

**Annual Change Report  
2005/2006**



**October, 2006**

**United States Department of Energy  
Waste Isolation Pilot Plant**

**Carlsbad Field Office  
Carlsbad, New Mexico**

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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 report any change in information 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 of all changes applicable under the above requirement each November. This annual report informs the EPA of changes to information in the most recent compliance application. 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. To date, there have been no significant unplanned changes to the certification basis. Planned changes have been submitted on an individual basis. All other changes are reported annually. There were two proposed changes that have been submitted to the EPA for approval prior to implementation per 40 CFR, Section 194.4(b)(3). One is a change to the Panel Closure System (DOE/CBFO letter, October 7, 2002) and the other is the request for MgO reduction (DOE/CBFO letter, April 10, 2006).

This Waste Isolation Pilot Plant (WIPP) Annual Change Report includes changes that occurred from the July 1, 2005, through June 30, 2006. This report is intended to provide periodic status to DOE/CBFO on the number and type of changes that have been deemed as non-significant throughout this reporting period.

Changes in activities or conditions are reviewed to determine if 40 CFR Section 194.4(b)(3) reporting is necessary. As indicated above, no significant unplanned changes were identified for the time period covered by this report. The enclosed tables list those items identified for reporting under 40 CFR Section 194.4(b)(4). The majority of the changes described in this report are associated with modifications to written plans and procedures for WIPP operations.

This report captures the summary of each change within four tables:

- ❖ Table 1: *Changes in WIPP Conditions or Activities Reportable under Title 40 CFR Section 194.4(b)(4)*
- ❖ Table 2: *Procedure Revision Table* documents changes to relevant plans and procedures during the reporting period
- ❖ Table 3: *Waste Emplacement Summary Report* documents the 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, 2006 and the inventory that was emplaced during the reporting period (July 1, 2005 to June 30, 2006)
- ❖ 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

In accordance with the EPA's requests and feedback over the past six years, this report incorporates suggestions and guidance from the EPA for capturing the appropriate level of detail and the layout of information with respect to the WIPP certification criteria. Also requested was the identification of any references previously entered into the EPA Docket system as those references become available. This change is visible within the information in Table 1. Applicable references identify the EPA Docket Item Number for the specific information and add a general sentence identifying the change.

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 title of references, correcting inconsistency 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)**

**July 1, 2005 through June 30, 2006**

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change
194.4 (b)(4) Conditions of Compliance Certification	Annual Change Report DOE/WIPP 05-3317	DOE/WIPP 05-3317, issued November 17, 2005. The time period for which this report is developed is July 1, 2004 to June 30, 2005.
	EPA letter to DOE	EPA comments requesting additional information related to some reported changes necessary to complete the EPA review of the Annual Report. EPA letter dated February 2, 2006.
	DOE letter to EPA	DOE response to EPA comments on the Annual Report. DOE letter dated March 22, 2006.
	EPA letter to DOE	EPA letter dated April 28, 2006 response to DOE letter dated March 22, 2006 addresses comments regarding the 2005 Annual Change Report on changes in activities and conditions at WIPP, EPA determines that the report is complete and that the reported changes are not significant.
194.11 Completeness & Accuracy of Compliance Application	EPA letter to DOE	Determination by EPA that DOE's Compliance Recertification Application for WIPP is complete. EPA letter dated September 29, 2005.
194.21 Inspections of Project Organizations QA Programs	Inspections	EPA Inspection number EPA-WIPP-7.05-12a [Docket A-98-49, Item II-B3-82] EPA Audits of 5 QA organizations (CBFO, SNL, LANL-CO, CEMRC, WTS) [Docket A-98-49, Item II-A1-73]
	Inspection of Waste Characterization of AMWTP, ICP, & CCP at the INL	EPA Inspection Number EPA-INL-CCP005.05-08 [Docket A-98-49; Item II-A4-59] EPA audit conducted May 3-5, 2005. EPA letter dated November 1, 2005 transmitting results of the EPA inspection of the CCP TRU waste characterization program implemented at the INL.
	Inspection of SRS CCP QA Program	EPA Inspection of DOE's CCP-SRS QA Audit A-06-02 [Docket A-98-49; Item H-A1-77] conducted November 1-3, 2005. EPA letter dated November 21, 2005.
	Inspection of WTS QA Program at WIPP	EPA Inspection of WTS' WIPP Site (Docket No: A-98-49 II-A1-75) conducted September 27-29, 2005. EPA letter dated January 13, 2006.
	Inspection of AMWTP in Idaho	EPA Inspection of AMWTP in Idaho (DOE Audit A-06-10) (EPA-AMWTP Inspection No. 03.06-8) first part conducted March 27-29, 2006. EPA letter dated February 23, 2006.
	INL RH Inspection	EPA letter to DOE dated May 22, 2006, transmits scope of EPA's baseline inspection (EPA-INL-CCP-RH, Inspection No. 06.06-8) of CCP at INL for retrievably-stored RH.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change
194.21 Inspections of Project Organizations QA Programs	EPA Letter to DOE	EPA letter to DOE transmits scope of baseline inspection EPA-LANL-CCP- No. 05.06-8 of the CCP inspection at LANL.
	EPA Letter to DOE	EPA letter to DOE dated May 16, 2006, announces EPA plan to inspect the WIPP site during the week of June 19, 2006 to focus on the Subpart A monitoring program, parameter monitoring program, and the waste emplacement operations. Also, specific documents were requested for this inspection to include RH and any other documents regarding the above items in the inspection scope.
	DOE Letter to EPA	DOE responded to EPA inspection Issue Tracking Forms issued during SRS CCP baseline inspection EPA/SRS/CCP conducted October 8, 2005. DOE letter dated November 22, 2005 and DOE letter dated December 16, 2005.
	EPA Inspection	EPA Inspection of the LANL-CO QA and Inventory Project performed by EPA QA on June 6-8, 2006.
194.22(a) Quality Assurance	EPA Letter to DOE	EPA Audit of AMWTP at INL (DOE audit A-05-17) [Docket A-98-49; Item II-A1-75] EPA audit conducted August 23-25, 2005. Audit of the QA Program at the AMWTP at INL. EPA letter dated November 28, 2005
	EPA Letter to DOE	EPA notified DOE of EPA's approval of visual examination as a quality control check on radiography performed by the AMWTP at INL's CCP Program. EPA letter dated November 16, 2005.
	Table 2: Procedure Revision Table	Changes to SNL program documents and WTS plans and procedures are listed in Table 2. Documentation captures minor changes and improvements to the program during this reporting period.
	EPA Letter to DOE	EPA Audit of DOE's CBFO QA Program (Docket No: A-98-49, Item II-A1-76) conducted December 12-13, 2005. EPA letter dated January 30, 2006.
	EPA Letter to DOE	EPA letter transmit results of EPA's analysis of DOE's request to extend calibration range of the MCS HENC#1 of the CCP LANL. EPA letter to DOE dated March 8, 2006. Nondestructive Assay (NDA).
	DOE Letter to EPA	Submittal of AMWTP program documents for EPA Audit A-06-10 for TRU Waste Program at AMWTP. DOE letter to EPA dated February 3, 2006.
	EPA Letter to DOE	EPA Audit of DOE's CBFO QAPD document (Docket No: A-98-49 II-A1-79) conducted February 7-9, and February 13, 2006. EPA letter dated April 18, 2006.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change
194.22(a) Quality Assurance	DOE Letter to EPA	DOE letter to EPA, dated May 17, 2006, transmitting the CBFO audit plan for INL-RH on June 12-16, 2006.
	EPA Letter to DOE	EPA letter to DOE, dated June 30, 2006, transmitting results of : 1. CCP QA Program inspection at INL on April 25, 2006 2. AMWTP QA Program audit on April 26, 2006 at INL 3. WTS QA Program audit on May 9-11, 2006 at the WIPP site
	DOE Letter to SNL/LANL	DOE Letter dated May 18, 2006 acknowledges separate and distinct LANL QA program for waste inventory work. DOE letter to LANL and SNL (LANL-CO/SNL-CPG Memorandum of Agreement, CBFO:QA:ALH:LC:06-0906:UFC:2300). This letter transfers TRU waste inventory activities from SNL QA program to LANL-CO QA program. Review of changes in the LANL-CO program from May 18-30, 2006 shows that no procedures at LANL-CO changed during this time.
194.23 Models and computer codes	Table 4: Performance Assessment (PA) Software and Hardware Changes	The changes to PA software and hardware have been compiled and are located in Table 4 and were minor changes and improvements to the program during this reporting period.
194.24(c) Waste Characterization and Appendix A to Part 194, Conditions 2 and 3	DOE Letter to EPA	DOE requested approval of the High Efficiency Neutron Counter (HENC) as a non-destructive assay (NDA) system. EPA [Docket A-98-49, Item II-A4-60] EPA desktop review of Tier 1 change evaluation of replicate testing for CCP characterization project HENC at INL. DOE letter dated November 16, 2005.
	DOE Letter to EPA	Supplemental calibration report for the mobile characterization services high efficiency neutron counter #1 at LANL. Nondestructive Assay (NDA) DOE letter to EPA dated January 10, 2006.
	DOE Letter to EPA	DOE letter to EPA, dated April 18, 2006, requesting review of supplemental calibration report for the WRAP GEA System Unit B at Hanford.
	EPA Letter to DOE	EPA review with comments of DOE letter dated 4-18-06 forwarding a supplemental calibration report for WRAP, GEA System Unit B at Hanford, previously approved this GEA system in August 2002 (Docket No. A98-49, II-A4-25).
	DOE Letter to EPA	DOE requested review & concurrence for CH retrievably-stored & newly generated homogeneous solids (S3000), & newly generated soil/gravel (S4000). DOE letter dated November 3, 2005. Certification Letter for CCP/INL

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change
194.24(c) Waste Characterization and Appendix A to Part 194, Conditions 2 and 3	DOE Letter to EPA	CCP INL summary of Tier 1 and Tier 2 activity changes from May 2005 through November 2005 (awaiting certification authority) and December 2005 through February 2006 time frame (first three months of operations under certification authority). DOE letter to EPA dated March 6, 2006.
	DOE Letter to EPA	DOE requested review & concurrence for the recertification of INL's TRU waste characterization program Audit A-05-13. DOE letter dated November 4, 2005.
	DOE Letter to EPA	DOE requested review & concurrence on the revised draft for initial certification for CCP/INL TRU waste characterization program, Audit A-05-12. DOE letter dated November 17, 2005.
	DOE Letter to EPA	Notification dated June 21, 2005 of Tier 1 and Tier 2 changes for CCP at the INL to the waste characterization and certification activities.
	EPA Letter to DOE	EPA letter to DOE, dated March 6, 2006, addresses CCP activity changes from both the May 2005 through November 2005 time frame, as well as, the December 2005 through February 2006 time frame.
	DOE Letter to EPA	DOE responded December 17, 2005 to an EPA verbal request & E-mail of December 12, 2004 provided a set of figures that compares for the performance assessment verification test (PAVT) and the performance assessment baseline calculation (PABC), the mean releases for all replicates for the release pathways and a table comparing PAVT and PABC mean releases for each release pathway at probabilities of 0.1 and 0.001.
	EPA Letter to DOE	EPA letter to DOE dated June 16, 2006, approves DOE to begin characterizing retrievably-stored RH, debris waste by INL, CCP.
	Waste Generator Sites Approved to Ship as of June 30, 2006	AMWTP – S3000 and S5000 CCP-INL – S3000, S4000, and S5000 CCP-LANL – S3000 and S5000 CCP-SRS – S5000 Hanford – S3000 and S5000 Idaho Labs – S3000, S4000, and S5000
	Appendix DATA Attachment H	DOE letter to EPA, dated February 27, 2006, notification of new waste container known as the Standard Large Box (SLB2) to transport contact handled waste.

Regulatory Requirements	Implementing Document or Activity that Changed	Description of the Change
194.42 Monitoring	Table 3: Waste Emplacement Summary Report	A summary of the TRU waste inventory that has been emplaced in the repository is presented in Table 3 of this report. The inventory description provides emplaced waste container volume and activity (curie content) in the repository as of June 30, 2006.
	WIPP Subsidence Monument Leveling Survey 2005 DOE/WIPP-06-2293	DOE/WIPP-06-2293, issued December 8, 2005. The time period for which this report is developed is September through November, 2005.
	EPA Letter to DOE	EPA letter responding to DOE notification pertaining to the use of incorrect cement mixture plugging WIPP-12 borehole. Letter states EPA agrees with DOE corrective action plan and concurs with DOE's process that was modified to correct these problems in future well plugging activities.
	Monitoring Wells	The following new Culebra Member monitoring wells were drilled: SNL-10, SNL-16, SNL-18, SNL-19, SNL-17A  The following monitoring wells were plugged and abandoned: SNL-17
194.44 Engineered Barriers	MgO Reduction Request	EPA letter to DOE requesting more information to support the DOE request to reduce the excess amount of MgO emplaced in the repository (DOE letter: April 2006)
194.64 Documentation of Continued Compliance	FR Volume 71, No. 68, April 10, 2006  EPA re-certified WIPP on March 29, 2006	EPA recertifies that the WIPP continues to comply with the Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic (TRU) Radioactive Waste set forth in Subparts B and C of 40 CFR Part 191.

**Table 2: Procedure Revision Table**  
**July 1, 2005 through June 30, 2006**

**Table 2: Procedure Revision Table**

Procedure	Rev. & Effective Date	Description of Changes from 07/01/05 through 06/30/06
Sandia National Laboratories, (SNL) SNL Nuclear Waste Management Procedure, (NP) 13-1, Control of Samples and Standards	Rev 3, July 12, 2005	NP 13-1 was revised as follows: <ul style="list-style-type: none"> <li>• To address issues identified in CAR W-05-05 on recording documentation in Scientific Notebooks to allow repeating or retracing activities to reproduce the experimental work.</li> <li>• Added definitions for Sample types, Calibration and Calibration Check.</li> <li>• Substantial changes to provide more detail on standard requirements and to update flow-diagrams.</li> </ul>
SNL NP 20-2, Scientific Notebooks	Rev 5, July 12, 2005	NP 20-2 was revised as follows: <ul style="list-style-type: none"> <li>• To address issues identified in CAR W-05-05 on recording documentation in Scientific Notebooks to allow repeating or retracing activities to reproduce the experimental work.</li> <li>• Added Field Notebook documentation requirements.</li> <li>• Added Notebook Worksheets for Technical and QA reviews.</li> <li>• Substantial changes to streamline the notebook requirements and to eliminate redundancy.</li> </ul>
NP 2-1, Qualification and Training	Rev. 8, December 14, 2005	NP 2-1 was revised as follows: <ul style="list-style-type: none"> <li>• To address issues identified in CAR IA-05-01-CAR-01 initiated during the Internal/External Audit of the SNL WIPP QA Program. The requirements to allow the Carlsbad Programs Group (CPG) Manager and the Self-Employed Contractor to sign as verifier for their own education and experience was clarified and included a QA concurrence for each.</li> <li>• Form NP 2-1-2 was revised to make the form easier to use and to reorganize the information on the form.</li> <li>• The record section of this procedure was revised to only identify the records generated by this procedure.</li> </ul>
NP 9-1, Analyses	Rev. 5, November 18, 2005	NP 9-1 was changed as a result of CAR IA-05-01-CAR-02, which identified an ambiguous identification requirement for the Signatories of Analysis Plans and Responsible Individuals for conducting Analysis Reports. Appendix A and B were modified to remove the erroneous identification requirements. In addition to those changes, Section 2.2.2 was modified to remove the commitment to document the verification method for Routine Calculations, which was redundant with the NP 6-1 Document Review Criteria for Technical Reviewers.
NP 1-1, Organization and QA Program	Rev. 5, May 1, 2006	NP 1-1 was revised as follows: <ul style="list-style-type: none"> <li>• Minor changes to comply with QAPD, Rev. 7.</li> <li>• Removed reference to maintaining the QAPD matrix.</li> </ul>

**Table 2: Procedure Revision Table**

Procedure	Rev. & Effective Date	Description of Changes from 07/01/05 through 06/30/06
NP 5-1, Implementing Procedures	Rev. 3, May 18, 2006	NP 5-1 was revised as follows: <ul style="list-style-type: none"> <li>• Minor changes to comply with QAPD, Rev. 7.</li> <li>• Removed reference to maintaining the QAPD matrix.</li> <li>• Added a statement that procedures will undergo a periodic review.</li> <li>• Updated flowchart.</li> </ul>
NP 13-1, Control of Samples and Standards	Rev. 4, June 29, 2006	NP 13-1 was revised as follows: <ul style="list-style-type: none"> <li>• Added clarification to sample archive and final disposition, a definition for termination, and forms for specifically documenting the archival and disposal of samples and standards.</li> <li>• These forms will be maintained as QA records and will be submitted to the Records Center upon completion.</li> </ul>
NP 19-1, Software Requirements	Rev. 12, June 21, 2006	Section 3.0 was changed to remove the e-copy and the SPR Closure memorandum requirements. In addition, the Preparer and Submitter columns were removed from the table per the new format request.
NP 20-1, Test Plans	Rev. 4, May 17, 2006	NP 20-1 was revised as follows: <ul style="list-style-type: none"> <li>• Minor changes to comply with QAPD, Rev. 7.</li> <li>• Removed all references to Test Plan data records as our current practice is to document test plan elements in the scientific notebook.</li> <li>• In addition, section 2.3 was revised to add the requirement that all reviews of test plans are to be documented using a DRC.</li> </ul>
NP 20-2, Scientific Notebooks	Rev. 6, May 16, 2006	Revision was made to NP 20-2 regarding making a copy after each review, all notebooks are being kept in a secure location so this requirement is not necessary. Specifically, sections 2.6, 2.7, and 2.8 were revised. In addition, the requirement in Appendix A for documenting the acceptance/tolerance criteria in the notebooks was removed as the criteria is defined in the SPs.
SP 9-7, WIPP Well Water-Level Monitoring	Rev. 0, November 30, 2006	This is a new procedure that prescribes the SNL Waste Isolation Pilot Plant (WIPP) process for the collection of water-level data from WIPP groundwater monitoring wells. Measurements include depth to water (DTW) using a water-level meter and pressure head and barometric pressure using pressure transducers. The objective of this procedure is to describe how water-level data are collected for use in the assessment of WIPP hydrology.
SNL Specific Procedure (SP) 12-6, Pressure Transducer Calibration Using the Druck DPI-610	Rev. 0, February 2, 2006	This is a new procedure that details the steps for performing a pressure transducer calibration using a Druck DPI-610 pressure standard. This covers gas pressure transducers up to a maximum pressure of 300 PSIG.

**Table 2: Procedure Revision Table**

Procedure	Rev. & Effective Date	Description of Changes from 07/01/05 through 06/30/06
SP 12-7, Calibration, Use, and Maintenance of Orion Chloride/Chloride Combination Electrode (Model 96-17B) with the Orion Model EA 940 Specific Ion Meter	Rev. 0, January 12, 2006	This is a new procedure that provides for the calibration, operation, and maintenance of the specific type of chloride measurement instrument as part of the geochemical laboratory research activities in support of the Waste Isolation Pilot Plant (WIPP) Project.
SP 12-8, Use and Maintenance of Bruker Analytical X-Ray Systems D8 Advance X-Ray Diffractometer	Rev. 0, February 13, 2006	This is a new procedure that provides for the operation and maintenance of the Bruker Analytical X-Ray Systems D8 Advance X-Ray Diffractometer as part of the laboratory geochemistry research activities in support of the Waste Isolation Pilot Plant (WIPP) Project.
SP 12-11, Fisher Scientific Stereomaster Microscope	Rev. 0, March 123, 2006	SP 12-11 is a new procedure that establishes a method for taking photographs using the Fisher Scientific Stereomaster Microscope.
SP 19-1, Regression Testing for Software Modifications or Platform Changes	Rev. 1, March 7, 2006	<p>SP 19-1 was revised as follows:</p> <ul style="list-style-type: none"> <li>• Revised language of the procedure to include all computer platforms not just the VMS platform.</li> <li>• Corrected the title of the Software Installation and Checkout Form in the QA Records section in response to an internal audit (IA-05-01) observation.</li> <li>• Appendix A was revised to remove the requirement for a file code on the report cover page [in response to an internal audit (IA-05-01) observation]. If the report is attached to the Software Installation and Checkout Form (as it often is), the file code will be on the Software Installation and Checkout Form.</li> <li>• Reformatted the procedure for readability.</li> </ul>
SP 1-1, QA Grading	Rev. 6, June 20, 2006	This revision added a "Safety Section" to the procedure as required by Procedure NP 5-1 and identified in CBFO CAR 06-010 during the CBFO annual QA Program Audit. Some editorial changes were also made in this revision.
SP 5-1, Engineering Drawings	Rev. 1, June 27, 2006	<p>SP 5-1 was revised as follows:</p> <ul style="list-style-type: none"> <li>• Revised and updated procedure as required by the three year periodic review of procedures per NP 5-1, Implementing Procedures.</li> <li>• Added Safety Section. No safety requirements or actions needed.</li> <li>• Updated procedure to current procedure methodology, titles, phrases, etc.</li> <li>• Minor editorial changes.</li> <li>• Deleted use of check prints.</li> <li>• Added requirement for Test Plans and Field and Lab activities that construct equipment or instruments that provide a quality related data function for WIPP activities to be put into engineering drawings.</li> </ul>

**Table 2: Procedure Revision Table**

<b>Procedure</b>	<b>Rev. &amp; Effective Date</b>	<b>Description of Changes from 07/01/05 through 06/30/06</b>
SP 9-4, Performing FEPs Baseline Impact Assessments for Planned and Unplanned Changes	Rev. 1, June 6, 2006	This procedure was revised to indicate that all FEPs assessments conducted from the effective date of this revision until the second recertification (March 2009) must be placed in a specific records package established specifically for FEPs analyses. Other minor editorial changes were also made.
SP 12-9, Calibration, Use, and Maintenance of the Perkin Elmer Optima 3000 Dual View (DV) ICP-AES	Rev. 0, May 10, 2006	This is a new procedure that prescribes the process for calibration, operation, and maintenance of the Perkin Elmer dual view inductively coupled plasma atomic emission spectroscopy (ICP-AES) as part of the laboratory geochemistry research activities.
SP 12-10, Calibration, Use and Maintenance of the Varian Saturn 2100T GC/MS	Rev. 0, May 30, 2006	This is a new procedure that prescribes the operation guidelines for the Varian Saturn 2100T GC/MS. This SP will be used for identification and quantization of chemical compounds and will support the research activities of the Waste Isolation Pilot Plant (WIPP) project.
SP 12-13, Olympus BX60 Microscope	Rev. 0, April 4, 2006	This is a new procedure that establishes a method for taking digital images using the Olympus BX60 Microscope.
SP 12-14, Use of pH Meters and Electrodes	Rev. 0, April 14, 2006	This is a new document that describes the procedure for use of pH meters and electrodes. Calibration and operation guidelines are included in the procedure. This SP is in support of activities described in several WIPP Test Plans (TPs). This document replaces TOP 535, Revision 0.
SP 12-15, Calibration of Water Quality Measurement Instrumentation	Rev. 0, June 1, 2006	This is a new procedure for use in calibrating water quality measurement instruments for pH and conductivity.
SP 12-16, Thermal Gravimetric Analysis/Differential Scanning Calorimetry	Rev. 0, May 8, 2006	This is a new procedure to establish a method for making thermal gravimetric analysis (TGA) measurements, differential scanning calorimetry measurements (DSC), and differential temperature analysis (DTA) measurements.
SP 12-17, Scanning Electron Microscope Imaging and Energy Dispersive Spectroscopy	Rev. 0, May 10, 2006	This is a procedure to establish a method for taking scanning electron microscope (SEM) images and various energy dispersive spectroscopy (EDS) measurements.
SP 13-1, Chain of Custody	Rev. 3, April 25, 2006	SP 13-1 was revised as follows: <ul style="list-style-type: none"> <li>• Minor changes to comply with QAPD, Rev. 7.</li> <li>• Added a responsibility and safety section.</li> </ul>
SP 13-3, Field Water-Quality Measurements	Rev. 1, June 1, 2006	Reviewed and updated scope of procedure to increase level of detail and included new instrumentation.
SP 20-4, Preparing Synthetic Brines for Geochemical Experiments	Rev. 0, May 23, 2006	This is a new procedure. The purpose of this procedure is to provide details in preparation of the synthetic brines for geochemical experiments.

**Table 2: Procedure Revision Table**

<b>Procedure</b>	<b>Rev. &amp; Effective Date</b>	<b>Description of Changes from 07/01/05 through 06/30/06</b>
Washington TRU Solutions (WTS) WP 05-WH1010, Container Overpacking	Rev 5, December 28, 2005	This revision added the Handling & Maintenance Manual for TRUPACT-II Ten Drum Overpack TDOP, 2-4-94
WTS WP 05-WH1101, Surface Transuranic Mixed Waste Handling Area Inspections	Rev 7, December 28, 2005	This revision added 40 CFR 264.15 General Inspection Requirements
(WTS WP 05-1810, Underground Transuranic Mixed Waste Disposal Area Inspections	Rev 8, December 28, 2005	This revision added 40 CFR 264 Subpart I, Use and Management of Containers
WTS WP 02-zrv1001, Characterization Sampling, Shipping, & Documentation	Rev 6, February 28, 2006	This revision updated the sample analysis data package
WTS WP 02-EM1002, Electric Submersible Pump Monitoring System Installation & Operation	Rev 2, February 16, 2006	This revision updated Round 21 sample protocol
WTS WP 05-WH1011, CH Waste Processing	Rev 23, January 3, 2006	This revision was a manager change
WTS WP 08-NT.05, WIPP Waste Information System Software Verification & Validation Plan	Rev 4, February 27, 2006	This revision updated contact information

**Table 3: Waste Emplacement Summary Report**

**July 1, 2005 through June 30, 2006**

**Table 3: Waste Emplacement Summary Report From  
WIPP Waste Information System (WWIS)**

<b>TRU Waste Inventory</b>				
	<b>Reporting Period<sup>1</sup> Emplaced Container Volume (m<sup>3</sup>)</b>	<b>Cumulative<sup>2</sup> Emplaced Container Volume (m<sup>3</sup>)</b>		
<b>CH TRU</b>	9,638	39,266		
<b>Waste Components Inventory</b>				
	<b>Reporting Period<sup>1</sup> Emplaced Mass (kg)</b>	<b>Cumulative<sup>2</sup> Emplaced Mass (kg)</b>	<b>Maximum Emplacement Limiting Value<sup>3</sup> (kg)</b>	<b>Percent of Limiting Value<sup>3</sup> Emplaced</b>
<b>Cellulose, Plastic, Rubber Materials<sup>4</sup></b>	1,053,026	3,627,660	22,000,000	16.49%
	<b>Reporting Period<sup>1</sup> Emplaced Mass (kg)</b>	<b>Cumulative<sup>2</sup> Emplaced Mass (kg)</b>	<b>Minimum Emplacement Limiting Value<sup>3</sup> (kg)</b>	<b>Percent of Limiting Value<sup>3</sup> Emplaced</b>
<b>Fe-Metals<sup>5</sup></b>	2,525,648	10,954,398	20,000,000	54.77%
<b>Non-Fe Metals</b>	82,950	272,424	2,000	13,621.20%
<b>Residual Liquids</b>	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.			

<b>Emplaced Radiological Activity Inventory (curies)</b>			
<b>Radionuclide</b>	<b>Cumulative<sup>2</sup> Activity in FY 2004/2005 Annual Change Report<sup>6</sup></b>	<b>Reporting Period Activity<sup>6</sup></b>	<b>Total Activity as of June 30, 2006<sup>6</sup></b>
<sup>241</sup> Am	1.54E+05	1.65E+04	1.71E+05
<sup>137</sup> Cs	1.28E+00	1.17E-01	1.40E+00
<sup>238</sup> Pu	2.88E+04	2.42E+04	5.29E+04
<sup>239</sup> Pu	2.35E+05	1.71E+04	2.52E+05
<sup>240</sup> Pu	5.57E+04	4.76E+03	6.05E+04
<sup>242</sup> Pu	7.56E+00	1.07E+00	8.63E+00
<sup>90</sup> Sr	1.46E+00	1.07E-01	1.56E+00
<sup>233</sup> U	8.05E-01	1.05E+00	1.85E+00
<sup>234</sup> U	7.56E+00	2.13E+00	9.69E+00
<sup>238</sup> U	9.88E+00	2.67E-01	1.02E+01
<b>Total</b>	<b>4.73E+05</b>	<b>6.30E+04</b>	<b>5.36E+05</b>

- |   |
|---|
| 1. Reporting Period includes emplacement that occurred between July 1, 2005 and June 30, 2006                               |
| 2. Cumulative period includes emplacement from the beginning until June 30, 2006  |
| 3. Limiting Value—Values from CRA Table 4-11. 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.  |

**Table 3: Waste Emplacement Summary Report From  
WIPP Waste Information System (WWIS)**

<b>MgO and cellulose, plastic &amp; rubber (CPR) mass emplaced per waste panel</b>	<b>Panel</b>	<b>Room</b>	<b>MgO (kg)</b>	<b>CPR* (kg)</b>	<b>Safety Factor (kg)</b>
	1	all	4,482,356	1,237,685	1.79
	2	2-7	5,972,300	1,241,909	2.23
	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

**Table 4: Performance Assessment Software and  
Hardware Changes**

**July 1, 2005 through June 30, 2006**

**Table 4: Performance Assessment Software and Hardware Changes**

<b>WIPP Use Codes/Software and Code Version</b>	<b>Version Date/Completion Date<sup>1</sup></b>	<b>Description of Changes from 7/1/05 through 06/30/06</b>
MODFLOW 2000 Version 1.6	September 20, 2002- July 18, 2005	Installed software on new platform.
DTRKMF Version 1.00	September 20, 2002- July 18, 2005	Installed software on new platform.
PRECCDFGF Version 1.01	July 7, 2005-July 29, 2005	Method for reading files was changed; automated error checking capability added.
SUMMARIZE Version 3.00	July 20, 2005-August 2, 2005	Minor code changes to improve readability and maintainability; new driver added; improvements made better handle missing data.
TSOFT Version 2.1.0	September 9, 2005-December 13, 2005	New Software—used for the analysis of Time Series and Earth Tides.
BETCO Version 1.00	November 12, 2005-December 12, 2005	New Software—used for the analysis of Barometric pressure and Earth Tide-induced variations in water well responses.
SNORM Version 2.1	May 27, 1998-November 9, 2005	New Software— used to calculate the salt norm from the chemical composition of natural water. The salt norm is the quantitative ideal equilibrium assemblage that would crystallize if the water evaporated to dryness at 25° C and 1 bar pressure under atmospheric partial pressure of CO <sub>2</sub> .
NSIGHTS Version 2.30	July 22, 2005 and June 21, 2005 – November 1, 2005	Major code changes to improve the graphical user interface (GUI), to improve the plotting, and the addition of new objects and object changes.
SUMMARIZE 3.01	January 23, 2006	New version of code to close out two software problem reports.
BRAGFLO 4.10.01	June 12, 2006	Retired
BRAGFLO 4.10.02	June 12, 2006	Retired
BRAGFLO 4.10.03	June 12, 2006	Retired
CCDFCALC 4.29	June 12, 2006	Retired

**Table 4: Performance Assessment Software and Hardware Changes**

<b>WIPP Use Codes/Software and Code Version</b>	<b>Version Date/Completion Date<sup>1</sup></b>	<b>Description of Changes from 7/1/05 through 06/30/06</b>
CCDFGF 5.01	June 12, 2006	Retired
CCDFGF 4.01	June 12, 2006	Retired
CCDFGF 5.00	June 12, 2006	Retired
CCDFGF 3.01	June 12, 2006	Retired
CCDFGF 5.00A	June 12, 2006	Retired
CCDFGF 4.00	June 12, 2006	Retired
CCDFSUM 2.01	June 12, 2006	Retired
CUTTINGS_S 5.04	June 12, 2006	Retired
CUTTINGS_S 5.05	June 12, 2006	Retired
CUTTINGS_S 5.06	June 12, 2006	Retired
CUTTINGS_S 5.04A	June 12, 2006	Retired
CUTTINGS_S 6.00	June 12, 2006	Retired
CUTTINGS_S 5.03	June 12, 2006	Retired
EPAUNI 1.14	June 12, 2006	Retired
NUTS 2.05	June 12, 2006	Retired
PANEL 4.00	June 12, 2006	Retired
PANEL 3.60	June 12, 2006	Retired
PLT_LIB 2.03	June 12, 2006	Retired
POSTBRAG 3.05ZO	June 12, 2006	Retired
PRECCDFGF 1.00B	June 12, 2006	Retired
SDBREAD_LIB 3.10	June 12, 2006	Retired

<sup>1</sup> Code and software changes are not considered qualified and approved for use until after the completion date. For the purposes of this report, the completion date is the date of interest.

## Summary

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

## References

*Delaware Basin Monitoring Annual Report*, DOE/WIPP 99-2308, Revision 6, September 2005

*Waste Isolation Pilot Plant Site Environmental Report Calendar Year 2004*, DOE/WIPP 05-2225, September 2005

*Sandia National Laboratories Annual Compliance Monitoring Parameter Assessment for 2005*, November, 2005

*Annual Change Report*, DOE/WIPP 05-3317, November 17, 2005.

*WIPP Subsidence Monument Leveling Survey*, DOE/WIPP 06-2293, December 8, 2005.

*Geotechnical Analysis Report for July 2004 – June 2005*, DOE/WIPP 06-3177, April 3, 2006

*WIPP Waste Information System (WWIS) for EPA Waste Parameters during the period of July 1, 2005 to June 30, 2006*

*Annual Site Environmental Report for 2005*, DOE/WIPP-06-2225

*Title 40 CFR Part 191 Compliance, Recertification Application for the Waste Isolation Pilot Plant*, U.S. Department of Energy, DOE/WIPP 2004-3231, March 2004