

Annual Change Report 2009/2010

From July 1, 2009, to June 30, 2010

November 15, 2010

Prepared for:

The Department of Energy

Prepared by:

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Introduction

As part of continuing compliance, 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), Section 194.4(b)(4), which states:

-No 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.”

In meeting the requirement, the DOE provides an annual report each November of all applicable changes under the above requirement. This annual report informs the EPA of changes to information in the most recent compliance application (the 2009 Compliance Recertification Application (CRA)). Significant planned changes must be reported to the EPA prior to implementation by the DOE. In addition, Title 40 CFR, Section 194.4(b)(3) 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. All other changes are reported annually.

Changes in activities or conditions are reviewed to determine if 40 CFR Section 194.4(b)(3) reporting is necessary. The enclosed tables list those items identified for reporting under 40 CFR Section 194.4(b)(4). 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 five tables:

1. Table 1: Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Section 194.4(b)(4) documents EPA and DOE interactions during the reporting period with a one or two sentence description of each correspondence.
2. Table 2: Procedure Revision Table documents changes to relevant plans and procedures during the reporting period.
3. Table 3: Waste Emplacement Summary Report documents the transuranic (TRU) waste inventory for the waste parameters identified in Table 4-11 of the CRA. The summary provides the total emplaced inventory in the repository as of June 30, 2010.
4. Table 4: Performance Assessment, Software, and Hardware Changes documents the changes to relevant codes, software, and hardware that have occurred during the current reporting period.
5. Table 5: Passive Institutional Controls Activity documents the relevant activities that would be applicable to the development of Passive Institutional Controls (PICs). This table has been added in compliance with the EPA revised PICs schedule (Reyes to Moody, March 7, 2008).

In accordance with the EPA's requests and feedback over the past twelve years, this report incorporates many of the 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 all administrative changes to procedures. Examples of administrative changes to procedures that were not included are editorial changes, reformatting, correcting the reference titles, correcting inconsistencies within a procedure, and other changes that do not change the substance or intent of the document.

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

Table 1: Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Section 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
194.4(b)(3) Conditions of Compliance Certification	Planned Change Request (PCR)– Shielded Container	<p><u>DOE to EPA August 27, 2009.</u> DOE submitted updated information in response to EPA letter dated December 11, 2008, related to the nuclear safety aspects of future WIPP operations involving shielded containers.</p> <p><u>DOE to EPA September 30, 2009.</u> DOE response to EPA letter dated December 11, 2008, requesting a revised and complete Documented Safety Analysis (DSA) for the shielded container. DOE proposed an alternative to the DSA by proposing an Un-reviewed Safety Question (USQ) process to ensure that the safety basis for WIPP is not compromised by changes in the facility, work processes or other factors. A copy of DOE G 424.1-1A, <i>Implementation Guide for Use in Addressing Un-reviewed Safety Question Requirements</i> was provided.</p> <p><u>DOE to EPA March 4, 2010.</u> DOE submitted the —Summary of the Safety Impact Analyses for the Lead Shielded Container” in response to EPA’s request for additional information.</p> <p><u>DOE to EPA May 21, 2010.</u> DOE submitted the Planned Change Notice for the RH-72B Neutron Shielded Canister.</p>
194.4(b)(4) Annual Change Report	2008/2009 Annual Change Report	<p><u>DOE to EPA November 12, 2009.</u> DOE submitted the 2008/2009 Annual Change Report.</p> <p><u>DOE to EPA February 11, 2010.</u> DOE submitted the EPA requested amendment to the WIPP 2008/2009 Annual Change Report.</p> <p><u>DOE to EPA March 29, 2010.</u> DOE submitted Revision 1 to the WIPP 2008/2009 Annual Change Report as requested by EPA.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP ¹	Remote-Handled (RH) TRU waste characterization at General Electric Vallecitos Nuclear Center (GEVNC) by the Central Characterization Project (CCP)	<p><u>EPA to DOE August 26, 2009.</u> The EPA approved the RH TRU waste characterization activities at GEVNC CCP to characterize debris waste stream GEVNC.01. Inspection number EPA-GEVNC-CCP-RH-12.08-8. (Docket No: A-98-49; II-A4-113,115)</p>

¹ Tier 1 and Tier 2 activities will be identified under Section 194.8 at the request of the EPA during a meeting held on December 3, 2009.

Table 1: Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Section 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
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Advanced Mixed Waste Treatment Plant (AMWTP) Recertification	<p><u>DOE to EPA July 9, 2009.</u> The DOE submitted an amended Table 1 titled <i>AMWTP Approved Waste Characterization Processes</i>, of the recertification memo dated March 25, 2009. Amendments included items approved in the EPA baseline inspection report dated March 28-30, 2006 for AMWTP.</p> <p><u>DOE to EPA March 2, 2010.</u> The DOE submitted a Tier 1 change for the Idaho/AMWTP BN-510 waste stream to include waste from the Hanford Site.</p> <p><u>EPA to DOE June 10, 2010.</u> EPA approved the Tier 1 request of March 2, 2010. EPA also approved the CCP at Hanford to ship Hanford over-packs to AMWTP to characterize the waste in over-packs as BN510 waste (docket no. A-98-49; II-A4-127).</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Argonne National Laboratory (ANL) CCP Tier 1 requests	<p><u>DOE to EPA May 20, 2010.</u> DOE submitted a Tier 1 request to add containers to waste stream AERHDM to the certification of ANL CCP.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY09 second Quarter Report	<p><u>EPA to DOE August 5, 2009.</u> EPA accepted the changes reported in DOE's letter dated April 23, 2009, notifying EPA of the second quarter 2009 Tier 2 changes and requested additional information on the changes.</p> <p><u>DOE to EPA August 25, 2009.</u> DOE submitted additional documentation requested by EPA (August 5, 2009) for the Tier 2 changes for FY09 second Quarterly Report.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY09 third Quarter Report	<p><u>DOE to EPA July 23, 2009.</u> DOE submitted the FY09 third Quarter Report. The third quarter report included specific characterization and certification activities for AMWTP, Hanford, ANL, Idaho National Laboratory (INL), Los Alamos National Laboratory (LANL), Oak Ridge National Laboratory (ORNL), and Savannah River Site (SRS).</p> <p><u>EPA to DOE October 1, 2009.</u> EPA requested additional information regarding Tier 2 changes for the FY09 third quarter report.</p> <p><u>DOE to EPA October 15, 2009.</u> DOE submitted additional documents requested regarding Tier 2 changes for FY09 third quarter report.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY09 fourth Quarter Report	DOE to EPA October 27, 2009. DOE submitted notification of Tier 2 changes for AMWTP and CCP activities at ANL, GEVNC, INL, LANL, ORNL and SRS for FY09 fourth quarter. EPA to DOE June 10, 2010. EPA does not object to any of the changes reported in the Tier 2 FY09 fourth quarter report.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY09 fourth quarter and FY10 first quarter	DOE to EPA June 18, 2010. DOE submitted notification of Tier 2 changes for FY09 fourth quarter and FY10 first quarter.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY10 second quarter report	DOE to EPA May 6, 2010. DOE provided notification of Tier 2 changes for AMWTP and CCP activities at ANL, GEVNC, INL, LANL, ORNL and SRS.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 FY10 first Quarter Report	DOE to EPA January 29, 2010. DOE submitted notification of Tier 2 changes for AMWTP and CCP activities at ANL, GEVNC, INL, LANL, ORNL and SRS for FY 10 first quarter. EPA to DOE June 10, 2010. EPA does not object to any of the changes reported in the Tier 2 FY10 first quarter report. DOE to EPA June 18, 2010. DOE submitted notification of Tier 2 changes for FY09 fourth quarter and FY10 first quarter.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Characterization of S3000 waste from K-Basin North Load Out Pit (NLOP) Hanford Tier 1 request.	EPA to DOE September 16, 2009. The EPA did not approve the characterization of the Hanford Contact Handled (CH) TRU sludge (S3000) from K-Basin NLOP. (Docket No: A-98-49; II-A4-116)

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	GEVNC CCP Certification	<p><u>DOE to EPA August 27, 2009.</u> DOE submitted for concurrence the draft certification memo for Audit A-09-05 approving the CCP TRU waste program at GEVNC.</p> <p><u>EPA to DOE August 31, 2009.</u> The EPA concurred with the draft certification memo DOE issued to approve the CCP TRU waste program at GEVNC.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Baseline inspection Hanford CCP	<p><u>DOE to EPA January 26, 2010.</u> DOE notified EPA that the CCP TRU waste program is prepared to be inspected to implement the characterization and certification of CH S5000 Debris waste. This is a new baseline inspection for this facility.</p> <p><u>DOE to EPA March 15, 2010.</u> DOE submitted CCP documents for placement in the EPA docket for the baseline inspection at the Hanford site.</p> <p><u>DOE to EPA March 26, 2010.</u> DOE submitted documents for EPA's review relating to the Hanford Baseline inspection.</p> <p><u>DOE to EPA May 18, 2010.</u> DOE provided responses to concerns generated during the baseline inspection of the CCP at Hanford.</p> <p><u>DOE to EPA June 8, 2010.</u> DOE provided response to additional concern generated during the baseline inspection of the CCP at Hanford.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	INL CCP Recertification	<p><u>DOE to EPA September 11, 2009.</u> DOE submitted for concurrence the amended draft recertification of the CCP TRU waste program at INL based upon Audits A-08-10 and A-08-22.</p> <p><u>EPA to DOE September 14, 2009.</u> EPA concurred with DOE's amended draft recertification of the CCP TRU waste program at INL with the exception of the Visual Examination (VE) activity Tier 1 change.</p> <p><u>DOE to EPA October 1, 2009.</u> DOE submitted for concurrence the recertification of INL CCP and INL analytical laboratory.</p> <p><u>EPA to DOE October 1, 2009.</u> EPA concurred with the DOE for the recertification of INL-CCP.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
<p>194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP</p>	<p>INL CCP Tier 1 request</p>	<p><u>DOE to EPA July 1, 2009.</u> DOE submitted for review a Tier 1 change of the High Efficiency Neutron Counter (HENC) Gamma Spectrometer Supplemental Calibration and the Verification Report for an Operating Range Extension at INL CCP.</p> <p><u>DOE to EPA September 17, 2009.</u> DOE submitted for review a Tier 1 request for VE technique for INL CCP RH waste. Documentation provided included the VE batch data reports RHINLVE090001, RHINLVE090002, RHINLVE090003 and CCP-TP-500 revision 8, <i>CCP Remote-Handled Waste Visual Examination</i> per baseline inspection number EPA-INL-CCP-RH-6.06-8.</p> <p><u>EPA to DOE September 22, 2009.</u> The EPA approved the Tier 1 change to the baseline approval for the INL CCP TRU waste characterization program. This approval consisted of Visual Examination Technique (VET) for RH TRU waste at INL.</p> <p><u>DOE to EPA October 21, 2009.</u> DOE submitted a Tier 1 request to add waste streams ID-INTEC-RH and ID-HFEF-S5400-RH and add twelve containers to ID-ANLE-S5000.</p> <p><u>EPA to DOE February 1, 2010.</u> EPA approved ID-ANLE-S5000 and INL-HFEF-S5400, Lot 1A waste streams.</p> <p><u>DOE to EPA February 8, 2010.</u> DOE submitted a Tier 1 request to add waste streams IN-ID-NRF-153-RH, ID-RTC-S3000-RH, and ID-HFEF-S5400 Lot 1B cans to INL CCP's RH waste.</p> <p><u>DOE to EPA June 22, 2010.</u> DOE requested EPA concurrence for certification expansion for INL for two Tier 1 changes that included the approval for ID-MFC-S5400-RH waste stream and the use of Visual Examination Technique (VET) for RH S3000, S4000, and S5000 waste categories.</p> <p><u>EPA to DOE June 23, 2010.</u> EPA concurred with DOE's certification expansion for INL. This concurrence and expansion add Tier 1 approvals for use of VET of RH waste (docket no. A-98-49; II-A4-118) and waste stream ID-MFC-S5400-RH (docket no. A-98-49; II-A4-126).</p> <p><u>DOE to EPA June 23, 2010.</u> DOE requested a Tier 1 change for INL RH program to include the Osprey system.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	INL CCP Tier 2 request	<u>DOE to EPA August 28, 2009.</u> DOE submitted nine documents to the EPA in response to EPA's request of DOE's contractor to provide documents for a Tier 2 request at INL CCP.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	LANL Tier 1 request	<u>DOE to EPA April 28, 2010.</u> DOE submitted a Tier 1 request to extend the density of the High-Efficiency Neutron Counter #2 to assay lead-lined 55-gallon drums.
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	LANL CCP Recertification	<u>DOE to EPA August 11, 2009.</u> DOE submitted for review and concurrence the draft LANL CCP Recertification Audit A-09-12 for both RH and CH waste. <u>EPA to DOE August 17, 2009.</u> The EPA concurred with the draft LANL CCP Recertification for both RH and CH waste.

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
<p>194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP</p>	<p>ORNL CCP Tier 1 request</p>	<p><u>DOE to EPA July 28, 2009.</u> DOE submitted the required response that was concern EPA-ORNL-CCP-RH-SETF-T1-09-01CR identified during EPA’s July 7-8, 2009. review of the Tier 1 change request for CCP-AK-ORNL-501, Revision 2, <i>CCP Remote-Handled Transuranic Radiological Characterization Technical Report for Remote-Handled Transuranic Waste From Oak Ridge National Laboratory Radiochemical Engineering Development Center Waste Stream: OR-REDC-RH-HET</i> to include Solvent Extraction Test Facility (SETF) Time Period.</p> <p><u>DOE to EPA August 28, 2009.</u> DOE submitted for EPA review a Tier 1 request for CCP-AK-ORNL-501, revision 3, <i>CCP Remote-Handled Transuranic Radiological Characterization Technical Report for Remote-Handled Transuranic Waste from Oak Ridge National Laboratory Radiochemical Engineering Development Center Waste Stream: OR-REDC-RH-HET (Pre-SETF Time Period)</i>. This request is per EPA baseline inspection EPA-ORNL-CCP-RH-06.08-8.</p> <p><u>DOE to EPA August 29, 2009.</u> DOE provided responses to three issues identified by EPA during the August 12, 2009 evaluation of ORNL-NFS-S4000 waste.</p> <p><u>EPA to DOE October 7, 2009.</u> EPA approved the S4000 soils from waste stream OR-NFS-CH-SOIL at CCP ORNL. EPA noted two programmatic concerns during inspection docket number, A-98-49, II-A4-117.</p> <p><u>DOE to EPA October 19, 2009.</u> The DOE acknowledged the Tier 1 approval on S4000 Summary Category Group (SCG) for OR-NFS-CH-SOIL at ORNL. The DOE requested clarification to EPA’s comments on the timing of inspections for the S4000 waste stream.</p> <p><u>DOE to EPA October 23, 2009.</u> DOE submitted for concurrence the draft expansion memo for Audit A-09-24.</p> <p><u>DOE to EPA November 4, 2009.</u> DOE submitted an amendment to the October 23, 2009, letter providing an amended attachment four.</p> <p><u>EPA to DOE November 4, 2009.</u> EPA concurred with the DOE letter of October 19, 2009, Tier 1 changes.</p> <p><u>EPA to DOE November 30, 2009.</u> EPA approved DOE’s request for the CH SETF waste stream at ORNL. Docket No. A-98-49; II-A4-120.</p> <p><u>EPA to DOE December 15, 2009.</u> EPA concurred with the DOE Carlsbad Field Office (CBFO) plans to recertify ORNL CCP.</p> <p><u>DOE to EPA December 17, 2009.</u> DOE submitted a Tier 1 request for ORNL-IQ3 Gamma Assay System and VE for CH waste characterization.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	ORNL CCP Tier 1 request (cont.)	<p><u>EPA to DOE March 30, 2010.</u> EPA approved the use of the IQ3 nondestructive assay system and VE for characterization of CH soils (S4000) and debris (S5000) waste. Docket number A-98-49, II-A4-125.</p> <p><u>EPA to DOE April 21, 2010.</u> EPA approved the Tier 1 request to add Pre-SETF wastes to RH waste stream OR-REDC-RH-HET. Docket No. A-98-49; II-A4-124.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Unannounced inspection	<p><u>EPA to DOE November 23, 2009.</u> EPA provided the results of its unannounced inspection (Inspection No: 06.09-24) of the ORNL CCP CH and RH TRU programs. EPA approved the programs Docket No. A-98-49; II-A4-121.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	SRS CCP Tier 1 request	<p><u>DOE to EPA June 19, 2009.</u> DOE request EPA approval of a Tier 1 change for the remaining BCL waste streams stored at SRS.</p> <p><u>EPA to DOE August 4, 2009.</u> EPA approval (Docket No. A-98-49, II-A4-114) of the Tier 1 change request for use of the Non-destructive Assay Box Counter (NABC) at SRS CCP.</p> <p><u>DOE to EPA August 12, 2009.</u> DOE requested EPA concurrence on draft expansion memo adding NABC.</p> <p><u>EPA to DOE August 17, 2009.</u> EPA concurred on the draft expansion memo adding NABC.</p> <p><u>DOE to EPA September 24, 2009.</u> DOE request EPA approval of a Tier 1 change for SRS CCP to add CH S3000 Homogeneous Solids waste SCG to the certification.</p> <p><u>DOE to EPA September 30, 2009.</u> DOE provided the following documents in support of the Tier 1 request of S3000 waste at SRS for Acceptable Knowledge (AK) summary report SR-MD-HOM-A: CCP-AK-SRS-8, Rev. 4, SRNDA 1630, SRNDA 1632, SRNDA 1633, SRNDA 1660, SRSGS 178 and SRSTR 0310.</p> <p><u>DOE to EPA October 8, 2009.</u> DOE submitted additional information requested in reference to CBFO request for a Tier 1 change for the remaining BCL waste streams.</p> <p><u>DOE to EPA November 17, 2009.</u> DOE submitted additional documentation requested by EPA to support the Tier 1 change request for CCP-SRS-CH-S3000-SCG.</p> <p><u>EPA to DOE March 23, 2010.</u> EPA approved DOE's request to allow CCP to dispose of CH solids (S3000) from SRS at WIPP. Docket number A-98-49: II-A4-123.</p>
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 2 evaluation of SRS-CCP	<p><u>EPA to DOE August 5, 2009.</u> The EPA found no issues with SRS CCP operation of the new real-time radiography (RTR) equipment implemented at SRS. The EPA did note concerns relating to training of RTR personnel.</p> <p><u>DOE to EPA September 10, 2009.</u> DOE provided responses to EPA concerns relating to issues of training of RTR staff at SRS CCP.</p> <p><u>DOE to EPA September 16, 2009.</u> CBFO response to EPA's concerns CCP-CH-RTR-T2.09-001CR, CCP-CH-RTR-T2.09-002CR, and CCP-CH-RTR-T2.09-003CR generated during the 2009 Tier 2 evaluation at SRS CCP.</p> <p><u>DOE to EPA June 8, 2010.</u> CBFO additional response to EPA's concerns CCP-CH-RTR-T2.09-001CR and CCP-CH-RTR-T2.09-002CR generated during the 2009 Tier 2 evaluations at SRS CCP.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.8 Approval Process for Waste Shipment from Waste Generator Sites for Disposal at the WIPP	Tier 1 and Tier 2 changes at SRS CCP	<p>EPA to DOE August 4, 2009. The EPA approved use of the Nondestructive Assay Box Counter (NABC) non-destructive assay (NDA) system for CH TRU waste at SRS CCP.</p> <p>DOE to EPA August 12, 2009. DOE submitted to the EPA for concurrence, a draft expansion memo and attachments from Audit A-09-16 (RTR Unit #4), a Tier 2 change, and A-09-17 NABC, a Tier 1 change, for the SRS CCP program.</p> <p>EPA to DOE August 17, 2009. The EPA concurred with the DOE's draft expansion memo dated August 12, 2009.</p>
194.14(b) Design of the Disposal System	Status of Experiments in the WIPP Underground	<p><u>SEGA (Segmented Enriched Germanium Assembly) and MEGA (Multiple Element Germanium Array)</u></p> <p>Collaborating scientists continued to operate their experiment, requiring occasional exchanges of bottles filled with liquid nitrogen to cool the apparatus.</p> <p><u>EXO (Enriched Xenon Observatory)</u></p> <p>Experimental modules continued to be outfitted and tested.</p> <p><u>LBRE (Low Background Radiation Experiment)</u></p> <p>Activities have resumed and are expected to continue throughout the summer.</p> <p><u>DMTPC (Dark Matter Time Projection Chamber)</u></p> <p>Preparation of the connex continued.</p>

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Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change and DOE Assessment of the Impact of the Change
194.15 Content of Compliance Re-Certification Application(s)	2009 CRA	<p><u>EPA to DOE July 16, 2009.</u> EPA provided the DOE with a second letter of comments related to completeness of the documentation for the 2009 CRA.</p> <p><u>DOE to EPA August 24, 2009.</u> DOE provided a hard copy and supporting references in response to EPA letter dated May 21, 2009, regarding the CRA.</p> <p><u>DOE to EPA September 30, 2009.</u> DOE provided responses to EPA letters dated May 21, 2009, and July 16, 2009, pertaining to the 2009 CRA.</p> <p><u>EPA to DOE October 19, 2009.</u> EPA provided DOE with a third letter of comments related to the completeness of the documentation for the 2009 CRA.</p> <p><u>DOE to EPA November 25, 2009.</u> DOE submitted a response to EPA's letters of May 21, 2009, and July 16, 2009.</p> <p><u>DOE to EPA January 12, 2010.</u> DOE submitted responses to EPA's letters of July 16, 2010, and October 19, 2010.</p> <p><u>DOE to EPA February 4, 2010.</u> DOE submitted the updated CARD 8 Tables for the 2009 EPA completeness review of the CRA-2009.</p> <p><u>DOE to EPA February 19, 2010.</u> DOE submitted responses to EPA's letter of October 19, 2009.</p> <p><u>EPA to DOE February 22, 2010.</u> EPA submitted the fourth completeness letter with comments for response by DOE.</p> <p><u>DOE to EPA March 31, 2010.</u> DOE submitted responses to EPA's letter of May 21, 2009</p> <p><u>DOE to EPA April 19, 2010.</u> DOE submitted responses to EPA's letter of February 22, 2010.</p> <p><u>DOE to EPA May 26, 2010.</u> DOE submitted responses to EPA's letters of January 25, 2010 and February 22, 2010.</p> <p><u>DOE to EPA June 22, 2010.</u> DOE submitted response to EPA's email of April 27, 2010 pertaining to the sensitivity analysis parameter for the Performance Assessment Baseline Calculation (PABC).</p>

Table 1: Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Section 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
194.21 Inspections	40 CFR 191 Subpart A	EPA to DOE October 7, 2009. EPA determined that activities related to emissions monitoring during waste management and storage continue to comply with the requirements of 40 CFR Part 191 Subpart A. Docket: A-98-49, II-B3-111.
194.22 Quality Assurance	Inspection of the Hanford Quality Assurance (QA) Program (NQA-1)	EPA to DOE September 17, 2009. The EPA inspection of DOE Audit A-09-18 of the Hanford Site (QA) Program for the WIPP found that the DOE properly conducted the audit and confirmed continued compliance of the Hanford QA program. (Docket No: A-98-49; II-A4-105)
194.22 Quality Assurance	CBFO (QA)	<p>EPA to DOE October 15, 2009. EPA inspected CBFO Audit A-09-19 and waste characterization processes at AMWTP. No concerns were identified.</p> <p>EPA to DOE January 28, 2010. EPA conducted an audit of the QA program of the CCP-WIPP and found that it was properly executed in accordance with NQA. At the same time, EPA evaluated CBFO's QA program (Audit A-09-10) and found it to be properly executed. Docket number A-98-49, II-A1-106.</p> <p>DOE to EPA May 20, 2010. DOE submitted for EPA concurrence the Carlsbad Field Office Quality Assurance Program Document (DOE/CBFO-94-1012), Revision 11.</p>
194.24 Waste characterization	DOE/WIPP-02-3214, Rev. 2, Draft D, <i>Remote-Handled TRU Waste Characterization Program Implementation Plan.</i>	<p>DOE to EPA August 10, 2009. DOE submitted, per EPA's request, for review and concurrence DOE/WIPP 02-3214, Revision 2, Draft D, <i>Remote-Handled TRU Waste Characterization Program Implementation Plan.</i> DOE plans to submit new RH Program Baseline Inspection requests in the future and requested a timely review so that new baseline inspections may proceed.</p> <p>March 30, 2010. EPA and DOE continue submittal of comments and development of resolutions to comments. Final EPA concurrence was not received prior to the end of the reporting period.</p>
194.24 Waste characterization	Revision 6.4 Waste Acceptance Criteria (WAC)	<p>DOE to EPA November 12, 2009. DOE submitted revision 6.4 of the WAC to address DSA changes.</p> <p>EPA to DOE November 18, 2009. EPA concurred with revision 6.4 of the WAC.</p>

**Table 2:
Procedure Revision Table**

Table 2: Procedure Revision Table

Procedure	Rev. & Effective Date	Description
SP 12-27, Calibration and Use of the Vaisala Carbon Dioxide Probe and Transmitter.	Rev. 0 07/23/09	This is a new procedure for the use of the Carbon Dioxide Probe and Meter. This probe and meter are used during MgO testing.
WP 12-HP3500 Airborne Radioactivity	Rev. 17 08/26/09	Changes were made for the gravimetrics' concerning the calibration of the weights and documenting calibration due dates on the attachment.
WP 02-EC1001 Characterization Sampling, Shipping, and Documentation	Rev. 9 09/21/09	This document implements the requirements in WP 02-EC.06, Quality Assurance Project Plan for WIPP Site Effluent and Hazardous Materials Sampling. Activities for packaging and shipping were updated to reflect new contract laboratory requirements.
NP 6-1, Document Review Process.	Rev. 8 10/12/2009	This procedure was updated as a response to CAR IS-09-11-CAR-01 which is the result of CAR Reference: SNL WIPP Internal Surveillance, IS-09-11, "Review Process", Conducted 6/10-11/09. ERMS 551766.
02-EM1014, Groundwater Level Measurement.	Rev. 5 10/22/2009	This procedure was completely updated to reflect equipment and measurement changes.
SP 9-9, Preparation of Culebra Potentiometric Surface Contour Maps.	Rev. 0 10/26/2009	This is a new procedure that outlines the creation of the Culebra contour maps from the MODFLOW model.
NP 18-1, Audits and Surveillances.	Rev 7 10/28/2009	This procedure was updated as a response to CAR IS-09-13-CAR-01 which is the result of CAR Reference: SNL Internal Surveillance, IS-09-13, "Assessments", Conducted 7/10/09. ERMS 661703.
12-HP1100, Radiological Surveys	Rev. 14, 11/11/2009	This procedure was updated in section 4.0 — Dos Rate Surveys".
NP 9-1, Analysis.	Rev. 8 11/19/2009	This procedure was updated as a result of CAR W-09-14 which is the result of self identified CAR W-09-14, Issued 9/1/09, by Mario Chavez, SNL QA Staff. The specific changes include: <ol style="list-style-type: none"> 1. A logic error was corrected in Appendix B, Item 3, "For software not executed on approved CMS tool". This statement was removed since the requirements were applicable to both CMS and non-CMS controlled software. 2. The Run Librarian and Run Master responsibilities for the software configuration management (SCM) plans for VMS and Unix were added to the 2nd bullet of Section 2.1.3. 3. Two additional references (Kirchner, 2005 and Long, 2003) were added to Section 2.4.
02-EM1021, Pressure Density Survey.	Rev. 7 12/01/2009	This procedure was updated to reflect changes in the formula for calculation of average fluid density.

Table 2: Procedure Revision Table

Procedure	Rev. & Effective Date	Description
08-NT.05, Waste Data System Software Verification and Validation Plan.	Rev. 06, 12/14/2009	This procedure was updated to reflect the upgrades to the Waste Data System (WDS).
08-NT.06, Waste Data System Software Requirements Specification.	Rev. 06, 12/14/2009	This procedure was updated to reflect the upgrades to the WDS.
08-NT.07, Waste Data System Software Design Description.	Rev. 06, 12/14/2009	This procedure was updated to reflect the upgrades to the WDS.
05-WH.02, WIPP Waste Handling Operations WDS User's Manual.	Rev. 0 12/17/2009	This is a new procedure replacing DOE-CBFO-97-2273 "WIPP Waste Handling Operations WWIS User's Manual".
08-NT.04. Waste Data System Configuration Management and Software Quality Assurance Program.	Rev. 15, 12/17/2009	This procedure was updated to reflect the upgrades to the WDS.
05-WH1011. CH Waste Processing	Rev 36 01/20/2010	This procedure was updated to reflect VOC mitigation steps.
SP 17-1, Records Center Operations	Rev 8 01/28/2010	This procedure was updated to be consistent between NP 17-1 and SP 17-1, compliant with DOE/CBFO QAPD and SNL ES&H review.
05-WH1011. CH Waste Processing	Rev 37 03/02/2010	This procedure was updated to incorporate steps for carbon tetrachloride sampling.
02-PC.02. Delaware Basin Drilling Surveillance Plan.	Rev 3 05/21/2010	This procedure was revised to include the Delaware Basin Well Tracking Application which combines databases previously used into one Microsoft SQL server database.
12-HP4000. Emergency Radiological Control Response	Rev. 6 05/27/10	This procedure has been rewritten. References have been added and deleted. Section 3.0 — "On-Site Airborne Radioactivity Event" has been deleted from the procedure. Information in Section 3.0 was moved to Section 1.0 and procedure 12-ER4903 — "Radiological Event Response".
12-HP3500, Airborne Radioactivity.	Rev 18 05/19/10	This procedure was updated to add Attachment 5 – Guide for Station A Filter Counting for Re-Entry Into the U/G.
13-1, Washington TRU Solutions LLC Quality Assurance Program Description.	Rev 29 05/10/10	This procedure was updated to add software QA applicability criterion for activities that affect or are directly related to compliance with the HWFP (6.1.1)[WIPP Form 09-268].
05-WH1758, RH Waste Handling Abnormal Operations.	Rev 8 06/22/10	This procedure was updated to add Section 22.0 Loaded RH-TRU 72B Preparation for Trailer Loading.

Table 3:
Waste Emplacement Summary Report

TRU Waste Inventory				
	Reporting Period ¹ Emplaced Container Volume (m ³)		Cumulative ² Emplaced Container Volume (m ³)	
RH TRU	82		191	
CH TRU	7,735		68,527	
Waste Components Inventory				
	Reporting Period ¹ Emplaced Mass (kg)	Cumulative ² Emplaced Mass (kg)	Maximum Emplacement Limiting Value ³ (kg)	Percent of Limiting Value ³ Emplaced
Cellulose, Plastic, Rubber Materials ⁴	793,415	7,195,472	22,000,000	32.71%
	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	3,053,403	20,359,819	20,000,000	Minimum met
Non-Fe Metals	13,961	341,657	2,000	Minimum met
Residual Liquids	Liquid waste is prohibited at WIPP. The total residual liquid in any payload container shall not exceed one percent by volume of that payload container.			
Emplaced Radiological Activity Inventory (curies)				
Radionuclide	Cumulative Activity in FY 2008/2009 Annual Change Report ⁶	CH Repository Reporting Period Activity ⁶	RH Repository Reporting Period Activity ⁶	Total Activity as of June 30, 2010 ⁶
²⁴¹ Am	1.914E+05	2.021E+05	1.495E+02	2.023E+05
¹³⁷ Cs	9.543E+02	5.300E+00	1.753E+03	1.759E+03
²³⁸ Pu	2.131E+05	2.725E+05	6.571E+01	2.725E+05
²³⁹ Pu	2.802E+05	2.913E+05	9.739E+01	2.914E+05
²⁴⁰ Pu	6.815E+04	7.105E+04	6.610E+01	7.112E+04
²⁴² Pu	1.152E+01	1.440E+01	9.375E-02	1.450E+01
⁹⁰ Sr	7.058E+02	1.086E+01	1.362E+03	1.373E+03
²³³ U	3.777E+00	4.703E+00	1.354E-01	4.839E+00
²³⁴ U	3.592E+01	4.610E+01	2.778E-01	4.638E+01
²³⁸ U	1.099E+01	1.190E+01	6.035E-03	1.191E+01
Total	7.546E+05	8.371E+05	3.495E+03	8.406E+05

MgO' and Cellulose, Plastic & 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	946,785	265,295	1.71
	4	4	1,013,460	290,608	1.70
	4	3	1,015,365	285,762	1.70
	4	2	931,545	374,327	1.22 ⁷
	4	1	668,655	265,884	1.23
	5	7	939,165	353,269	1.29
	5	6	875,477	140,009	2.85
	5	5	782,346	298,808	1.24
	5	4	663,698	200,361	*1.67
	5	3	0	3,349	*.00
	5	2	0	801	*.00

1. Reporting Period includes emplacement that occurred between July 1, 2009, and June 30, 2010.

2. Cumulative period includes emplacement from the beginning until June 30, 2010.

3. Limiting Value—Values from CRA 2009 Section 24. These values are based on inventory assumptions.

4. Cellulose, Plastic, Rubber Materials (CPR) includes CPR within the waste, container materials and emplacement materials.

5. Fe-Metals include both materials in the waste and containers in total.

6. There is no decay correction for the listed isotope activities.

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.

* These are active emplacement rooms which will not have all the required MgO emplaced until both CH and RH waste emplacement has been completed.

Note

Waste emplacement is a three step process. The first step is emplacement of RH waste into the walls of the emplacement room. The second step involves CH waste emplacement into the room. The third step involves emplacement of MgO onto the waste stacks as each row is completed and the MgO calculations are performed.

Dunnage only assemblies are not included in this table.

Table 4:
Performance Assessment, Software, and Hardware
Changes

Table 4: Performance Assessment, Software, and Hardware Changes

WIPP Use Codes/Software and Code Version	Version Date	Description
EQ3/6 7.2c	1/26/10	Modified and corrected part of code that calculates activity coefficients from the experimentally measured Pitzer parameters and other thermodynamic data. New Code Version EQ3/6 8.0a.
GEN 3DII 1.37A	2/16/10	Sandia Engineering Analysis Code Access System (SEACAS) utility code qualified to support JAS3D and SANTOS for use in WIPP PA (initial qualification).
GJOIN2 1.31	2/16/10	SEACAS utility code qualified to support JAS3D and SANTOS for use in WIPP PA (initial qualification).
JAS3D 2.2.A	2/16/10	Removal of subroutines that required a recompilation of the code for every run. Inclusion of crushed salt model. New Code Version JAS3D 2.4.C-WIPP.
CCDFGF 5.02	6/24/10	Revision added the ability to use multiple PANEL concentration files. New code version is CCDFGF 6.00.
PRECCDFGF 1.01	6/24/10	Revision added the ability to use multiple PANEL concentration files. New code version is PRECCDFGF 2.0.

Table 5:

Passive Institutional Controls Activity

Table 5: Passive Institutional Controls Activity

DATE	Description of Activity
03/08/10	No activities to report.

Summary

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

References

Letter from Reyes (EPA) to Moody (DOE), March 7, 2008.