Annual Change Report 2017/2018

From July 1, 2017, to June 30, 2018

November 2018

Print Name DOE-OEP Manager Signature Date

Prepared for:

The U.S. Department of Energy

Prepared by:

Nuclear Waste Partnership LLC

Regulatory Environmental Services

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Introduction

The U.S. Environmental Protection Agency (EPA) requires the U.S. Department of Energy (DOE) to provide information on any change in conditions or activities pertaining to the disposal system since the most recent compliance application. This requirement is identified in Title 40 Code of Federal Regulations (CFR) Part 194.4(b)(4) (EPA 1996), which states:

> Not later than six months after the Administrator issues a certification, and at least annually thereafter, the Department shall report to the Administrator, in writing, any changes in conditions or activities pertaining to the disposal system that were not required to be reported by paragraph (b)(3) of this section and that differ from information contained in the most recent compliance application.

The DOE provides an annual report each November of applicable changes under this requirement. This annual report informs the EPA of non-significant changes to information in the most recent compliance application (the 2014 Compliance Recertification Application [CRA] [DOE 2014]). The DOE must report significant planned changes to the EPA prior to implementation. In addition, Title 40 CFR Part 194.4(b)(3) (EPA 1996) requires that significant unplanned changes be reported to the EPA within 24 hours or ten days, depending on the severity of the activity or condition. Planned changes are submitted on an individual basis.

Proposed changes in activities or conditions are reviewed to determine if 40 CFR Part 194.4(b)(3) reporting is necessary. The enclosed tables list those items identified for reporting under 40 CFR Part 194.4(b)(4) (EPA 1996). The majority of the items described in this report are inspections, reports, and modifications to written plans and procedures for Waste Isolation Pilot Plant (WIPP) operations.

This report captures the summary of each change within seven tables for the period July 1, 2017, through June 30, 2018.

Information required by 40 CFR 194.4(b)(4):

Table 1: Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Part 194.4(b)(4), documents EPA and DOE interactions during the reporting period with a high-level summary of each correspondence.

Table 2: Procedure/Plan Revision, documents changes to relevant plans and procedures during the reporting period.

Table 3: Waste Emplacement Summary Report, documents the transuranic (TRU) waste inventory for the waste parameters. The summary provides the total emplaced inventory in the repository as of June 30, 2018.

Table 4: Performance Assessment, Software, and Hardware Changes, documents the changes to relevant codes, software, and hardware that have occurred during the reporting period.

Extra-Regulatory Information Requested by the Environmental Protection Agency:

Table 5: Passive Institutional Controls (PICs) Activity, documents the relevant activities applicable to the development of PICs. This table has been added at the request of the EPA. (Reyes to Moody, 2008a)

Table 6: EPA Waste Characterization Inspections January 2008 to June 2018, documents inspections performed by the EPA pertaining to Tier 1 changes to the baseline approvals at generator and storage sites for TRU waste. This table was added to the Annual Change Report at the request of the EPA during the EPA/DOE management meeting held July 29, 2010.

Table 7: EPA Quality Assurance Audits by Site January 2008 to June 2018, documents audits performed by the EPA for generator and storage sites for TRU waste. This table was added to the Annual Change Report at the request of the EPA during the EPA/DOE management meeting held July 29, 2010.

In accordance with EPA requests[1] and feedback, this report incorporates suggestions and guidance for capturing the appropriate level of detail and the layout of information with respect to the WIPP certification criteria. This report does not include administrative changes to procedures such as editorial changes, reformatting, correcting references, correcting inconsistency within a procedure, and other changes that do not change the substance or intent of the document.

[1] EPA to McFadden, 1998; Page to Klein, 1999a; Page to Triay, 1999b; Marcinowski to Triay, 2000; Marcinowski to Triay, 2001; Marcinowski to Triay, 2002a; Marcinowski to Triay, 2002; Marcinowski to Triay, 2003a; Marcinowski to Triay, 2003b; Marcinowski to Triay, 2003c; Gitlin to Detwiler, 2004; Gitlin to Triay, 2005a; Gitlin to Piper, 2005b; Gitlin to Moody, 2006a; Gitlin to Moody, 2006b.

Information required by 40 CFR 194.4(b)(4)

Table 1:
Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Part 194.4(b)(4)

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.4(b)(3) Conditions of Compliance Certification	Planned Change Notices and Planned Change Requests.	DOE to EPA, September 30, 2017. A Planned Change Notice regarding the excavation and construction of a new ventilation shaft and associated access drifts at the Waste Isolation Pilot Plant was submitted. EPA to DOE, January 22, 2018. Acknowledgement of receipt of the Planned Change Notice regarding the excavation and construction of a new ventilation shaft and associated access drifts.
40 CFR 194.4(b)(4) Conditions of Compliance Certification	2016/2017 Annual Change Report	DOE to EPA, November 16, 2017. Submittal of the 2016/2017 Annual Change Report in accordance with 40 CFR 194.4(b)(4).
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Advanced Mixed Waste Treatment Project (AMWTP)	EPA to DOE, July 20, 2017. Notification of the scope of EPA's Contact-Handled (CH) waste characterization baseline inspection to be conducted on August 8-10, 2017. EPA to DOE, May 4, 2018. Notification of approval of the baseline inspection of the TRU waste characterization activities.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Argonne National Laboratory (ANL)	None to report.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Idaho National Laboratory (INL)	EPA to DOE, January 10, 2018. EPA approval of the August 22, 2016, Tier 1 request to add waste streams ID-HFEF-S5000-RP (Lot 6) and ID-HFEF-S3000-RP (Lot 6&7). EPA Docket No. A-98-49; II-A4-215. EPA to DOE, January 23, 2018. EPA approval of the April 20, 2017, Tier 1 request to add waste stream ID-ANLE-BIN (Lot 9A). EPA Docket No. A-98-49; II-A4-216.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Los Alamos National Laboratory (LANL)	EPA to DOE, October 4, 2017. Baseline inspection approval of the TRU waste characterization program at Technical Area (TA) 55. The EPA also approves Non-Destructive Assay (NDA) using the High Efficiency Neutron Counter (HENC) No. 3 and Visual Examination (VE) for CH TRU waste. EPA Docket No. A-98-49; II-A4-212. EPA to DOE, October 13, 2017. EPA Tier 1 approval for the use of High-Energy Real-Time Radiography (HERTR) unit, High-Efficiency Neutron Counter No. 2 (HENC2), Super High-Efficiency Neutron Counter (SuperHENC), and Mobile In-Situ Object Counting System Large Container Counter (MILCC) for TA-54. EPA Docket No. A-98-49; II-A4-213. DOE to EPA, November 8, 2017. Request concurrence for disposal of Off-Site Source Recovery Project (OSRP) sealed sources at WIPP. The OSRP mission is to remove excess, unwanted, abandoned, or orphan radioactive sealed sources that pose a potential risk to national security, health, and safety. EPA to DOE, November 15, 2017. EPA concurrence for disposal of OSRP sealed sources at WIPP.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Oak Ridge National Laboratory (ORNL)	EPA to DOE, July 7, 2017. Approval of Tier 1 request for adding Remote-Handled (RH) TRU debris waste containers to waste stream OR-REDC-RH-HET using a new neutron dose-to-curie (DTC) process. EPA Docket No. A-98-49; II-A4-209. DOE to EPA, July 19, 2017. Request for clarification of Tier 1 product container assembly at ORNL. EPA to DOE, September 5, 2017. EPA's concurrence with DOE's evaluation of the application of Minimum Detectable Activity (MDA) for characterizing TRU waste drums and the current version (8.0) of the WIPP Waste Acceptance Criteria. EPA to DOE, September 26, 2018. Approval of Tier 1 request to add waste stream OR-REDC-RH-HET. EPA Docket No. A-98-49; II-A4-219.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Sandia National Laboratories (SNL)	None to report.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Savannah River Site (SRS)	None to report.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Waste Control Specialists (WCS)	None to report.
NOTE: Dates correspond to CCP quarterly reports.		
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	FY16 Quarterly Tier 2 reports, second quarter	DOE to EPA, July 5, 2017. Submittal of Tier 2 changes made during FY17, second quarter. EPA to DOE, August 30, 2017. EPA acceptance of FY17, second quarter Tier 2 changes.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	FY16 Quarterly Tier 2 reports, third quarter	DOE to EPA, October 5, 2017. Submittal of the third quarter Tier 2 changes. EPA to DOE, December 11, 2017. EPA approval of the third quarter Tier 2 changes.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	FY16 Quarterly Tier 2 reports, fourth quarter	DOE to EPA, January 22, 2018. Submittal of the fourth quarter Tier 2 changes. EPA to DOE, April 6, 2018. EPA approval of the fourth quarter Tier 2 changes.
40 CFR 194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	FY17 Quarterly Tier 2 reports, first quarter	DOE to EPA, April 2, 2018. Submittal of the first quarter Tier 2 changes. EPA to DOE, June 4, 2018. EPA approval of the first quarter Tier 2 changes.
40 CFR 194.11-15	Certification/Recertification	EPA to DOE, December 4, 2017. EPA provided a summary of the November 8, 2017 meeting as it pertains to CRA-2019. Items discussed included a delay in the submittal of the Performance Assessment until December 2019, and EPA direction to use TDEM block method for PBRINE, and 1.60 Pascal for the lower bound in TAUFAIL. EPA to DOE, June 22, 2018. Letter documenting resolution of chemistry related issues identified in CRA-2014. These issues include: H_2S Passivation, Steel Surface Area, Magnesium Oxide (MgO) Hydration Rates, and MgO Hydration Rate conversion to Magnesite.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.14(b) Design of the Disposal System	Status of Experiments in the WIPP Underground July 1, 2017, to June 30, 2018.	SEGA (Segmented Enriched Germanium Assembly) and MEGA (Multiple Element Germanium Array) All SEGA activities are currently on hold and the Q-room area of S-90 is partitioned off pending evaluation of the status of ground stability. EXO (Enriched Xenon Observatory) EXO activities continued collecting high quality data. EXO is tentatively making plans to end data collection by December 2018. EXO is considering a few months of Research and Development activities after data collection is completed. LBRE (Low Background Radiation Experiment) LBRE resumed studying nematodes in June and performed experiments successfully. DMTPC (Dark Matter Time Projection Chamber) DMTPC has stood-down data collection. Salt Disposal Investigations (SDI)/Salt Defense Disposal Investigations (SDDI) The canister continued to heat and perform as expected. Predictive models are being refined at LANL based on the results of the temperature and moisture profiles being recorded. Borehole heater experiment continued preparations including installing instrumentation.
40 CFR 194.21, Inspections	WIPP and Generator site inspections	EPA to DOE, October 4, 2017. EPA notification of the WIPP annual 40 CFR 194.21 and 40 CFR Part 191, Subpart A inspection dates of October 24-26, 2017.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
40 CFR 194.22, Quality Assurance (QA)	Quality Assurance Audit	EPA to DOE, February 7, 2018. EPA, as a result of an inspection performed October 17-19, 2017, determined that the Carlsbad Field Office (CBFO) QA program continues to comply with the selected NQA-1-1989 elements and continues to have sufficient independence, authority and resources to verify the quality of items and activities that are important to long-term disposal of TRU waste. EPA to DOE, March 27, 2018. EPA, as a result of an inspection performed February 13-15, 2018, determined that the Nuclear Waste Partnership QA program continues to comply with the NQA-1-1989 elements and continues to have sufficient independence, authority and resources to verify the quality of items and activities that are important to long-term isolation of TRU waste.
40 CFR 194.42 Monitoring	Ground Water Monitoring	None to report.

Table 2:
Procedure/Plan Revision

Procedure/Plan	Revision and Effective Date	Description of Change
SP 12-37, Use of the Horiba Scientific XploRA Confocal Raman Microscope	Revision 0, 9/01/2017	This document describes the SNL WIPP procedure for use of the Horiba Scientific XploRA Confocal Raman Microscope/Spectrometer. Calibration and operation guidelines are included in the procedure. This Sandia Procedure (SP) is in support of activities described in several WIPP Test Plans with the majority of the activities for the experimental work in support of WIPP-related studies.
SP 12-38, Calibration of Multi-Parameter Water Quality Measurement Instrumentation	Revision 0, 01/25/2018	New procedure to describe steps for calibration of multi-parameter quality instruments that are utilized in the WIPP water well testing and monitoring program.
SP 13-2, Core Sample Logging and Management	Revision 6, 03/14/2018	Revision to simplify the Environmental, Safety & Health (ES&H) requirement to conform to general WIPP ES&H requirements.
WP 08-NT.01, Waste Data System Program and Data Management Plan	Revision 34, 04/24/2018	Training requirements were revised to reflect changes to the Hazardous Waste Facility Permit, Attachment C.
WP 12-HP3500, Airborne Radioactivity	Revision 25, 04/30/2018	Revised to meet current ventilation configuration requirements.
WP 07-EU1305, Installing Multiposition Borehole Rod Extensometers	05/23/2018	Cancelled
WP 05-WH1058, CH Waste Handling Abnormal Operations	Revision 20, 05/30/2018	Updated to meet changes in Documented Safety Analysis (DSA) revision 6.
WP 12-HP1500, Radiological Posting and Access Control	Revision 22, 06/07/2018	Updated to meet changes in DSA and current configuration requirements.
WP 12-ER3906, Categorization and Classification	Revision 19-FR1, 06/08/2018	Updated values for classification levels for Station B release values.
WP 05-WH1011, CH Waste Processing	Revision 60, 06/19/2018	Updated to incorporate DSA Revision 6 changes.

Table 3:
Waste Emplacement Summary Report

TRU Waste Inventory		
	Reporting Period[1] Emplaced Volume (m^3)*	**Cumulative[2] Emplaced Volume (m^3)**
RH TRU	0	357
CH TRU	779	93,223

Waste Components Inventory				
	Reporting Period[1] Emplaced Mass (kg)*	**Cumulative[2] Emplaced Mass (kg)**	**Maximum Emplaced Limiting Value[3] (kg)**	**Percent of Limiting Value[3] Emplaced**
Cellulose, Plastic, Rubber Materials[4]	18,406	8,996,409	22,000,000	40.89%
	Reporting Period[1] Emplaced Mass (kg)*	**Cumulative[2] Emplaced Mass (kg)**	**Minimum Emplacement Limiting Value[3] (kg)**	**Percent of Limiting Value[3] Emplaced**
Fe-Metals[5]	177,062	28,499,625	20,000,000	Minimum met
Non-Fe Metals	615	441,374	2,000	Minimum met

Emplaced Radiological Activity Inventory (curies)				
Radionuclide	**Cumulative Activity in FY 2016/2017 Annual Change Report[6]**	**CH Repository Reporting Period Activity[6]**	**RH Repository Reporting Period Activity[6]**	**Total Activity as of June 30, 2018[6]**
^{241}Am	2.590E+05	2.602E+05	6.208E+02	2.608E+05
^{137}Cs	1.445E+04	1.468E+01	1.444E+04	1.445E+04
^{238}Pu	4.837E+05	4.844E+05	7.289E+02	4.851E+05
^{239}Pu	3.353E+05	3.360E+05	3.839E+02	3.364E+05
^{240}Pu	8.306E+04	8.307E+04	2.802E+02	8.335E+04
^{242}Pu	2.763E+01	2.744E+01	3.821E-01	2.782E+01
^{90}Sr	7.615E+03	2.388E+01	7.599E+03	7.623E+03
^{233}U	6.931E+00	6.558E+00	3.848E-01	6.942E+00
^{234}U	8.785E+01	8.695E+01	1.140E+00	8.810E+01
^{238}U	1.762E+01	1.761E+01	3.915E-02	1.765E+01
Total	**1.183E+06**	**1.164E+06**	**2.405E+04**	**1.188E+06**

Magnesium Oxide (MgO)[7] and Cellulose, Plastic and Rubber (CPR) Mass Emplaced Per Waste Panel				
Panel	**Room**	**MgO (kg)**	**CPR* (kg)**	**Excess Factor**
1	all	4,482,355	1,237,732	1.87[8]
2	2-7	5,972,300	1,241,928	2.26[8]
2	1	691,515	186,200	1.71
3	7	960,120	104,831	4.03
3	6	954,405	228,033	1.95
3	5	1,022,985	284,651	1.70
3	4	960,120	255,054	1.79
3	3	931,545	243,860	1.89
3	2	944,880	227,889	2.03
3	1	662,940	183,072	1.76
4	7	942,975	248,903	1.90
4	6	925,830	267,494	1.71
4	5	948,690	265,302	1.71
4	4	1,049,655	290,739	1.76
4	3	1,015,365	285,755	1.70
4	2	931,545	374,327	1.22[7]
4	1	668,655	265,884	1.23
5	7	937,260	353,262	1.28
5	6	875,477	140,009	2.85
5	5	782,346	298,808	1.24
5	4	737,167	225,425	1.64
5	3	714,286	215,937	1.61
5	2	730,612	194,045	1.84
5	1	485,714	135,742	1.75
6	7	744,218	167,581	2.11
6	6	666,667	189,857	1.74
6	5	474,294	203,473	1.24
6	4	471,586	202,410	1.25
6	3	406,533	171,306	1.25
6	2	291,716	121,686	1.22
6	1	235,107	80,223	1.46
7	7	57,692	15,900	1.76
7	6	103,401	28,853	1.90

Magnesium Oxide (MgO)[7] and Cellulose, Plastic and Rubber (CPR) Mass Emplaced Per Waste Panel				
Panel	**Room**	**MgO (kg)**	**CPR* (kg)**	**Excess Factor**
7	5	168,707	36,793	1.97
7	4	92,517	15,887	2.53

Footnotes

1. Reporting Period is July 1, 2017, through June 30, 2018.
2. Cumulative period includes from the beginning of emplacement until June 30, 2018.
3. Limiting Value—Values from CRA 2014 Section 24. These values are based on inventory assumptions.
4. Cellulose, Plastic, Rubber Materials (CPR) includes the waste, container materials, emplacement materials and non-containerized CPR.
5. Fe-Metals include both materials in the waste and containers in total.
6. There is no decay correction for the listed isotope activities. All isotopic activities reported are from the time of the original assay. It is understood that some isotopes may have reached secular equilibrium after disposal.
7. New minimum value for excess factor of MgO to be implemented as approved by EPA (February 11, 2008) reduces excess factor from 1.67 to 1.20 and ensures minimum reactivity of 94%.
8. MgO, CPR and excess factor results for all of panel 1 and rooms 2-7 of panel 2 have been recalculated to replace averaged data with actual emplaced data.

Notes

***** Waste emplacement typically follows a three-step process. The first step is emplacement of RH waste into the walls of the disposal room. (This step was limited in panel 7 to only rooms 6 and 7.) The second step involves CH waste emplacement into the room. The third step involves emplacement of MgO on top of a CH-TRU waste column/stack, according to the waste emplacement procedures, as CH-TRU waste is being emplaced in a disposal room.

Table 4:
Performance Assessment, Software, and Hardware Changes

WIPP Codes/Software and Code Version	Version Date	Description of Change	New Code Version
ALGEBRACDB 2.35	7/12/17	Retired Code. VMS platform no longer used.	None
BLOTCDB 1.37	7/12/17	Retired Code. VMS platform no longer used.	None
BRAGFLO 6.02	7/12/17	Retired Code. VMS platform no longer used.	None
BRAGFLO 6.0	7/12/17	Retired Code. VMS platform no longer used.	None
CAMCON_LIB 2.21	7/12/17	Retired Code. VMS platform no longer used.	None
CAMDAT_LIB 1.26	7/12/17	Retired Code. VMS platform no longer used.	None
CAMSUPES_LIB 2.23	7/12/17	Retired Code. VMS platform no longer used.	None
CCDFGF 7.0	7/12/17	Retired Code. VMS platform no longer used.	None
CCDFGF 6.00	7/12/17	Retired Code. VMS platform no longer used.	None
CCDFGF 5.02	7/12/17	Retired Code. VMS platform no longer used.	None
CCDFSUM 2.00	7/12/17	Retired Code. VMS platform no longer used.	None
CUTTINGS_S 6.02	7/12/17	Retired Code. VMS platform no longer used.	None
EPAUNI 1.15A	7/12/17	Retired Code. VMS platform no longer used.	None

WIPP Codes/Software and Code Version	Version Date	Description of Change	New Code Version
FMT 2.4	7/12/17	Retired Code. VMS platform no longer used.	None
GENMESH 6.08	7/12/17	Retired Code. VMS platform no longer used.	None
GROPECDB 2.12	7/12/17	Retired Code. VMS platform no longer used.	None
ICSET 2.22	7/12/17	Retired Code. VMS platform no longer used.	None
LHS 2.42	7/12/17	Retired Code. VMS platform no longer used.	None
LHS2STEP 1.04	7/12/17	Retired Code. VMS platform no longer used.	None
MATSET 9.20	7/12/17	Retired Code. VMS platform no longer used.	None
MATSET 9.10	7/12/17	Retired Code. VMS platform no longer used.	None
NONLIN 2.01	7/12/17	Retired Code. VMS platform no longer used.	None
NUTS 2.05C	7/12/17	Retired Code. VMS platform no longer used.	None
PANEL 4.03	7/12/17	Retired Code. VMS platform no longer used.	None
PCCSRC 2.21	7/12/17	Retired Code. VMS platform no longer used.	None
PLT_LIB 2.06	7/12/17	Retired Code. VMS platform no longer used.	None

WIPP Codes/Software and Code Version	Version Date	Description of Change	New Code Version
POSTBRAG 4.00A	7/12/17	Retired Code. VMS platform no longer used.	None
POSTLHS 4.07A	7/12/17	Retired Code. VMS platform no longer used.	None
POSTSECOTP2D 1.04	7/12/17	Retired Code. VMS platform no longer used.	None
PREBRAG 8.02	7/12/17	Retired Code. VMS platform no longer used.	None
PREBRAG 8.00	7/12/17	Retired Code. VMS platform no longer used.	None
PRECCDFGF 2.0	7/12/17	Retired Code. VMS platform no longer used.	None
PRECCDFGF 1.01	7/12/17	Retired Code. VMS platform no longer used.	None
PRELHS 2.40	7/12/17	Retired Code. VMS platform no longer used.	None
PRELHS 2.30	7/12/17	Retired Code. VMS platform no longer used.	None
PRESECOTP2D 1.22	7/12/17	Retired Code. VMS platform no longer used.	None
RELATE 1.43	7/12/17	Retired Code. VMS platform no longer used.	None
SDBREAD_LIB 4.00	7/12/17	Retired Code. VMS platform no longer used.	None
SDBREAD_LIB 3.12	7/12/17	Retired Code. VMS platform no longer used.	None

WIPP Codes/Software and Code Version	Version Date	Description of Change	New Code Version
SECOTP2D 1.41A	7/12/17	Retired Code. VMS platform no longer used.	None
SPLAT 1.02	7/12/17	Retired Code. VMS platform no longer used.	None
STEPWISE 2.21	7/12/17	Retired Code. VMS platform no longer used.	None
SUMMARIZE 3.01	7/12/17	Retired Code. VMS platform no longer used.	None
ALGEBRA2 1.28	7/18/17	Retired Code. Linux platform no longer used.	None
APREPRO 2.06	7/18/17	Retired Code. Linux platform no longer used.	None
BLOTII2 1.59A	7/18/17	Retired Code. Linux platform no longer used.	None
FASTQ 3.18	7/18/17	Retired Code. Linux platform no longer used.	None
GEN3DII 1.37A	7/18/17	Retired Code. Linux platform no longer used.	None
GJOIN2 1.31	7/18/17	Retired Code. Linux platform no longer used.	None
GREPOS 1.43	7/18/17	Retired Code. Linux platform no longer used.	None
GROPE 1.41	7/18/17	Retired Code. Linux platform no longer used.	None
JAS3D 2.4.C-WIPP	7/18/17	Retired Code. Linux platform no longer used.	None

WIPP Codes/Software and Code Version	Version Date	Description of Change	New Code Version
NUMBERS 1.23	7/18/17	Retired Code. Linux platform no longer used.	None
CCDFGF 7.02	7/19/17	Revised code to accommodate panel adjacency.	CCDFGF 7.03
SNORM 2.1	7/25/17	Retired Code. VMS platform no longer used.	None
SCREEN_NUTS 1.01	2/7/18	First qualification of this code for the baseline. Previous version was qualified for one-time use only.	SCREEN_NUTS 1.02
CCDFVECTORSTATS 1.00	4/17/18	This version represents the first qualification of this code for the baseline. The previous version was qualified for one-time use only.	CCDFVECTORSTATS 1.01

Extra-Regulatory Information Requested by the Environmental Protection Agency

Table 5:
Passive Institutional Controls Activity

Date	Description of Activity
August 13, 2017	WIPP personnel entered into discussions with a not-for-profit architectural group called arch out loud. This discussion resulted in arch out loud promoting an international architecture competition to design a marker system for the Waste Isolation Pilot Plant. WIPP personnel will be judges for the competition. The results will be announced at Waste Management 2018 (see last row at bottom of table for results).
September 19, 2017	In continuance of the efforts to obtain papers and opinions relating to the Records, Knowledge and Memory (RK&M) international initiative through the Nuclear Energy Agency (NEA), CBFO has secured paper session 86 at Waste Management Conference 2018. DOE will utilize papers in an expert elicitation to create a new Passive Institutional Controls conceptual model. This new model will be in coordination with the international guidelines currently under development by the NEA RK&M group.
November 20, 2017	The winner of the arch out loud international design competition for a marker system for the WIPP was announced November 20, 2017. The winner was voted on by a jury consisting of national and international leaders in the architecture arena, along with scientists from WIPP and a director of documentaries on the nuclear industry. The winning submittal was from an architectural firm in Brooklyn, NY. The winning design promoted the use of the Land Withdrawal Act area for future carbon capture research thus making the land useful to future generations and keeping a presence at the site to deter any future inadvertent intrusions of the repository. The winner of the competition will present their design at Waste Management 2018 (see last row below for results).
March 18-22, 2018	Technical staff from RES and CBFO co-chaired session 086 "Global Experience of Records, Knowledge and Memory (RK&M) for Nuclear Waste Geologic Repositories" at Waste Management Symposium 2018. Six papers were presented by primarily international authors representing the countries of Germany, France, Belgium and the US, and covered topics ranging from a summary of RK&M activities, artist involvement in marker design, semiotics, and France's Manche surface repository key information file. Representatives of the arch out loud architecture group presented the results of their NUCLEAR competition. The winning architect, Tei Carpenter, presented her winning design and discussed the specifics behind her design. These presentations were well received and discussions continued outside of the presentation room for an hour after the session concluded. Arch out loud is considering sponsoring another competition on marker ideas for geologic repositories in the future. These papers will be used to develop a new PICs conceptual design for WIPP once the NEA has finalized international guidance protocols.

Notes:

In a 2008 letter from EPA to DOE (Reyes, 2008b), EPA changed the schedule for Passive Institutional Controls development as previously defined in Triay (2002c).

Table 6:
EPA Waste Characterization Inspections – January 2008 to June 2018

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
Advanced Mixed Waste Treatment Plant (AMWTP)/Accelerated Retrieval Project (ARP)	March 2, 2010, Desk-top evaluation	Tier 1 evaluation adding BN510 waste stream	EPA Docket No. A-98-49; II-14-127, June 10, 2010
	November 17-18, 2010	EPA unannounced continued compliance inspection	EPA Docket No. A-98-49; II-A4-143, March 16, 2011
	October 30- November 1, 2012, and February 26, 2013	EPA Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-173, April 25, 2013
	October – December 2012	Tier 1 addition of ANLE-generated SCG S3000 and S5000 CH waste and SCG S5000 MFC CH waste	EPA Docket No. A-98-49; II-A4-169, January 2013
	February 2013	Tier 1 Subsurface Disposal Area (SDA) waste stream	EPA Docket No. A-98-49; II-A4-174, July 9, 2013
	February 2013	Tier 1 adding LANL debris waste to the super-compacted CH AMWTP debris waste	EPA Docket No. A-98-49; II-A4-178, September 16, 2013
	February 11, 2014	Tier 1 adding INL-generated waste	EPA Docket No. A-98-49; II-A4-180, February 11, 2014
	November 3-5, 2014	Continued compliance inspection	Final document has not been released at this time
	No inspection performed	Tier 1 approval adding waste stream WDP-AMWTP-15-003, Load Management	No Docket No. assigned, approval February 9, 2015
	No inspection performed	Approval of assembly of CH waste pay loads of Product Drum Assembly-High Minimum Detectable Activity silvers	No Docket No. assigned, approval May 13, 2015

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	May 13, 2015	Tier 1 change to allow assembly of CH waste payloads	No Docket No. assigned
	July 14-16, 2015	Tier 1 to allow CH Retrieval Box Assay System	EPA Docket No. A-98-49; II-A4-200, October 19, 2015
	November 17-19, 2015	Continued compliance inspection of Idaho Treatment Group	EPA Docket No. A-98-49; II-A4-206, April 4, 2016
	No inspection performed	DOE closure of last item opened by EPA on Continued Compliance	No Docket No., June 13, 2016
	August 8-10, 2017	EPA baseline inspection	EPA Docket No. A-98-49; II-A4-218, May 4, 2018
Argonne National Laboratory-Illinois (ANL)	May 28, 2008	Tier 1 SRS-CCP RH Visual Examination (VE) newly packaged waste	EPA Docket No. A-98-49; II-A4-102, July 10, 2008
	October 2008	Tier 1 addition of 100 drums of AGHCF debris waste to AERHDM waste stream	EPA Docket No. A-98-49; II-A4-136, October 2008
	May 20-21, 2010, Desk-top evaluation	Tier 1 SRS-CCP addition of 30 containers to AERHDM waste stream	EPA Docket No. A-98-49; II-A4-132, September 13, 2010
	June 29, 2010, Desk-top evaluation	Tier 1 SRS-CCP addition of 120 containers to AERHDM waste stream	EPA Docket No. A-98-49; II-A4-134, September 28, 2010
	May 4 and 18, 2010, EPA Inspection	Tier 1 SRS-CCP addition of 30-gallon containers of Fuel Examination Waste (FEW) to previously approved RH debris AERHDM waste stream	EPA Docket No. A-98-49; II-A4-140, November 22, 2010

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	September 2011 EPA Inspection	Tier 1 to add eight 55-gallon K-Wing FEW containers to RH debris waste stream AERHDM	EPA Docket No. A-98-49, II-A4-158, February13, 2012
	January 3, 2012 EPA Inspection (11-2060)	Tier 1 to evaluate Radiation Characterization Approach of Solidified Liquid Waste from K-Wing, Building 205, 55-gallon	EPA Docket No. A-98-49: II-A4-162, June 14, 2012
	February – June, 2012 EPA Inspection Desk-top Review	Tier 1 debris from the Reduced Enrichment Research and Test Reactor (RERTR) program and the second batch of FEW packaged in 30-gallon containers	EPA Docket No. A-98-49; II-A4-140, October 4, 2012
	February – June, 2012 EPA Inspection	Tier 1 to evaluate solidified liquid waste from K-Wing, Bld. 205, 55-gallon drum	EPA Docket No. A-98-49; II-A4-162, June 14, 2012
	May 8-9, 2012 EPA Inspection	Tier 1 to include Lot 2 waste ID-ANLE-S5000	EPA Docket No. A-98-49; II-A4-163, July 25, 2012
	EPA Inspection July 31-August 1, 2012	Tier 1 of the Analytical Chemistry Lab (ACL)	EPA Docket No. A-98-49; II-A4-165, September 4, 2012
	September, 2012 EPA Desktop evaluation	Tier 1 evaluation of waste stream AERHDM RERTR and second batch debris, (bldg. 212, 30-gallon container)	EPA Docket No. A-98-49; II-A4-167, October 4, 2012

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	February 2014	Tier 1 evaluation of five containers of solidified liquid waste from K-Wing Bldg. 205 to be included in the AERHDM waste stream	EPA Docket No. A-98-49; II-A4-181, March 24, 2014
Bettis Atomic Power Laboratory (BAPL)	August 30, 2010, September 23, 2010, December 8, 2010 and April 12-13, 2011 EPA Baseline Inspection	EPA Baseline Inspection No. EPA-BAPL-CCP-RH-04.11-8	EPA Docket No. A-98-49; II-A4-151, July 2011
General Electric Vallecitos Nuclear Center (GEVNC)	December 2-4, 2008	CCP RH Initial Certification	EPA Docket No. A-98-49; II-A4-115, August 26, 2009
Hanford	April 27-29, 2010	CH Baseline Inspection	EPA Docket No. A-98-49; II-A4-138, December 21, 2010
	March 22-23, 2011	Tier 1 adding Super HENC A	EPA Docket No. A-98-49; II-A4-146, May 2, 2011
	November 2011	Tier 1 adding CH S3000 RLCCPPUNIT waste stream	EPA Docket No. A-98-49; II-A4-154, November 10, 2011
Idaho National Laboratory (INL)	January 2008	Tier 1 K cell waste	EPA Docket No. A-98-49; II-A4-97, January 1, 2008
	April 11, 2008	Tier 1 high-range gamma probe for Dose To Curie (DTC)	EPA Docket No. A-98-49; II-A4-98, April 11, 2008
	June 9, 2008, Desk-top evaluation	Tier 1 Waste Area Groups (WAGs) density range extension	EPA Docket No. A-98-49; II-A4-107, October 7, 2008
	December 9-11, 2008	Tier 1 addition of VE CH S5000 retrievably stored waste stream	EPA Docket No. A-98-49; II-A4-110, March 4, 2009
	September 22, 2009	Tier 1 visual examination technique	EPA Docket No. A-98-49; II-A4-118, September 22, 2009

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	September 22, 2009	Tier 1 recalibration of the HENC	EPA Docket No. A-98-49; II-A4-119, September 22, 2009
	December 8-9, 2009	Tier 1 addition of ID-HFEF-S5400-RH Lot 1A and ID-ANLE-S5000 waste streams	EPA Docket No. A-98-49; II-A4-122, February 1, 2010
	April-May 2010 Desk-top evaluation	Tier 1 addition of ID-MFC-S5400-RH waste stream	EPA Docket No. A-98-49; II-A4-126, June 11, 2010
	December 8-9, 2009, January 12-13, 2010, and February 17, 2010	Tier 1 addition of ID-INTEC-RH waste stream	EPA Docket No. A-98-49; II-A4-130, August 17, 2010
	July 13, 2009, to June 2010 Desk-top evaluation	Tier 1 addition of Osprey and ID-HFEF-S5400-RH Lot 1B waste stream	EPA Docket No. A-98-49; II-A4-131, August 23, 2010
	July 1, 2009 Desk-top evaluation	Tier 1 High Efficiency Neutron Counter (HENC) operating range extension	EPA Docket No. A-98-49; II-A4-119, September 22, 2010
	September 22, 2009	Tier 1 addition of ID-RTC-S3000 waste stream	EPA Docket No. A-98-49; II-A4-137, November 1, 2010
	August 9-10, 2010	Tier 1 addition of IN-ID-NRF-153 waste stream	EPA Docket No. A-98-49; II-A4-135, November 1, 2010
	November 16-17, 2010	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-142, March 16, 2011
	March 23, 2011	Tier 1 addition of Lot 4A to waste stream ID-HFEF-S5400-RH	EPA Docket No. A-98-49; II-A4-145, March 23, 2011
	June 23, 2011	Tier 1 supplemental calibration for the WAGS to allow filters	EPA Docket No. A-98-49; II-49-150, June 23, 2011

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	October 4-5, 2011	Tier 1 to include RH waste stream IN-ID-NRF-SPC	EPA Docket No. A-98-49; II-A4-159, March 12, 2012
	January 4, 2012	Inspection of Waste Stream ID-NRD.1	EPA Docket No. A-98-49; II-A4-157, January 4, 2012
	May 8-9, 2012	Tier 1 radiation approach of 48 additional canisters for waste stream ID-ANLE-S5000 AERHDM (Lot 2)	EPA Docket No. A-98-49; II-A4-163, July 25, 2012
	February 2013	Tier 1 evaluate SWEPP Gamma-Ray Spectrometer (SGRS) new calibration	EPA Docket No. A-98-49; II-A4-172, February 26, 2013
	May 7-9, 2013	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-175, July 16, 2013
	December 3-5, 2013	Tier 1 adding waste stream IN-ID-BTO-030 (Lot 3)	EPA Docket No. A-98-49; II-A4-191, November 10, 2014
	April 16, 2014	Tier 1 addition of waste stream ID-EBR-S5000	EPA Docket No. A-98-49; II-A4-183, April 16, 2014
	May 5-7, 2014	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-190, July 15, 2014
	July 15, 2014	Tier 1 change for the addition of Lot 5C to waste stream ID-HFEF-S5400-RH	EPA Docket No. A-98-49; II-A4-185, July 15, 2014
	July 15, 2014	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-190, July 15, 2014
	June – October 2014	Tier 1 adding waste stream ID-TRA-W345-RH (Lot8B)	EPA Docket No. A-98-49; II-A4-194, November 5, 2014

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	No inspection performed	Tier 1 approval for waste stream ID-HFEF-S5400-RH (Liner 3; Lot 5C)	EPA Docket No. A-98-49; II-A4-198, September 8, 2015
	May 19-21, 2015	Tier 1 adding waste stream ID-ANLW-W269-RH (Lot 8C)	EPA Docket No. A-98-49; II-A4-201, November 10, 2015
	No inspection performed	Approval of Tier 1 to include waste streams ID-RF-S5300-RH and ID-RF-S5100-RH (Lot 8A)	EPA Docket No. A-98-49; II-A4-203, November 13, 2015
	No inspection performed	Tier 1 addition of waste streams ID-HFEF-S5000-RP and ID-HFEF-S3000-RP (Lot 6&7)	EPA Docket No. A-98-49; II-A4-215 January 10, 2018
	No inspection performed	Tier 1 addition of waste stream ID-ANLE-BIN (Lot 9A)	EPA Docket No. A-98-49; IIA-216 January 23, 2018
Los Alamos National Laboratory (LANL)	April 11-15, 2005	Inspection for OSRP for Sealed Sources	EPA Docket No. A-98-49; II-A4-55, June 17, 2005
	June 21, 2007	CH Baseline Inspection	EPA Docket No. A-98-49; II-A4-88, June 21, 2007
	October 28, 2007	Tier 1 extension of range for the HENC2	EPA Docket No. A-98-49; II-A4-91, October 28, 2007
	December 7, 2007	Tier 1 extension of range for the HENC	EPA Docket No. A-98-49; II-A4-95, December 7, 2007
	May 8-10, 2007	Initial RH Certification	EPA Docket No. A-98-49; II-A4-96, February 19, 2008
	May 25-26, 2010	Tier 1 HENC unit 2 Report (non-approval)	EPA Docket No. A-98-49; II-A4-139, November 8, 2010
	May 25-26, 2010	LANL-CCP CH TRU Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-141, February 9, 2011

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	April 28, 2010 (10-0810)	CH Tier 1 request expanding the calibration range to the HENC unit 2 to accommodate CH lead-lined 55-gallon drums	EPA Docket No. A-98-49; II-A4-139, April 30, 2012
	October 28, 2011	Tier 1 addition of the Super HENC	EPA Docket No. A-98-49; II-A4-153, October 28, 2011
	June 20-21, 2012	CH Tier 1 request for calibration range extension for the Super HENC and the extend ability for the HENC unit 1 to assay lead-lined 55-gallon drums containing solidified materials	EPA Docket No. A-98-49; II-A4-164, August 14, 2012
	September – November, 2012	Tier 1 approval to add summary category group S4000	EPA Docket No. A-98-49; II-A4-168, December 31, 2012
	June 4-5, 2013	Tier 1 to include the Mobile ISOCS for SWBs, Corrugated Metal Boxes (CMBs), and 55-gallon drums	EPA Docket No. A-98-49; II-A4-176, July 22, 2013
	February 2014	Continued Compliance Inspection	Final document has not been released at this time
	No inspection performed	Tier 1 approval of HENC3	EPA Docket No. A-98-49; II-A4-199, September 8, 2015
	No inspection performed	DOE closure of last item opened by EPA on Continued Compliance	No Docket No., June 13, 2016
	February 7-9, 2017	Baseline inspection of TRU waste characterization program	EPA Docket No. A-98-49; II-A4-212, October 4, 2017

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	May 23-25, 2017	Tier 1 approval High Efficiency Real Time Radiography (HERTR), HENC2, Super HENC, Mobile In-Situ Objects Counting System Large Container Counter (MILCC)	EPA Docket No. A-98-49; II-A4-213, October 13, 2017
Oak Ridge National Laboratory (ORNL)	(Desk-top evaluation)	Tier 1 CH Calibration Extension for segmented gamma scanner (SGS)	EPA Docket No. A-98-49; II-A4-108, October 8, 2008
	November 17, 2008	Tier 1 CH Calibration Extension for Drum Waste Assay System (DWAS) Imaging Passive Active Neutron (IPAN)	EPA Docket No. A-98-49; II-A4-109, January 8, 2009
	June 30-July 2, 2008	EPA RH Baseline Inspection No. EPA-ORNL-CCP-RH-06.08-8	EPA Docket No. A-98-49; II-A4-111, February 3, 2009
	May 6, 2009	Tier 1 OR-REDC-RH-HET to include Solvent Extraction Test Facility (SETF) Time Period (November 1978-November 1991) waste	EPA Docket No. A-98-49;II-A4-120, November 30, 2009
	August 11-12, 2009	Tier 1 addition of CH S4000 SCG waste	EPA Docket No. A-98-49; II-A4-117, October 7, 2009
	November 23, 2009	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-121, November 23, 2009
	February 23-24, 2010	Tier 1 addition of CH VE and adding the IQ3	EPA Docket No. A-98-49; II-A4-125, March 30, 2010
	February-March, 2010 Desk-top evaluation	Tier 1 addition of RH SETF Pre-79 waste stream	EPA Docket No. A-98-49; II-A4-124, April 21, 2010

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	March 23, 2011	Tier 1 addition of NFS Trench B soils to waste stream OR-NFS-CH-SOIL	EPA Docket No. A-98-49; II-A4-144, March 23, 2011
	February 4-6, 2014	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-186, June 18, 2014
	June 18, 2014	Tier 1 Adding Refurbished IQ3	EPA Docket No. A-98-49; II-A4-186, June 18, 2014
	July 2014	Tier 1 evaluation of CH waste with addition of SCG S3000	EPA Docket No. A-98-49; II-A4-186, June 9, 2014
	August 5-6, 2014	Tier 1 adding MILCC2	EPA Docket No. A-98-49; II-A4-192, October 21, 2014
	No inspection performed	Tier 1 approval adding VE for S5400 and S5000 CH wastes	EPA Docket No. A-98-49; II-A4-193, November 10, 2014
	August 2-4, 2016	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-207, June 14, 2017
	No inspection performed	Approval of assembly of CH waste pay loads at ORNL Transuranic Waste Processing Center	No Docket No. given, June 19, 2017
	March 6-8, 2018	Continued Compliance Inspection	EPA Docket No. A098-49; II-A4-217, May 9, 2018
	No inspection performed	Tier 1 to add four changes to waste stream OR-REDC-RH-HET	EPA Docket No. A-98-49; II-A4-209 July 2017
	No inspection performed	Tier 1 addition to Waste Stream OR-REDC-RH-HET	EPA Docket No. A-98-49; II-A4-219 September 26, 2018
Sandia National Laboratories (SNL)	March 8, 2011, May 10, 2011, June 7-8, 2011	Initial Baseline Inspection	EPA Docket No. A-98-49; II-A4-155, November 23, 2011

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	December 2011-January 2012	Tier 1 to include RH containers generated from waste groups PKE00027/54 and PKE00047 to existing waste stream SNL-HCF-S5400-RH	EPA Docket No. A-98-49; II-A4-160, March 28, 2012
Savannah River Site (SRS)	March 24-26, 2009	Tier 1 addition of Non-destructive Assay Box Counter (NABC)	EPA Docket No. A-98-49; II-A4-114, August 4, 2009
	September 30, 2010 Desk-top evaluation	Tier 1 addition of CH S3000 waste	EPA Docket No. A-98-49; II-A4-123, March 23, 2010
	November 2009 – March 2010	Tier 1 addition of SR-BCLDP.001.001, SR-BCLDP.001.002, SR-BCLDP.002, SR-BCLDP.003, SR-BCLDP.004.002, SR-BCLDP.004.003 waste streams	EPA Docket No. A-98-49; II-A4-129, September 13, 2010
	March 24-26, 2009	Tier 1 extension of calibration to the NABC	EPA Docket No. A-98-49; II-A4-133, September 14, 2010
	May 12, 2011 timeframe, EPA Desk-top evaluation	Tier 1 allowing use of American Society for Testing and Materials (ASTM) standard efficiency calibration method for NABC	EPA Docket No. A-98-49; II-A4-148, May 31, 2011
	July 26, 2011	RH EPA Baseline adding SR-RH-FBL.01 (remainder of RH at SRS)	EPA Docket No. A-98-49; II-A4-161, April 18, 2012

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	August 14-15, 2012	Tier 1 request for using 5-foot setback configuration of the NABC	EPA Docket No. A-98-49; II-A4-166, September 11, 2012
	February, 2013	Tier 1 to evaluate waste stream SR-RH-235F.01	EPA Docket No. A-98-49; II-A4-170, February 12, 2013
	February, 2013	Tier 1 NABC BSGS 5-foot setback for SWB's	EPA Docket No. A-98-49; II-A4-171, February 2013
	June – July, 2013	Tier 1 SR-RH-221H.01 waste stream	EPA Docket No. A-98-49; II-A4-177, August 20, 2013
	March, 2014	Tier 1 change calibration to include a 5-foot detector setback configuration on the NDA Box Counter to assay SLB's Type 2	EPA Docket No. A-98-49; II-A4-182, March 2014
	May 22, 2014	Tier 1 SR-RH-SDD.01 (Sealed Sources)	EPA Docket No. A-98-49; II-A4-184, May 2014
	August – October 2014	Continued Compliance Inspection	EPA Docket No. A-98-49; II-A4-195, February 23, 2015
	December 2014	Inspection SR-BCLDP.003	EPA Docket No. A-98-49; II-A4-196, December 31, 2014
	February 2015	Follow-up Continued Compliance Inspection for RTR Operations, 1-Drum BCO152	EPA Docket No. A-98-49; II-A4-195, February 23, 2015
	No inspection performed	Tier 1 approval of RH-SWD.01 waste	EPA Docket No. A-98-49; II-A4-197, August 3, 2015
	No inspection performed	Tier 1 approval of RH-772F.01 waste	EPA Docket No. A-98-49; II-A4-202, November 25, 2015
	No inspection performed	Tier 1 SR-RH-MNDPAD1.01 waste stream	EPA Docket No. A-98-49; II-A4-204, June 15, 2016

Generator Site	Date of Inspection	EPA Inspection No./Tier 1 Evaluation	Docket Number/Approval Date
	No inspection performed	Tier 1 approval of SR-RH-773A.01 waste containers	EPA Docket No. A-98-49; II-A4-210, June 5, 2017

Table 7:
EPA Quality Assurance Audits by Site – January 2008 to June 2018

Site	Audit Date	Purpose
Advance Mixed Waste Treatment Plant (AMWTP)	August 18-20, 2009	Recertification Audit A-09-19
	August 23-26, 2010	Recertification Audit A-10-24
	November 1-3, 2011	Recertification Audit A-12-03
	October 15-18, 2012	Recertification Audit A-13-01
	October 1-3, 2013	Recertification Audit A-14-01
	October 7-9, 2014	Recertification Audit A-15-01
	September 24, 2014 to February 26, 2015	Remote audit of the AMWTP QA program for NQA-1-1989 compliance. EPA docket no: A-98-49; II-A1-121
	October 27-29, 2015	Recertification Audit A-16-01
	December 12-16, 2016	Recertification Audit A-17-04
Argonne National Laboratory East (ANLE)-CCP	July 10, 2008	RH VE Newly Packaged Waste Audit A-08-03
	August 5-7, 2008	CCP RH Recertification Audit A-08-24
	August 4-6, 2009	CCP RH Recertification Audit A-09-21
	August 3-5, 2010	CCP RH Recertification Audit A-10-23
	August 2-4, 2011	CCP RH Recertification Audit A-11-20
	August 28-30, 2012	CCP RH Recertification Audit A-12-16
	December 19, 2012	CCP Recertification Audit A-12-16
	August 27-28, 2013	CCP Recertification Audit A-13-24
	September 16-18, 2014	CCP Recertification Audit A-14-20
	November 1-3, 2016	CCP Recertification Audit A-17-08
Bettis Atomic Power Laboratory (BAPL)	April 19-21, 2011	Initial Certification Audit A-11-12
	April 24-26, 2012	Closeout Audit A-12-10
Carlsbad Field Office (CBFO)	June 29-July 1, 2010 August 3-4, 2010	Audit of the DOE Peer Review used to qualify historical information for TRU waste streams SR-BCLDP-004.002 and SR-BCLDP-004.003. EPA Docket No. A-98-49; II-A1-108
	April 8-29, 2013	Remote records audit of CBFO Technical Assistance Contractor
	June 18-20, 2013	Audit of the quality assurance program relative to the American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA) Standard NQA-1-1989. EPA Docket no. A-98-49; II-A1-112
	July 22-24, 2014	Audit of CBFO QA program for compliance with NQA-1-1989 elements. EPA Docket No. A-98-49; II-A1-117
	January 6-February 12, 2015	Audit of CBFO QA program for compliance with NQA-1-1989 elements. EPA Docket No. A-98-49; II-A1-120
	September 1-3, 2015	Audit of CBFO QA program for compliance with NQA-1-1989 elements. EPA Docket No. A-98-49; II-A1-121
	September 20-22, 2016	CBFO Document Control Audit A-16-27

Site	Audit Date	Purpose
	October 17-19, 2017	Audit of CBFO QA program for compliance with NQA-1-1989 elements. No docket number given.
General Electric Vallecitos Nuclear Center (GEVNC)-CCP	December 2-4, 2008	Initial RH S5000 Certification Audit A-09-05
	January 26-28, 2010	Recertification Audit A-10-04
Hanford-CCP	April 6-8, 2010	Initial Certification Audit A-10-07
	April 5-7, 2011	Recertification Audit A-11-10
	May 14-17, 2012	Recertification/Closeout Audit A-12-11
	May 14-16, 2013	Recertification Audit A-13-15
	May 20-21, 2014	Recertification Audit A-14-16
	June 23-25, 2015	Recertification Audit A-15-19
	May 31 to June 1, 2016	Recertification Audit A-16-11
	April 4, 2017	Recertification Audit A-17-20
Idaho National Laboratory (INL)-CCP	January 29-30, 2008	Expansion Audit (NMED approval of Acceptable Knowledge [AK]) Audit A-08-11
	May 13-15, 2008	Recertification Audit A-08-10 INL and A-08-22 ID Labs
	December 9-11, 2008	VE of Records Audit A-09-08
	May 5-7, 2009	Recertification Audit A-09-14 INL and A-09-13 ID Labs
	June 8-10, 2010	Recertification Audit A-10-16 INL and A-10-17 ID Labs
	June 7-9, 2011	Recertification Audit A-11-13 INL Labs and A-11-14 INL
	June 11-14, 2012	Laboratory Recertification Audit A-12-14 and CCP Recertification Audit A-12-13
	June 3-6, 2013	Recertification Audit A-13-18
	July 9-11, 2013	Analytical Laboratories Close Out Audit A-13-19
	June 3-5, 2014	Recertification Audit A-14-18
	June 16-18, 2015	Recertification Audit A-15-18
	June 14-16, 2016	Recertification Audit A-16-18
	June 13-15, 2017	Recertification Audit A-17-23
Los Alamos National Laboratory (LANL)-CCP	February 19, 2008	Initial Certification Audit A-07-12 and A-07-13
	April 15-17, 2008	CCP CH and RH Recertification Audit A-08-16
	December 9-11, 2008	Addition of VE CH S5000 Retrievably Stored Waste Audit A-09-08
	April 7-9, 2009	CCP CH and RH Recertification Audit A-09-12
	April 27-29, 2010	CCP CH and RH Recertification Audit A-10-14
	May 17-19, 2011	CCP CH and RH Recertification Audit A-11-11
	July 24-26, 2012	CCP CH and RH Recertification Audit A-12-12

Site	Audit Date	Purpose
	July 23-25, 2013	CCP CH and RH Recertification Audit A-13-23
	July 22, 2013	CCP CH Recertification Audit revised A-13-23
	June 10 – July 8, 2014	Audit of the QA program for the WIPP as it pertains to NQA-1-1989. EPA Docket No. A-98-49: II-A1-116
	August 19-21, 2014	CCP CH Recertification Audit A-14-19
	March 1-3, 2016	QAPD Implementation Audit A-16-10
	March 7-9, 2017	QAPD Implementation Audit A-17-14
	May 16-18, 2017	Recertification Audit A-17-17
	May 17-19, 2017	CCP CH and RH Recertification Audit A-16-19
Nuclear Waste Partnership (NWP) LLC	June 18-20, 2013	Quality Assurance (QA) audit relative to the American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA) Standard NQA-1-1989. EPA Docket no. A-98-49; II-A1-113
	July 22-24, 2014	Audit of NWP QA program for compliance with NQA-1-1989 elements. EPA Docket No. A-98-49; II-A1-118
	January-November 2015	Audit of NWP QA program for compliance with NQA-1-1989 elements. Final document has not been released at this time
	August 6 – September 24, 2015	Audit of NWP QA program for compliance with NQA-1-1989 elements. Scope was limited and will be revisited at a later date. EPA Docket No. A-98-49; II-A1-123
	November 17-19, 2015	Environmental RCRA/Monitoring Program/Groundwater Audit A-16-04
	February 2-4, 2016	Calibration Audit A-16-06
	March 29-31, 2016	CCP QA Audit A-16-12
	April 26-28, 2016	Dosimetry/RADCON Program Audit A-16-16
	January 24-26, 2017	Industrial Safety Air Quality Monitoring Audit A-17-05
	February 7-9, 2017	Material Control and Stores Inventory Audit A-17-32 Calibration Audit A-17-15
	March 28-30, 2017	QA Audit A-17-13
	May 8-10, 2017	Environmental RCRA/Monitoring Programs/Groundwater Audit A-17-01
	February 13-15, 2018	Audit of NWP QA program for compliance with NQA-1-1989 elements. No docket number given.
Oak Ridge National Laboratory (ORNL)-CCP	November 13-15, 2007	AK and NDA Activities Audit A-08-06
	June 30-July 2, 2008	Initial RH Certification Audit A-08-12
	January 13-15, 2009	CH Recertification Audit A-09-07
	June 23-25, 2009	RH Recertification Audit A-09-22
	July 28-30, 2009	Addition of S4000 SCG Audit A-09-24
	February 9-11, 2010	CH and RH Recertification Audit A-10-08

Site	Audit Date	Purpose
	February 8-10, 2011	CH and RH Recertification Audit A-11-08
	March 27-29, 2012	CCP CH and RH Recertification Audit A-12-08
	April 23-25, 2013	CH and RH Recertification Audit A-13-12
	January 14-26, 2014	CH and RH Recertification Audit A-14-03
	March 31- April 3, 2015	CH & RH Recertification Audit A-15-09
	April 19-21, 2016	Recertification Audit A-16-15
	October 4-6, 2016	Neutron Dose-to-Curie and RH Waste Sampling Audit A-17-09
	October 17-20, 2016	WAC Compliance Audit A-17-07
	April 18-20, 2017	Recertification Audit A-17-21
Savannah River Site (SRS)-CCP	October 28-30, 2008	CH and RH Recertification Audit A-09-01
	March 24-26, 2009	Addition of NABC Audit A-09-17
	June 23-24, 2009	Addition of Real-time Radiography (RTR) #4 Audit A-09-16
	October 27-29, 2009	BCL RH Recertification and CH S3000 Initial Certification Audit A-10-01
	October 26-28, 2010	Recertification Audit A-11-01 and RTR Unit 4 for SLB2s and Large Container Non-Destructive Examination (LCNDE) for SWBs and SLB2s
	November 14-17, 2011	RH Recertification and Initial SR-RH-FBL-01 Audit A-12-04
	November 6-8, 2012	CH Recertification Audit A-12-02
	September 23, 2014	CH Recertification Audit A-14-04
	November 4-6, 2014	CH Recertification Audit A-15-02
	December 3-4, 2015	CCP Recertification Audit A-16-02
Sandia National Laboratories (SNL)-CCP	July 13-15, 2011	Recertification Audit A-11-23
	August 14-16, 2012	Closeout Audit A-12-15
	August 5-7, 2014	Initial Certification Audit A-14-26
	August 18-20, 2015	Recertification Audit A-15-25
	February 9-11, 2016	SNL-CPG Audit A-16-07
	November 15-17, 2016	RH S5000 Recertification Audit A-17-10
	December 6-8, 2016	Recertification Audit A-17-02
	February 14-16, 2017	QAPD Implementation Audit A-17-06
Sandia National Laboratories-Carlsbad Office (SNL-CO)	May 1-29, 2014 and July 22-24, 2014	Verification of implementation of SNL-CO's QA program relative to requirements of NQA-1 Standard NQA-1-1989. EPA Docket No. A-98-49; II-A1-115, EPA-HQ-OAR-2001-0012-0444

Summary

The changes reported in this version of the WIPP Annual Change Report do not represent significant changes pertaining to the disposal system.

References

Gitlin, B.C. 2004. Letter to R.P. Detwiler, Acting Manager (Subject: Review of Annual Change Report and request for additional reporting information). June 8, 2004. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Gitlin, B.C. 2005a. Letter to I. Triay, Acting Manager (Subject: Review of Annual Change Report and request for additional reporting information). April 28, 2005. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Gitlin, B.C. 2005b. Letter to L. Piper, Deputy Manager (Subject: Review of Annual Change Report and request for additional reporting information). September 21, 2005. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Gitlin, B.C. 2006a. Letter to D. Moody, Manager (Subject: Review of Annual Change Report and request for additional reporting information). February 2, 2006. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Gitlin, B.C. 2006b. Letter to D. Moody, Manager (Subject: Review of Annual Change Report and request for additional reporting information). April 28, 2006. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2000. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). February 24, 2000. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2001. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). July 2, 2001. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2002a. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). February 28, 2002. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2002b. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). June 3, 2002. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2002c. Letter to I. Triay, Manager (Subject: Revised schedule for development and testing of Passive Institutional Controls). November 7, 2002. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2003a. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). April 8, 2003. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2003b. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). May 22, 2003. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Marcinowski, F. 2003c. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). August 8, 2003. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Page, S. 1999a. Letter to K. Klein, Acting Manager (Subject: Review of Annual Change Report and request for additional reporting information). March 3, 1999. Washington, DC: U.S. Environmental Protection Agency, Office of Radiation and Indoor Air.

Page, S. 1999b. Letter to I. Triay, Manager (Subject: Review of Annual Change Report and request for additional reporting information). June 3, 1999. Washington, DC: U.S. Environmental Protection Agency, Office of Radiation and Indoor Air.

Reyes, J. 2008a. Letter to D. Moody, Manager (Subject: Passive Institutional Controls update). March 7, 2008. Washington, DC: U.S. Environmental Protection Agency, Radiation Protection Division.

Reyes, J. 2008b. Letter to D. Moody (Subject: EPA 1.67 to 1.20 Excess Factor Change Approval Letter). February 11, 2008. Washington, DC: U.S. Environmental Protection Agency, Office of Air and Radiation.

U.S. Environmental Protection Agency (EPA). 1996. "40 CFR Part 194: Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations; Final Rule." Federal Register, vol. 61 (February 9, 1996): 5224–45.

U.S. Environmental Protection Agency (EPA). 1998. Letter to M. McFadden, Acting Manager (Subject: Review of Annual Change Report and request for additional reporting information). September 30, 1998. Washington, DC: U.S. Environmental Protection Agency.