Group	Waste Matrix Code	Waste Stream Description	RSWD Code[a]	IDC[b]	TRUCON Code[c]
			A-41 Noncombustible Hot-Cell Waste A-46 Skull and Oxide A-47 Slag and Porcelain A-50 Metal Crucibles, Scrap, Dies A-51 Precious Metals A-52 Scrap Metal A-55 Filter Media A-56 Filter Media Residue A-61 Other Noncombustibles A-72 Beryllium Contaminated Debris A-74 Ion Exchange Resin A-80 Irradiation Sources A-85 Firing Point Residues A-95 Glass	005P2G Graphite Waste	LA125 Mixed Combustible / Noncombustible Waste

[a] RSWD = Radioactive Solid Waste Disposal [codes]
RSWD code usage was discontinued prior to 2010.
[b] IDC = Item Description Code
IDC usage was discontinued prior to 2010.
[c] TRUCON = TRUPACT-II Content [codes]

Table C-5
Descriptions of Mixed Transuranic Waste Stored at the Facility
(This table is for informational purposes only)

Summary Category Group	Waste Matrix Code	Waste Description[a]	Waste-Generating Activity	Basis for Hazardous Waste Designation	Potential EPA Hazardous Waste Numbers	Potential Hazardous Waste Constituents and /or Characteristics	Regulatory Limits[b] (milligrams per liter)	Potential Underlying Hazardous Constituents[c]
S3000 - Homogeneous	S3100	Homogeneous Inorganic, Cemented	Plutonium processing operations	Acceptable Knowledge	D001	Ignitable	NA[d]	
					D002	Corrosive	NA[d]	
					D003	Reactive	NA[d]	
		Homogeneous Inorganic, Cemented Organics	Plutonium processing operations	Acceptable Knowledge	D004	Arsenic	5.0	
					D005	Barium hydroxide	100.0	
					D006	Cadmium	1.0	
					D007	Chromium	5.0	
					D008	Lead	5.0	
		Homogeneous Inorganic, Non-cemented	Plutonium processing operations	Acceptable Knowledge	D009	Mercury	0.2	
					D010	Selenium	1.0	
					D011	Silver	5.0	
					D018	Benzene	0.5	
					D019	Carbon tetrachloride	0.5	
		Homogeneous Inorganic, Salts	Plutonium processing operations	Acceptable Knowledge	D021	Chlorobenzene	100.0	
					D022	Chloroform	6.0	
					D035	Methyl ethyl ketone	200.0	
					D038	Pyridine	5.0[e]	
					D039	Tetrachloroethylene	0.7	
					D040	Trichloroethylene	0.5	
					F001	Spent halogenated solvents	NA[d]	
					F002	Spent halogenated solvents	NA[d]	
					F003	Spent non-halogenated solvents	NA[d]	
					F005	Spent non-halogenated solvents	NA[d]	

Table C-5 (continued)

Summary Category Group	Waste Matrix Code	Waste Description[a]	Waste-Generating Activity	Basis for Hazardous Waste Designation	Potential EPA Hazardous Waste Numbers	Potential Hazardous Waste Constituents and/or Characteristics	Regulatory Limits[b] (milligrams per liter)	Potential Underlying Hazardous Constituents[c]
S3000 - Homogeneous	S3100	Homogeneous Inorganic, Vermiculite	Plutonium processing operations	Acceptable Knowledge	D001	Ignitable	NA[d]	
					D002	Corrosive	NA[d]	
					D004	Arsenic	5.0	
					D005	Barium hydroxide	100.0	
					D006	Cadmium	1.0	
					D007	Chromium	5.0	
					D008	Lead	5.0	
					D009	Mercury	0.2	
					D010	Selenium	1.0	
					D011	Silver	5.0	
					D018	Benzene	0.5	
					D019	Carbon tetrachloride	0.5	
					D021	Chlorobenzene	100.0	
					D022	Chloroform	6.0	
					D027	1,4-Dichlorobenzene	7.5	
					D028	1,2-Dichloroethane	0.5	
					D030	2,4-Dinitrotoluene	0.13[e]	
					D032	Hexachlorobenzene	0.13[e]	
					D033	Hexachlorobutadiene	0.5	
					D034	Hexachloroethane	3.0	
					D035	Methyl ethyl ketone	200.0	
					D036	Nitrobenzene	2.0	
					D037	Pentachlorophenol	100.0	
					D038	Pyridine	5.0[e]	
					D039	Tetrachloroethylene	0.7	
					D040	Trichloroethylene	0.5	
					D042	2,4,6-Trichlorophenol	2.0	
					D043	Vinyl Chloride	0.2	
					F001	Spent halogenated solvents	NA[d]	
					F002	Spent halogenated solvents	NA[d]	
					F003	Spent non-halogenated solvents	NA[d]	
					F005	Spent non-halogenated solvents	NA[d]	

Table C-5 (continued)

Summary Category Group	Waste Matrix Code	Waste Description[a]	Waste-Generating Activity	Basis for Hazardous Waste Designation	Potential EPA Hazardous Waste Numbers	Potential Hazardous Waste Constituents and/or Characteristics	Regulatory Limits[b] (milligrams per liter)	Potential Underlying Hazardous Constituents[c]
S4000 – Soil/ Gravel	S4100	Soil	D&D	Acceptable Knowledge	D004	Arsenic	5.0	D004
					D005	Barium hydroxide	100.0	D005
					D006	Cadmium	1.0	D006
					D007	Chromium	5.0	D007
					D008	Lead	5.0	D008
					D009	Mercury	0.2	D009
					D010	Selenium	1.0	D010
					D011	Silver	5.0	D011
					D018	Benzene	0.5	D018
					D019	Carbon tetrachloride	0.5	D019
					D021	Chlorobenzene	100.0	D021
					D022	Chloroform	6.0	D022
					D035	Methyl ethyl ketone	200.0	D035
					D038	Pyridine	5.0[e]	D038
					D039	Tetrachloroethylene	0.7	D039
					D040	Trichloroethylene	0.5	D040
					F001	Spent halogenated solvents	NA[d]	F001
					F002	Spent halogenated solvents	NA[d]	F002
					F003	Spent non-halogenated solvents	NA[d]	F003
					F005	Spent non-halogenated solvents	NA[d]	F005

Table C-5 (continued)

Summary Category Group	Waste Matrix Code	Waste Description[a]	Waste-Generating Activity	Basis for Hazardous Waste Designation	Potential EPA Hazardous Waste Numbers	Potential Hazardous Waste Constituents and/or Characteristics	Regulatory Limits[b] (milligrams per liter)	Potential Underlying Hazardous Constituents[c]
S5000 - Debris	S5100	Non-Combustible Debris	Plutonium processing operations; D&D	Acceptable Knowledge	D001	Ignitable	NA[d]	
					D002	Corrosive	NA[d]	
					D003	Reactive	NA[d]	
					D004	Arsenic	5.0	
					D005	Barium hydroxide	100.0	
					D006	Cadmium	1.0	
					D007	Chromium	5.0	
					D008	Lead	5.0	
					D009	Mercury	0.2	
					D010	Selenium	1.0	
					D011	Silver	5.0	
					D018	Benzene	0.5	
					D019	Carbon tetrachloride	0.5	
					D021	Chlorobenzene	100.0	
					D022	Chloroform	6.0	
					D035	Methyl ethyl ketone	200.0	
					D038	Pyridine	5.0[e]	
					D039	Tetrachloroethylene	0.7	
					D040	Trichloroethylene	0.5	
					D043	Vinyl Chloride	0.2	
					F001	Spent halogenated solvents	NA[d]	
					F002	Spent halogenated solvents	NA[d]	
					F003	Spent non-halogenated solvents	NA[d]	
					F004	Spent non-halogenated solvents	NA[d]	
					F005	Spent non-halogenated solvents	NA[d]	
					U080	Methylene Chloride	NA[d]	
	S5300	Combustible Debris	Plutonium processing operations	Acceptable Knowledge				
	S5400	Heterogeneous Debris	Plutonium processing operations; D&D	Acceptable Knowledge				

[a] This table is based on information from the *Acceptable Knowledge Information Summary for Los Alamos National Laboratory Transuranic Waste Streams* (AKIS), (TWCP-AK-2.1-019, R.0) (LA-UR-03-4870); and from waste characterization documentation information maintained by the Facility and Waste Operations Division. Waste with EPA Hazardous Waste Numbers that are not included in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit will not be transported to WIPP. Additionally, recharacterization efforts for nitrate salt-bearing waste have been conducted and documented in several documents as outlined in Enclosure 3 of *Response to Ordered Action 2/3; Attachment A to Settlement Agreement and Stipulated Final Order HWB-14-20; Los Alamos National Laboratory.*

[b] A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, Test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA, 1986), the extract from a representative sample of the waste contains any of the contaminants listed at a concentration equal to or greater than the respective value given in the New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart II, Part 261, Subpart C [6-14-00].

[c] Potential underlying hazardous constituents (UHC) have been included, where the information is available. UHC characterization for the purpose of Land Disposal Restrictions will apply for mixed transuranic waste to be disposed of at WIPP.

[d] Not Applicable: Refers to the absence of regulatory limits for ignitable, corrosive, and reactive characteristic wastes and F-, P-, and U-listed wastes.

[e] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

Note: Fluoride, sulfide, vanadium, and zinc are not "underlying hazardous constituents" in characteristic wastes, according to the definition in § 268.2(i). Selenium is not an underlying hazardous constituent as defined at § 268.2(i) because its Universal Treatment Standard level is greater than its Toxicity Characteristic level, thus a treated selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.

Attachment 2

Certification

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.

9/18/18

Enrique Torres
Division Leader
Environmental Protection and Compliance Division
Los Alamos National Security, LLC

Date Signed

24 Sept 2018

Karen Armijo
Manager, Permitting and Compliance
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

Date Signed