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Recertification Project Plan

Revision 5

March 2012

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U.S. Department of Energy
Carlsbad Field Office

Recertification Project Plan

Revision 5

March 2012

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Carlsbad Field Office

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Jose Franco / Date
Manager, DOE Carlsbad Field Office

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EXECUTIVE SUMMARY

The Waste Isolation Pilot Plant (WIPP) Recertification Project was established to meet the WIPP Land Withdrawal Act (LWA) (Public Law 102-579, as amended by Public Law 104-201) (102nd U.S. Congress, 1992) requirement to demonstrate continued compliance with U.S. Environmental Protection Agency (EPA) disposal regulations. This plan sets the overall direction for a complex and interdependent set of tasks that is repeated at five-year intervals and culminates in EPA certification that the WIPP facility demonstrates continued compliance with Title 40 *Code of Federal Regulations* (CFR) Part 191, "Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes," pursuant to LWA sections 8(d)(1) and 8(f).

In addition, this plan establishes the institutional roles and responsibilities of WIPP project participants in the recertification effort and lays out a high-level schedule for producing a Compliance Recertification Application (CRA) at five-year intervals. Woven throughout this plan are elements of guidance and direction gained from written correspondence and technical exchanges with EPA managers and staff that occurred during each recertification process.

An important premise of this plan is that the process of recertification is not subject to rulemaking or judicial review (see LWA section 8[f][2]). According to EPA guidance on recertification (EPA, 2000), potentially significant changes to the WIPP disposal system must be reviewed and approved by the EPA prior to or following recertification through a regulatory change process, and may involve rulemaking. However, a CRA will include significant and nonsignificant changes to the certification, in the event that significant changes were previously approved through the rulemaking process prior to submission of the CRA (see 40 CFR §§194.65, 194.66, and 194.4[b][3]).

The *Waste Isolation Pilot Plant Certification Management Plan* (DOE, 2010a) specifies the proper methodology for reporting planned and unplanned changes to the EPA. Such changes are typically made in the period between CRAs. As such, any CRA must contain information that has been added or changed since the last recertification. Compliance areas that have not changed since the submission of the Compliance Certification Application (CCA) (*Title 40 CFR Part 191 Compliance Certification Application for the Waste Isolation Pilot Plant* [DOE, 1996]) or subsequent CRAs may be incorporated in the current CRA by reference. Similarly, appendices that have not changed from the previous CRA are only referenced.

This plan also commits the U.S. Department of Energy (DOE) to performing an assessment, as part of the CRA, of the impacts that changes and new information received since the submittal of the last CRA may have on the long-term performance of the disposal system.

A critically important milestone of the Recertification Project is the production and delivery of the CRA to the EPA on or before the LWA-mandated date (every five years beginning March 26, 1999). The desired result of the Recertification Project is a decision by the EPA to recertify the repository in a timely and efficient manner without interruption in disposal operations.

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ABBREVIATIONS AND ACRONYMS

ACR	Annual Change Report
CA	Compliance Assessment
CARD	Compliance Application Review Document
CBFO	Carlsbad Field Office (DOE)
CCA	Compliance Certification Application
CFR	*Code of Federal Regulations*
CRA	Compliance Recertification Application
CREL	Compliance Recertification Electronic Library
CTAC	Carlsbad Field Office Technical Assistance Contractor
DOE	U.S. Department of Energy
EM	Environmental Management
EPA	U.S. Environmental Protection Agency
FEPs	Features, events, and processes
FR	*Federal Register*
IA	Impact Assessment
LANL-CO	Los Alamos National Laboratory – Carlsbad Operations
LWA	Land Withdrawal Act
MOC	Management and Operating Contractor
PA	Performance Assessment
PABC	Performance Assessment Baseline Calculation
PCN	Planned Change Notice
PCR	Planned Change Request
PICs	Passive Institutional Controls
QA	Quality Assurance
QAPD	Quality Assurance Program Document
RPT	Recertification Project Team
RRC	Recertification Response Committee
SA	Scientific Advisor
SNL-C	Sandia National Laboratories – Carlsbad
TRU	Transuranic
TSDs	Technical Support Documents

WBS	Work Breakdown Structure
WIPP	Waste Isolation Pilot Plant
WTS	Washington TRU Solutions LLC

GLOSSARY

Annual Change Report (ACR) – Report submitted to the EPA by the DOE Carlsbad Field Office (CBFO) each November that outlines nonsignificant changes to the information in the latest Compliance Certification; satisfies criteria in 40 CFR §194.4(b)(4). The report covers the 12-month period from July 1 to June 30.

Changes – Notifications to EPA made to report either a planned or unplanned change in activities or conditions pertaining to the disposal system that differ from the information contained in the most recent compliance application. Specific change notification requirements are defined at 40 CFR §194.4. For detailed information on planned and unplanned change reporting, see DOE/WIPP 99-2296, *Waste Isolation Pilot Plant Certification Management Plan* (DOE, 2010a).

Compliance Assessment (CA) – Used to determine the impact upon groundwater and the maximally exposed individual in the future, as required by 40 CFR §191.15, "Individual Protection Requirements," and 40 CFR Part 191, Subpart C, "Environmental Standards for Ground Water Protection."

Compliance Application Review Document (CARD) – Document that outlines the basis for the EPA's decision of compliance, arranged by individual topics within the 40 CFR Part 194 criteria.

Compliance Certification Application (CCA) – The October 1996 submittal of information by the DOE to the EPA; written to demonstrate compliance with the disposal standards in 40 CFR Part 191, Subparts B and C. The CCA was submitted pursuant to Land Withdrawal Act section 8(d)(1). Compliance Recertification Applications (CRAs) are submitted pursuant to LWA section 8(f).

Compliance Baseline – Includes, but is not limited to, the LWA; 40 CFR Part 191, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes"; 40 CFR Part 194, "Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR 191 Disposal Regulations"; 63 FR 27354 through 27406 "Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Certification Decision; Final Rule"; 71 FR 18010 through 18021 "Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Final notice"; DOE/CAO-96-2184, *40 CFR 191 Compliance Certification Application for the Waste Isolation Pilot Plant*; DOE/WIPP 04-3231, *40 CFR Part 191 Subparts B and C Compliance Recertification Application 2004*; DOE/WIPP-09-3424, *40 CFR Part 191 Subparts B and C Compliance Recertification Application 2009*; EPA Certification and Recertification Decisions (as published in the Federal Registry); EPA's dockets; CARDs; Technical Support Documents (TSDs); and numerous correspondence between the DOE and EPA that address topics such as planned changes, EPA comments and DOE's responses.

Data Cutoff Date – The date after which no additional data are considered in the current CRA cycle. Data are gathered and used to develop the performance assessment for the application and CRA documentation. The data input and data descriptions are input into the CRA at the last reasonable opportunity for inclusion in the CRA to enhance completeness.

EPA WIPP Docket – A publicly accessible collection of documents related to the WIPP Compliance Baseline. The EPA uses this information to make regulatory determinations. The EPA WIPP dockets include A-92-56 (compliance criteria), A-93-02 (certification decision), and A-98-49 (continuing compliance).

Executive Steering Committee – Composed of the CBFO Manager; Deputy Manager; and Director, Office of Environment, Safety & Health; and a senior manager from each of the WIPP project organizations. This committee meets on an as-needed basis, approves project plans and schedules including major changes, provides guidance to the overall Recertification Project, and resolves project issues not resolvable at the Recertification Project Manager level. The Recertification Project Manager is an ex officio member of this committee.

Modification – A formal, significant change to the terms or conditions of the certification. A modification can only be made through a formal rulemaking process as defined at 40 CFR §194.4(b)(1) and 40 CFR §194.65.

Performance Assessment (PA) – A probabilistic analysis of the long-term performance (i.e., over a 10,000-year period) of the WIPP repository as required by section 6(b) of the LWA and 40 CFR §§191.13, 194.31 through 194.34.

Performance Assessment Baseline Calculation (PABC) – A confirmatory WIPP PA calculation conducted at the direction of the EPA as part of their technical review of the CRA-2004 and CRA-2009. The PABC may use EPA-specified parameters, distributions, and other needed changes. The PABC becomes the new PA baseline after a recertification decision is made.

Planned Change Notice (PCN) – A formal submittal of information to the EPA that describes minor, insignificant changes to activities and conditions at the WIPP that are different from that described in the compliance baseline. This change does not require EPA's approval to implement. Examples include the addition of the Standard Large Box-2 as a disposal container and the use of RH-72B Neutron Shielded Canister.

Planned Change Request (PCR) – A formal submittal to the EPA that describes and requests approval for the implementation of more complex changes to activities and conditions at the WIPP that are different from those described in the compliance baseline. In most cases this is not a rulemaking. However, some PCRs, like Panel Closure Redesign, require the request be processed by the EPA as a rulemaking, defined in the Administrative Procedures Act (Section 553 of Title 5, United States Code).

Project Participants – Those actively involved in planning, writing, performing, and reviewing documentation related to compliance, testing, or research to support recertification. Currently, these organizations are the CBFO, the WIPP Management and Operating Contractor (MOC); Sandia National Laboratories – Carlsbad (SNL-C); Los Alamos National Laboratory – Carlsbad Operations (LANL-CO); Carlsbad Field Office Technical Assistance Contractor (CTAC), and their supporting contractors.

Project Stakeholders – Those persons or organizations that have an interest in the regulatory compliance activities at WIPP.

Recertification Project Team (RPT) – Consists of technical and programmatic leads with at least one representative from each of the participating WIPP organizations. The participating organizations are the CBFO, MOC, SNL-C, LANL-CO, and CTAC. Support contractors are encouraged to attend when agenda topics deal with items of importance to them. The RPT meets on a regular basis when deemed appropriate by the Recertification Project Manager and is chaired by the Recertification Schedule Manager. The RPT is responsible for updating the schedule, identifying and resolving issues, and addressing other topics that may need clarification or a decision.

Recertification Project Plan – The CBFO document used to guide project execution and control. This plan facilitates communication and documents assumptions and decisions, scope, and scheduled baselines. It also provides insight on regulatory background and processes.

Recertification Response Committee (RRC) – Consists of at least one representative of each of the project participants and is chaired by the Recertification Project Manager. The RRC shall make compliance and strategy-related recommendations for post-submittal activities. Submittal of additional information to the EPA is coordinated through this committee. A more specific definition is contained in *DOE Response Plan – Resolving Requests for Additional Information Associated with the 2009 Compliance Recertification Application* (DOE, 2009a).

Revocation – Action taken by the Administrator of the EPA to revoke the Compliance Certification caused by an adverse change to activities or conditions to the disposal system differing significantly from the most recent Compliance Certification. The rulemaking process is used by the EPA to reach a final decision on the revocation.

Rulemaking – Some PCRs, like Panel Closure Redesign, require the request be processed by the EPA as a rulemaking. The Administrative Procedures Act (Section 553 of Title 5, United States Code) defines rulemaking as EPA's process for formulating, amending, or repealing a rule. Similarly, rule means an EPA statement of general or particular applicability designed to implement, interpret, or prescribe law or policy (in this case the Land Withdrawal Act and 40 CFR 194).

Suspension – An EPA suspension of the Compliance Certification, as determined by the Administrator, requires the immediate halt of waste emplacement activities until adverse conditions have been corrected. Unlike modifications and revocations, suspensions do not require rulemaking.

Technical Support Documents (TSDs) – The EPA's assessment of technical and scientific adequacy for each major area of compliance with the certification criteria in 40 CFR Part 194. (See *Compliance Application Review Documents.*)

1.0 COMPLIANCE AND RELATED PROCESSES

At the Waste Isolation Pilot Plant (WIPP), the process of maintaining compliance with Title 40 *Code of Federal Regulations* (CFR) Part 191, Subparts B and C, is ongoing. See *Waste Isolation Pilot Plant Certification Management Plan*, DOE/WIPP 99-2296 (DOE, 2010a) and *Waste Isolation Pilot Plant Environmental Notification or Reporting Implementation Plan*, DOE/WIPP 99 2286 (DOE, 2011) for detailed discussion on activities related to managing and maintaining certification, and on compliance change reporting. Specifically described in this plan are the iterative processes of recertifying WIPP's compliance with 40 CFR Part 191, Subparts B and C.

1.1 Regulatory Framework

The WIPP five-year recertification requirement is mandated by the LWA. Section 8(f) of the Land Withdrawal Act (LWA) provides:

> (1) *Not later than 5 years after the initial receipt of transuranic waste for disposal at WIPP (March 26, 1999), and every 5 years thereafter until the end of the decommissioning phase, the Secretary shall submit to the Administrator and the State documentation of continued compliance with the final disposal regulations.*

The U.S. Environmental Protection Agency (EPA) has provided criteria for fulfilling this requirement. Title 40 CFR §194.64, "Documentation of Continued Compliance," establishes the process for recertification (the EPA's review of the existing Certification). This process stipulates a 30-day public comment period prior to the Administrator's decision on whether to recertify the WIPP facility based on continued compliance with the final disposal regulations. Consistent with the LWA, the process for recertification excludes rulemaking or judicial review.

EPA regulation 40 CFR §194.15, "Content of Compliance Re-certification Application(s)," provides guidance on the content of applications for compliance recertification. The rule provides as follows:

> *(a) In submitting documentation of continued compliance pursuant to section 8(f) of the WIPP LWA, the previous compliance application shall be updated to provide sufficient information for the Administrator to determine whether or not the WIPP continues to be in compliance with the disposal regulations. Updated documentation shall include:*
>
> > *(1) All additional geologic, geophysical, geochemical, hydrologic, and meteorological information;*
> >
> > *(2) All additional monitoring data, analyses and results;*

(3) All additional analyses and results of laboratory experiments conducted by the Department or its contractors as part of the WIPP program;

(4) An identification of any activities or assumptions that deviate from the most recent compliance application;

(5) A description of all waste emplaced in the disposal system since the most recent compliance certification or re-certification application. Such description shall consist of a description of the waste characteristics and waste components identified in §194.24(b)(1) and §194.24(b)(2);

(6) Any significant information not previously included in a compliance certification or re-certification application related to whether the disposal system continues to be in compliance with the disposal regulations; and

(7) Any additional information requested by the Administrator or the Administrator's authorized representative.

(b) To the extent that information required for a re-certification of compliance remains valid and has been submitted in previous certification or re-certification application(s), such information need not be duplicated in subsequent applications; such information may be summarized and referenced.

In promulgating 40 CFR Part 194, the EPA recognized the possibility that the disposal activities or the disposal system could change during the operations period. These kinds of changes require an alternative certification process. The EPA provides for changes that are subject to rulemaking ". . . when significant information contained in the most recent compliance application were no longer to remain true" (61 Federal Register [FR] 5224 5245). The preamble to the Part 194 Final Rulemaking explains that "Any modifications and revocations issued by the EPA would affect the Certification issued pursuant to section 8(d)(1) of the WIPP LWA and must be conducted by rulemaking."

This plan discusses, in general, the aspects of maintaining compliance under the 40 CFR §194.4 criteria. For detailed information on planned and unplanned change reporting, see DOE, 2010a.

1.2 The Recertification Process

The process of demonstrating continued compliance on a periodic basis consists of the development and submittal of compliance documentation followed by several additional steps, including the implementation of compliance activities and the evaluation and reporting of the results obtained through implementation of the compliance activities. These steps are repeated at five-year intervals. The routine recertification process is shown in Figure 1. The certification process was initiated through the Department of

Energy's (DOE's) submittal of the initial Compliance Certification Application (CCA) (DOE, 1996) to the EPA.

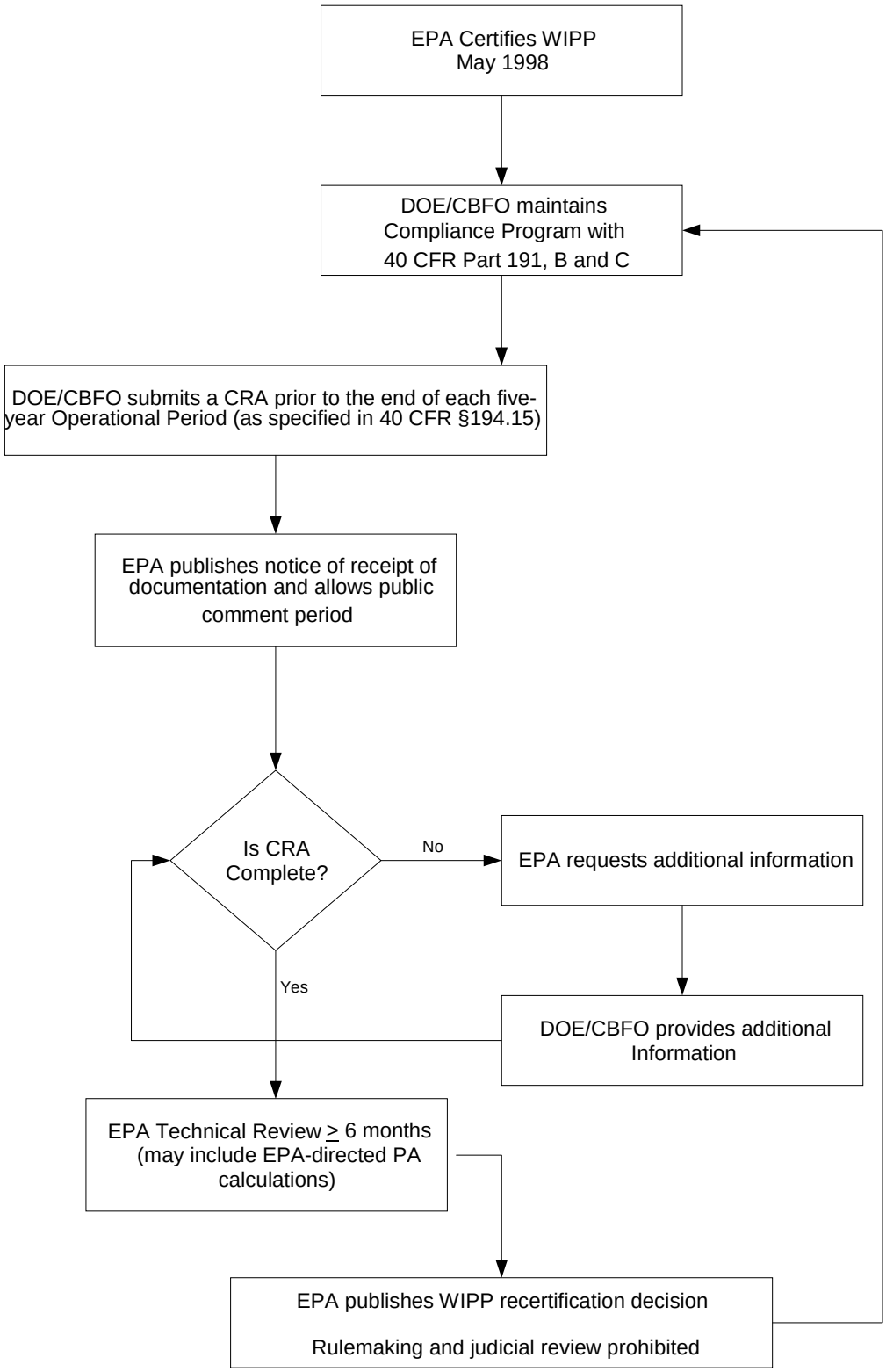

Figure 1 – WIPP Recertification Process

The routine recertification process is shown in Figure 1. The certification process was initiated through the DOE's submittal of the initial CCA (DOE, 1996) to the EPA. The

EPA's initial certification was published on May 18, 1998, and the initial receipt of waste was on March 26, 1999. Waste receipt initiated the 5-year interval for the subsequent recertification cycles.

When nonsignificant changes occur, the DOE reports on project activities at the intervals specified in 40 CFR §194.4(b)(4). At a minimum, these are submitted to the EPA Radiation Protection Division in an Annual Change Report (ACR). Copies of these reports are provided to cognizant EM HQ staff. Subsequent recertification actions are initiated through the development and submittal of the Compliance Recertification Application (CRA), consistent with the EPA's criteria in 40 CFR §194.15. After the EPA receives the CRA, it will issue a *Federal Register* Notice opening a public comment period. Public meetings may also be held, at the EPA's discretion. The *Federal Register* Notice specifies the duration of the public comment period. As prescribed in §194.64(c), this period is at least 30 days. The EPA reviews the CRA and determines if more information is required. Once the EPA determines that the information is complete, it has six months to determine whether the project continues to comply.

Once the public comment period has expired and the EPA has completed its review, it will publish a decision in the *Federal Register*. If the determination is favorable, the EPA recertifies WIPP and the process returns to the ongoing implementation of the compliance program. As specified by LWA section 8(f)(2) and referenced in 40 CFR §194.64, this process is not subject to rulemaking or judicial review.

1.3 Compliance Program Information Flow

An important objective of the compliance program is to ensure the effective dissemination and integration of information relevant to compliance activities throughout the project and externally. Compliance information is generally generated through data acquisition and data assessment functions. The data acquisition function is primarily the responsibility of the Management and Operating Contractor (MOC). The data assessment function is generally performed by Sandia National Laboratories – Carlsbad (SNL-C) and Los Alamos National Laboratory (LANL-CO).

The flow of compliance information within the project is managed to ensure that important results are communicated to the appropriate individuals and groups. The Recertification Project Manager is the DOE contact for communicating results of compliance program activities. This includes coordinating communication between the various Carlsbad Field Office (CBFO) offices and sharing information with other DOE offices, the EPA, other government entities, WIPP participants, and the public.

The Compliance Recertification Electronic Library (CREL), a document management system, provides a centralized on-line repository of compliance-related electronic documents that are easily accessed through a web-based browser interface. Security is provided by data encryption and password authorization. The CREL is designed to expedite file sharing and document creation and to handle a wide range of compatible file types. Configuration control is performed by allowing varying access levels and permissions to users, and by logging access to documents by time, date, user and type of access. For quality assurance (QA), the system also logs and tracks revisions to documents as they are made.

2.0 RECERTIFICATION PROJECT

2.1 Project Mission

The Recertification Project mission is to develop, refine, and submit documentation that demonstrates continued compliance with the regulations set forth in 40 CFR Part 191, Subparts B and C (EPA, 1993), pursuant to the criteria at 40 CFR Part 194 (EPA, 1996). The recertification process gives the DOE continued authorization to dispose of transuranic (TRU) waste at WIPP.

2.2 Project Foundation

The requirement for site certification stems from the WIPP LWA, which was passed by Congress in 1992 and amended in 1996. This public law established the EPA as the certifier of WIPP's compliance with the long-term disposal regulations in 40 CFR Part 191, Subparts B and C. The WIPP LWA also required EPA to issue certification criteria for the WIPP. The EPA issued the WIPP certification criteria (40 CFR Part 194) in February 1996 (EPA, 1996). Subsequently, the DOE submitted the CCA to the EPA in October 1996. The WIPP LWA also required that EPA's certification of the WIPP follow the rules of the Administrative Procedures Act (Section 553 of Title 5, United States Code), and thus includes public input and involvement in the rulemaking process. On May 18, 1998, the EPA published a ruling (63 FR 27354) certifying that the DOE had demonstrated compliance with 40 CFR Part 191, Subparts B and C.

The LWA also mandated that the DOE submit documentation of continued compliance to the EPA every five years from the initial date of waste receipt, as required by LWA section 8(f). As such, DOE submitted its first recertification application on March 26, 2004. After thorough review, EPA recertified the WIPP's continued compliance with the waste disposal regulations at 40 CFR Part 191, Subparts B and C, on March 29, 2006. DOE subsequently submitted a second recertification application on March 26, 2009 and the EPA recertified the WIPP the second time on November 18, 2010. Section 5.1 of this plan provides a more detailed description of the regulatory background and certification process.

The certification and recertification criteria, as established in 40 CFR Part 194, mandate that the WIPP documentation must contain specific information pertaining to repository performance and site characterization. The effort associated with completing and submitting a CRA involves a wide range of disciplines and extensive involvement of the various entities that make up the WIPP community. This effort requires the organization and control that define a project. Therefore, this undertaking is designated as the Recertification Project and is planned and managed under accepted practices for project management in accordance with the latest revision of *A Guide to the Project Management Body of Knowledge* (Project Management Institute).

The intent of this project plan is to document a path forward that successfully accomplishes the project mission. Each of the project participants has an important role in the preparation and review of the CRA, as well as the responsibility of responding to

additional information requested by the EPA during its review. Roles and specific duties are discussed in section 3.1.

The CCA (DOE, 1996) discussed a broad range of WIPP-related activities and analyses as required by 40 CFR Parts 191 and 194. CRAs consist of appropriate updates within each category where relevant work has been performed or new data are available. This information includes the most recent monitoring data, results of field and laboratory studies, and the incorporation of such data into the performance evaluations, as appropriate.

A document hierarchy was created to show the relationship between the LWA, 40 CFR Parts 191 and 194, this plan, and other program documents. The document hierarchy is presented in Figure 2.

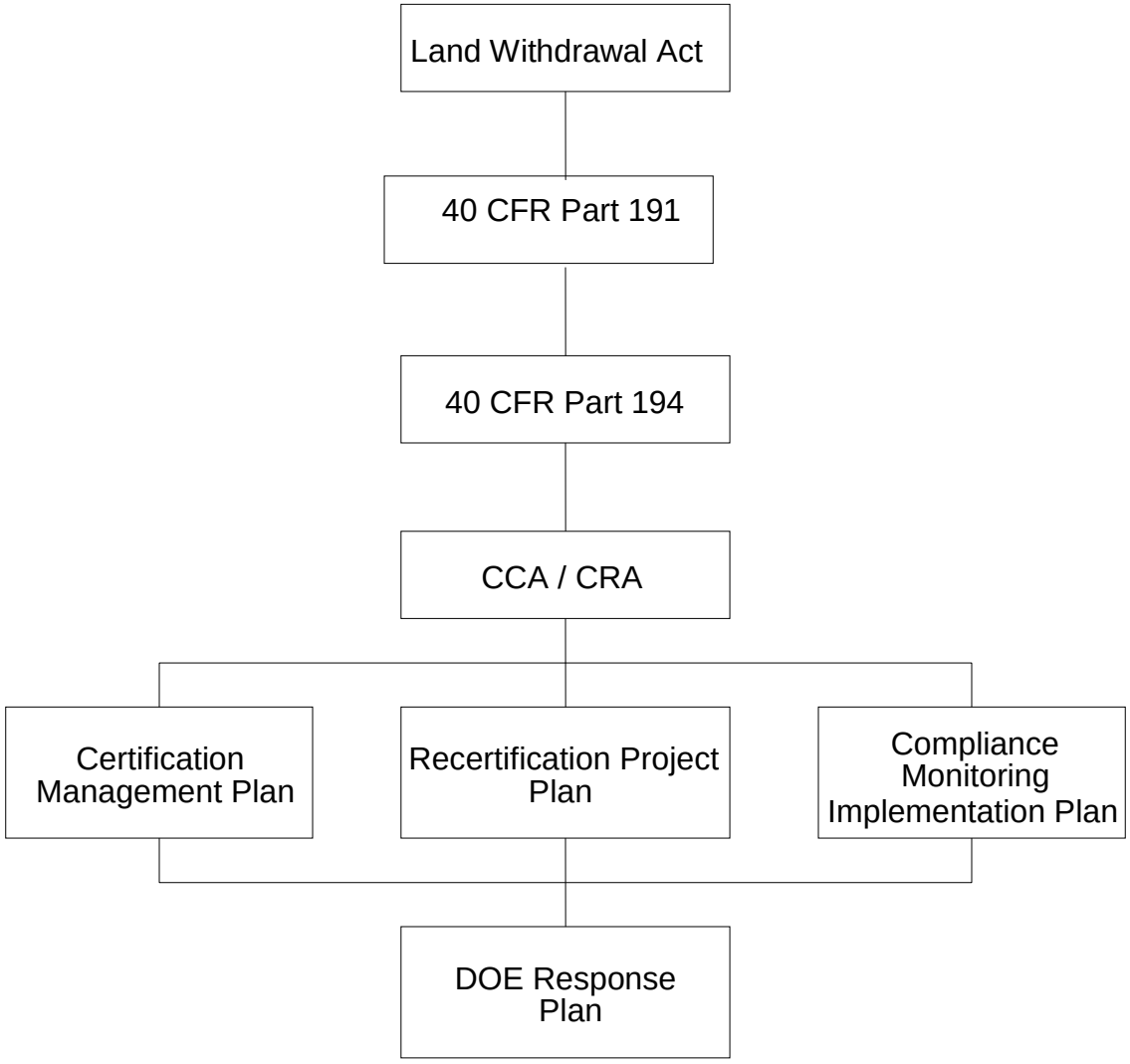

Figure 2 – Recertification Document Hierarchy

2.3 Enabling Objectives

To help guide planning, measurable project objectives have been established to accomplish the mission. These objectives follow, in order of importance:

1. Submit a CRA no later than five years after receipt of waste (March 26, 1999) and every five years thereafter.

2. Provide the EPA with any new or revised information in the CRA that is significantly different from the information in the most recent application. The minor nonsignificant changes are formally submitted to the EPA as "planned change notices (PCNs)."

3. Provide detailed information in the CRA of EPA-approved changes (submitted to the EPA as Planned Change Requests [PCRs]) or modifications to the CRA, occurring since the last recertification.

4. Meet with the EPA as needed to discuss technical and regulatory issues related to recertification.

5. Align the monitoring, experimental, and TRU waste inventory programs preceding submittal of a CRA such that data collected through the data cutoff date are made available, as appropriate, to the Scientific Advisor (SA) for use in completing performance assessment (PA) calculations. SNL was designated by DOE's predecessor agency as the SA for the WIPP in 1975.

6. Schedule meetings and deliverables (i.e., status reports from project participants) such that required information is available prior to submittal of the CRA to the EPA.

7. Update the Recertification Project Plan throughout the life of the project to maintain current descriptions of responsibilities, work scope, project strategies, and other planning elements.

8. Respond to requests for additional information made by the EPA after each CRA submittal in accordance with DOE (2009a).

2.4 Project Assumptions

The assumptions for the Recertification Project are as follows:

- Compliance Assessments (CAs) and PAs are used to support the CRA documentation as necessary. Factors necessary for conducting complete or partial assessments are identified.

- Significant changes to the compliance recertification are submitted to the EPA at least eleven months prior to the submittal date for a CRA.

- Format is similar to EPA Compliance Application Review Documents (CARDs) and Technical Support Documents (TSDs).
- Technical exchange meetings between the EPA and the DOE provide input for major project decisions.
- The EPA issues a recertification decision within six months of issuing a completeness decision.
- There is no disruption in waste handling due to the recertification process.
- Monitoring and experimental data are submitted to SNL-C on or before the desired date.
- Inventory data are available when scheduled.
- The Recertification Project Manager makes upper-level decisions regarding the project planning, strategy, scope, and changes thereto.
- The Recertification Project Team (RPT) prepares compliance documentation updating information sent in the most recent CRA. The DOE makes the final decision on what is included.
- The DOE and other project participants are prepared to provide additional information after the submittal of the CRA.

3.0 PROJECT CONTROL

3.1 Organizational Responsibilities

The Recertification Project has a unique work structure that involves participants from each of the WIPP project organizations. Each project participant is responsible for completing a portion of the work. The lead person from each of these organizations is responsible for ensuring that his/her portion is completed on time and to the satisfaction of the CBFO. The lead personnel and technical staff represent each organization and make up the RPT. These individuals also serve on the Recertification Response Committee (RRC). Summarized below are the responsibilities of each organization.

CBFO – Several organizational units of the CBFO are involved in preparation, review, and other aspects of a CRA. It is the responsibility of the Recertification Project Manager to assure input of CBFO technical, regulatory, and legal staff is requested and subsequently included in the applications submitted to the EPA.

> **CBFO Senior Management** – Composed of the CBFO Manager, Deputy Manager, and Director, Office of Environment, Safety & Health to provide direction to the overall Recertification Project. Additional members of the CBFO senior management, such as the Chief Scientist, Legal Counsel, and Director of the Office of the National TRU Program may provide guidance.

Recertification Project Manager – Person within the DOE who manages the WIPP Recertification Project so that activities are complete and documentation is sufficient for submittal to the EPA, directs development of project plans, schedules, and documentation for CBFO senior management review, and verifies that resources necessary to complete the project are allocated. The Recertification Project Manager also resolves internal project-related issues or refers them to CBFO senior management or the Executive Steering Committee, as needed, recommends approval of any major changes to the project to CBFO senior management, and coordinates and manages post-submittal information transfer to EPA via the RRC. In addition, this person also ensures that technical studies and documentation developed for recertification activities are coordinated, scheduled, and of a technical and scientific quality sufficient to meet project and regulatory requirements.

SNL-C – Performs sensitivity analyses, PA, CA, Impact Assessment (IA), monitoring parameter assessments, scientific investigations and analyses, and computer modeling; writes and edits sections of CRAs and performs a technical review of CRAs; provides technical support and information to peer reviews and expert elicitations; participates in the RRC for post-CRA submittal activities.

MOC – Produces, collects, and assembles CRA documentation; manages data collection and management activities related to the ten monitored parameters; provides SNL-C with the monitoring data and operational information for input into IA and relevant PA calculations; performs a technical review of CRAs; participates in the RRC for post-CRA submittal activities. Manages the CREL and assures that all applicable regulatory and scientific references related to recertification have been placed in the CREL.

Recertification Schedule Manager – Appointed by the Recertification Project Manager by delegation letter. Manages Recertification Project plan and schedule, coordinates development and production of application documentation, and assists in project organization, planning, and management.

LANL-CO – Conducts actinide chemistry experimental studies and provides TRU waste inventory data updates and analyses to SNL-C to support PA; documents TRU waste inventory updates; coordinates and participates in DOE and EPA TRU waste site visits; writes and edits sections of CRAs; performs technical reviews of the CRAs; and participates in the RRC for post-CRA submittal activities.

Carlsbad Field Office Technical Assistance Contractor (CTAC) – Provides information on waste generator site compliance and audits, and QA overview of project documentation; performs surveillances and audits of WIPP project participants and waste generator site QA programs as they relate to compliance certification; coordinates and oversees CBFO-directed peer reviews and expert judgment elicitation; performs a technical review of the CRA; and participates in the RRC.

3.2 Team and Committee Responsibilities

Recertification Project Team – Consists of technical and programmatic leads with at least one representative from each of the participating WIPP organizations: the DOE (primarily CBFO, but depending on the topic, may include other DOE programmatic or legal staff), MOC, SNL-C, LANL-CO, and CTAC. Project participants are encouraged to attend when agenda topics deal with items of importance to them. This team meets on a regular basis beginning when deemed appropriate by the Recertification Project Manager and is chaired by the Recertification Schedule Manager, with guidance from the Recertification Project Manager. This group is responsible for updating the schedule, identifying and resolving issues, formally documenting decisions and interactions with EPA to establish a written record of communications, and addressing other topics that may need clarification or a decision.

Recertification Response Committee – Consists of at least one representative of each of the project participants, chaired by the Recertification Project Manager. The committee shall make decisions concerning compliance and strategy recommendations for post-submittal activities. Submittal of additional information to the regulator (EPA) is coordinated through this committee. A more specific definition is contained in DOE, 2009a.

Figure 3 represents the project organization and reporting structure. It is the responsibility of the Recertification Project Manager to ensure that project participants complete project activities in a timely manner. The Recertification Project Manager also ensures that the information supporting the CRA is timely, technically accurate, and meets applicable QA requirements. Activities for each organization are described in section 3.0.

Since each organization has different responsibilities, individual work schedules may vary. However, activities in one organization have dependencies on those of the other organizations. Well-integrated relationships among the project participants must be formulated from the start and maintained throughout the life of the project. These activities have been planned by each of the organizations and incorporated into the integrated project schedule as summarized in Figure 4. The Recertification Schedule Manager coordinates these activities to ensure successful results.

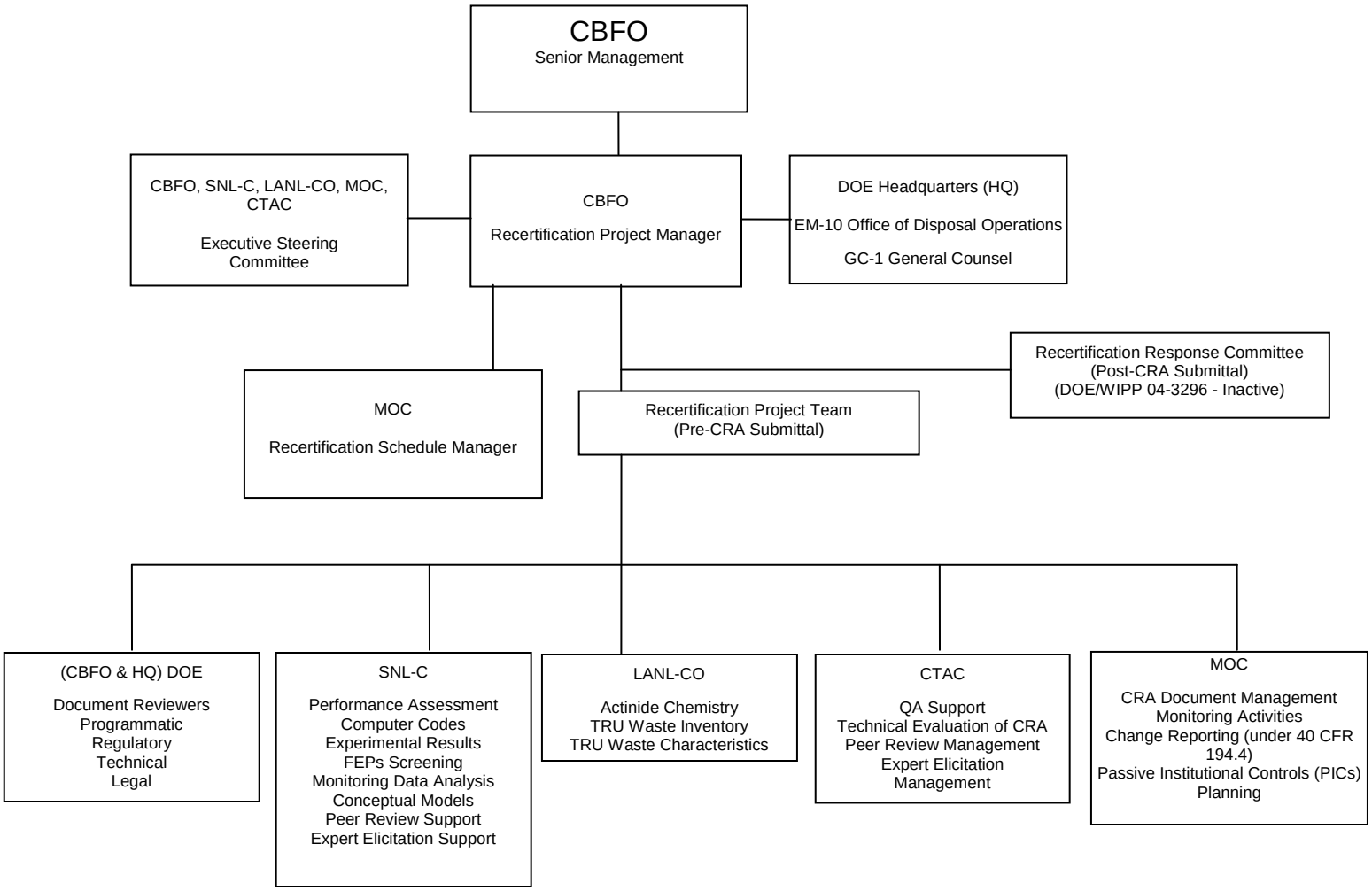

Figure 3 – Project Organization and Reporting Structure

3.3 Change Control

Changes to project strategy, project schedule or scope or to this plan may be initiated by a member of the RPT, Executive Steering Committee, or by direction from DOE management. Changes are approved by the Recertification Project Manager with input from the appropriate level of participant management. The RPT may be involved in the early stages of the proposed change by reviewing justification and identifying impacts.

As for all WIPP projects, change control (i.e., scope, schedule, and cost) for the Recertification Project is managed consistent with the *Waste Isolation Pilot Plant Project Control System Description* (DOE, 2009).

3.4 Project Status and Progress Reporting

The status of the Recertification Project is provided to CBFO senior management and regulatory staff of both the CBFO and its contractors in periodic WIPP Regulatory Compliance Program Report Quick Status meetings. The Executive Steering Committee is also briefed on a periodic basis.

During the active production of a CRA, periodic RPT meetings are held. During these meetings, each project participant is expected to provide status of scheduled items under their cognizance. In addition, the team members discuss issues and develop strategies to resolve those issues. In cases of specific, more complex issues, focus group meetings are used to facilitate issue resolution.

Cost and schedule status of project participants is updated at the WIPP Monthly Progress Meeting.

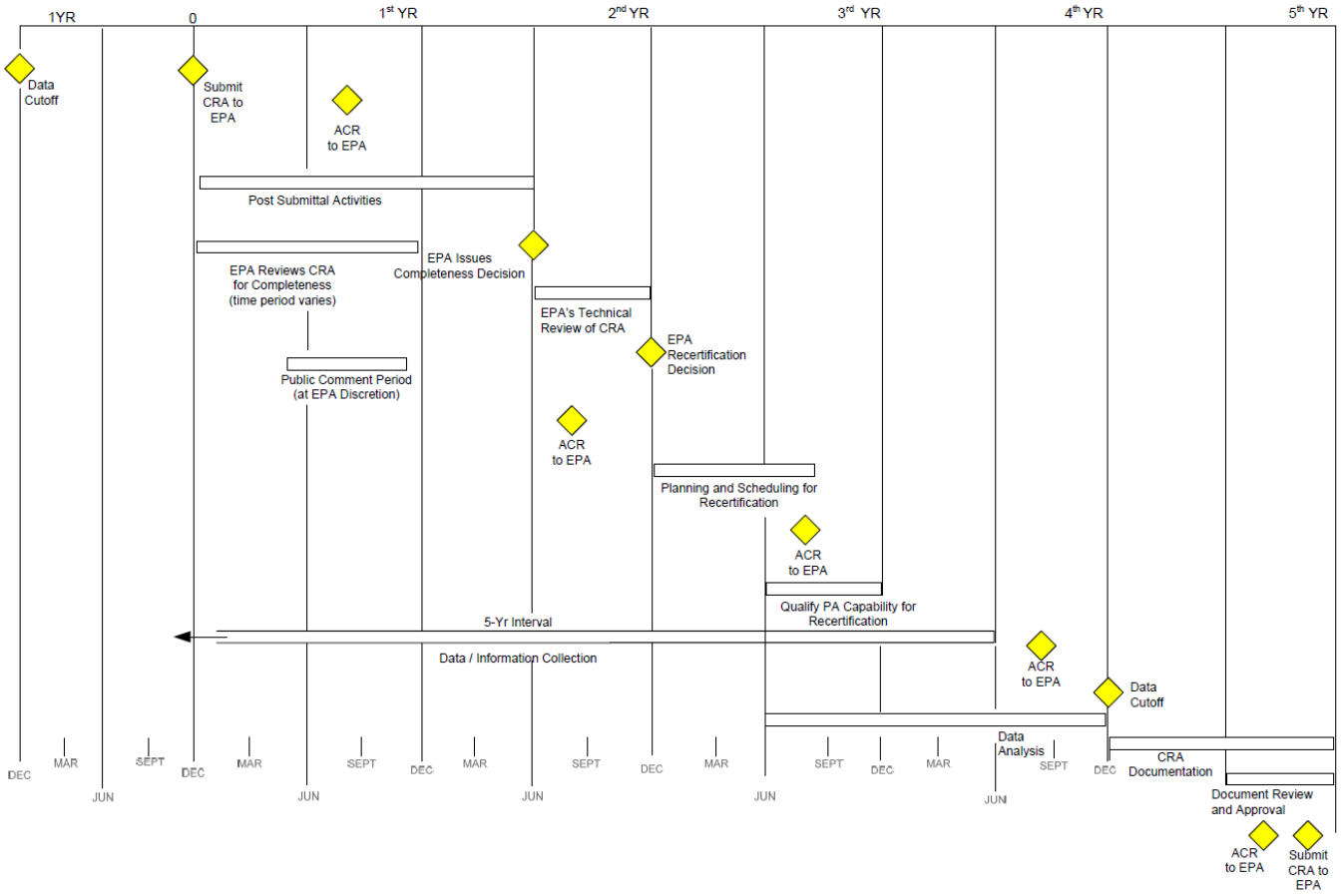

Figure 4 – Five-Year Rolling Recertification Timeline

4.0 PROJECT SCOPE

The scope of the Recertification Project is derived from the certification criteria in 40 CFR Part 194, and is generally consistent with the *Guidance to the U.S. Department of Energy on Preparation for Recertification of the WIPP with 40 CFR Parts 191 and 194* (EPA, 2004). This range of work includes documenting the DOE activities in the areas

of containment requirements, assurance requirements, individual and groundwater protection requirements, and processes involved in justifying and validating such documentation (e.g., QA records, expert elicitations, or incorporation of the peer review process). The Recertification Project is on a five-year cyclic schedule, as depicted in Figure 4. The project timeline is sufficient to include the preparation and submittal of a CRA and post-submittals in response to additional information requests from the EPA, and concludes when the EPA issues a recertification decision.

4.1 Scope of Work

The WIPP work breakdown structure (WBS) includes the scope of the recertification effort and other supporting activities. The WBS currently includes major activities that recur on a five-year cycle. The recertification WBS is maintained in accordance with the *Waste Isolation Pilot Plant Control System Description* (DOE, 2009). At the fourth and fifth levels of the WBS, recertification scope includes:

WBS Element Number	Activity Descriptor
1.2.3.01	Recertification
1.2.3.01.01	Compliance Recertification
1.2.3.03	Change Requests
1.2.3.03.02	Performance Assessment
1.2.3.03.03	Repository Investigations
1.2.3.03.04	Actinide Chemistry & Lab Support

The current compliance baseline consists of the relevant materials in EPA Air Dockets A-93-02 and A-98-49. Docket A-93-02 contains information the EPA reviewed and considered in making its original decision to certify the DOE had met the compliance criteria established by the EPA in 40 CFR Part 194, and the disposal regulations set by the EPA in 40 CFR Part 191, Subparts B and C. Docket A-98-49 contains the latest information that EPA reviewed to determine whether the certification should be modified, suspended, or revoked, and the demonstration of continued compliance for recertification. This includes information such as the EPA CARDs, TSDs, and the EPA certification and recertification decisions (i.e., final rules and final notices).

The project-defined regulatory compliance categories (adopted from 40 CFR Parts 191 and 194) are detailed in Table 1.

Table 1. Project-Defined Regulatory Compliance Categories

Compliance Area*	Applicable Regulatory Driver(s)*	Organization
Monitoring - Environmental, Groundwater, Geomechanical, Geotechnical, and Subsidence	§191.14(b), §194.42, and §194.22(a)(2)(ii)	MOC
PICs - Permanent Markers, Awareness Triggers, Records and Archiving	§191.14(c), Final Rule (63 FR 27354), and §194.43	MOC
Natural Resource Tracking (Delaware Basin Surveillance)	§191.14(e), §194.33, and §194.42	MOC
Waste Characteristics and National TRU Program Interface	§194.24(a)	LANL-CO
WIPP Waste Disposal System	§191.14(b) and §194.42	MOC
Engineered Barriers	§191.14(d) and §194.44	SNL-C
WIPP Experimentation, Testing, Analyses and Calculations	§194.15(a)(3)	SNL-C
Performance Assessment	§191.13, §194.25, §§194.32-34	SNL-C
Compliance Assessments	§191.15, §191.24, §194.25, §194.31, §194.54, and §194.55	SNL-C
Computer Codes/Modeling	§§194.22 and 23	SNL-C
Reporting	§194.4	MOC
Actinide Chemistry Experimental Results	§194.15(a)(3)	LANL-CO
Generator Site Audit Information	§194.8, §194.22, and §194.24	CTAC
Audit and Verification of Quality Assurance Programs	§194.22	CTAC/CBFO
Technical Evaluation	§194.15	CTAC/CBFO
Waste Inventory Update	§194.15 and §194.24(a)(b)(c)(g)	LANL-CO

4.1.1 4.1.1 Scope of Work - SNL-C

SNL-C has been assigned by the CBFO to perform the role of Scientific Advisor. The SNL-C project elements are described below.

- Performance Assessment – The SNL-C maintains the computer systems necessary to conduct a full PA. PAs conducted for recertification are described in the recertification applications. Calculations are conducted according to the SNL-C QA program. Past and current baseline PAs are stored and maintained per SNL-C QA requirements.

- Compliance Assessment (CA) – The SNL-C Recertification Project team conducts compliance assessments in accordance with 40 CFR §§191.15 and 191.24. Calculations maintenance and records storage are conducted under appropriate QA controls.

- Performance Assessment Baseline Review – The SNL-C Recertification Project team conducts reviews of the current PA baseline to assure that changes since the previous certification have been identified and included in the current performance calculations, as necessary. This includes evaluation of baseline features, events, and processes (FEPs), WIPP conceptual models, performance scenarios, and identification of data requirements. Updates to these PA elements are made to advance the technical baseline and peer reviews are conducted as required.

- Impact Assessment – IAs are performed to support CBFO change proposals, Planned Changed Notices (PCNs) and Planned Change Requests.

- Science and Experimental Programs – SNL-C conducts scientific investigations to support the WIPP Long-Term Compliance Program. This activity includes scientific investigations and experimental work relating to the WIPP near and far-field environments such as engineered barriers, rock mechanics, WIPP repository chemistry, regional hydrology, and other experimental areas that relate to WIPP conceptual models represented in the PA. These activities are performed under the SNL-C QA program ensuring the activities are planned, performed and documented appropriately for use in PA and compliance submittals.

  Written documentation is provided of changes to the PA baseline, PA and CA calculations, and experimental results. This documentation includes the update of appropriate sections of the recertification applications. Documentation is prepared under the SNL-C QA controls.

- Compliance Monitoring – SNL-C annually assesses compliance monitoring parameters, sets trigger values, and updates the compliance monitoring analyses program to account for baseline changes.

  As changes occur throughout the operational life of WIPP, PA, and CA calculations based upon calculated impacts may be necessary to demonstrate continued compliance. The CBFO, with input from SNL-C, determines the need to perform revised PA and/or CA calculations. If assessments are performed, documentation is completed by SNL-C and submitted to the MOC for input into the CRA. In the event the PA calculations are not needed, detailed justification summarizing the decision basis and the net effect of the changes to the Compliance Certification is provided by SNL-C for inclusion in the CRA documentation.

4.1.2 Scope of Work - MOC

The MOC project team is made up of operational, legal and regulatory staff. Each project member has been delegated a portion of the work which must be completed when compiling the recertification documentation. The scope of work includes the following elements:

- Manage the integrated Recertification Project schedule, monitor progress, and adjust the schedule baseline so as to meet the project milestone of a timely application submittal.

- Research, track, and report significant (planned and unplanned) and nonsignificant changes to the compliance baseline, based on the requirements of 40 CFR §§194.4(b)(3) and 194.4(b)(4). Prepare the ACR that summarizes nonsignificant changes occurring between July 1 and June 30 and is submitted to the EPA each November. Provide details of changes over the five-year recertification period in the appropriate sections of each CRA.

- Maintain the CREL. This integrated compliance tracking system consists of records of change analyses, change considerations, technical support information, justification for changes, decisions rendered by the EPA, correspondence, memos, meeting minutes, presentations and other 40 CFR Part 191 compliance-related material.

- Maintain information/data collection systems, program plans and other documentation used to assure compliance with the Assurance Requirements and a subset of the Containment Requirements. Documentation is prepared under the MOC QA controls.

- Collect disposal system monitoring program data that are provided to SNL-C, including the Geotechnical, Groundwater, Delaware Basin Drilling Surveillance, Emplaced Waste Tracking, and Subsidence programs. Documentation is prepared under the MOC QA controls.

- Gather documentation on related compliance activities.

- Manage the technical editing, physical production, and distribution of the paper and electronic versions of the CRA. This includes the maintenance of the *Compliance Recertification Application Style Guide for Authors and Technical Editing Staff* (WRES, 2009), in accordance with format and content guidance from the EPA.

The MOC (Washington TRU Solutions, LLC [WTS]) *Recertification Strategy and Project Execution Plan* (WTS, 2007) is revised prior to each recertification to reflect up-to-date understanding of the actions necessary to support each subsequent recertification.

4.1.3 Scope of Work - CTAC

The CTAC project team is made up of personnel who have experience in WIPP QA activities, regulatory, environmental compliance and waste generator site characterization processes. CTAC provides updated QA/quality control information related to WIPP and waste generator site activities. CTAC performs technical reviews, as well as ensuring that the CRA documentation meets applicable QA requirements. Each project member has been delegated a portion of the work that must be completed when compiling the recertification documentation. CTAC coordinates CBFO-directed

peer reviews and expert judgment elicitations, as needed. CTAC also performs a technical review of the CRA during its preparation and participates in the RRC.

4.1.4 Scope of Work - LANL-CO

LANL-CO is responsible for updating the TRU waste inventory data submitted with each CRA. Since these data are used in PA calculations that support the CRA, the PA data requirements are specified by SNL-C. All data are derived and documented by LANL-CO in accordance with applicable regulatory QA requirements under the LANL-CO QA program. Specifically, LANL-CO personnel collect, verify, and validate the TRU Waste Inventory that complies with 40 CFR §194.24, "Waste Characterization." TRU waste inventory information is developed in part using analyses, and these analyses are documented in analyses reports. Results from these analyses are used to update and communicate information to the Recertification Project Manager on a regular basis.

LANL-CO is also responsible for the development and execution of an actinide experimental program that addresses issues relating to the compliance demonstration. All actinide experimental activities are coordinated by the CBFO to ensure that the activities and results are integrated with the PA and are under the DOE QA program, and that all data and results to be used in the CRA meet compliance determination QA requirements. LANL-CO staff scientists from the Actinide Chemistry program are involved in discussions regarding WIPP actinide chemistry issues. Experimental results that support the WIPP long-term compliance program are documented and included, as appropriate, in the recertification application. LANL-CO actinide chemistry activities are conducted under the LANL-CO QA program.

4.2 Scope of Work – CBFO

The CBFO is responsible for the oversight and direction of the CRA. The CBFO is also involved in preparation, review, and other aspects of a CRA. It is the responsibility of the CBFO to assure that input from technical, regulatory, legal and management staff is requested and included in the applications submitted to the EPA. CBFO ensures that the information in the application is consistent with the DOE's programmatic positions in part by soliciting review comments from DOE Headquarters, Environmental Management programmatic and legal staff.

4.3 Project Schedule

Project activities and milestones are identified and tracked in a WIPP Recertification Project schedule, which integrates the activities of project participants and reflects both recurring and one-time events. A schedule is maintained by the MOC. An abbreviated schedule of major activities and milestones that recur in every five-year recertification cycle is shown in Figure 4.

The Recertification Schedule Manager is responsible for the integrated schedule. Based on feedback received during periodic meetings of the RPT, the schedule is modified to accommodate schedule delays only after impacted project participants agree that appropriate actions have been made to correct the delay.

SNL-C evaluates the cumulative effect of EPA-approved changes and the new monitoring data at the specified data cut-off date. Planned changes or monitoring data that are introduced after the data cut-off date, will be used in a future CRA.

5.0 PROJECT STRATEGY

The Recertification Project strategy incorporates the ongoing compliance activities performed by the project participants, as well as developing a CRA that contains information needed to support the compliance determination. This section describes the strategy specific to the recertification effort. Ongoing compliance activities that contribute to the Recertification Project are discussed in section 5.2. Documentation and long-term impact assessment strategies are discussed below.

5.1 Documentation Strategy

To develop the appropriate documentation for the CRA, the RPT evaluates the most recent application and determines which parts of the application must be updated because of EPA-approved changes (as described in section 2.3). Applicable changes occurring in the last five years are captured in the CRA. Those changes can come from modifications, approved changes, ACRs (nonsignificant changes), new/added data, and revised determinations or conclusions resulting from the analysis of changed information.

Project participants evaluate each of the compliance areas listed in Table 1 for changes. Areas of change in the compliance baseline are identified and the appropriate project participants revise sections as needed. This information is reviewed and approved by the RPT.

The application is formatted based on the structure of the 40 CFR regulations. Each applicable section of 40 CFR Part 194 is addressed individually. Each section describes or quotes the 194 criterion; discusses the historical, background, and reference information; discusses any changes that have occurred over the 5-year period; and briefly states the DOE position that demonstrates compliance with the criterion. If the position has not changed since the last CRA, the document references the EPA's compliance position from applicable CARDs, TSDs, or certification decision sections.

CRA production is managed to a detailed schedule that defines draft documentation preparation, inter-organizational review, DOE Headquarters' reviews, and finally, completion and submittal to the EPA. Inter-organizational reviews are conducted with designated lead reviewers/approvers from each of the WIPP participant organizations and support from document authors and appropriate technical experts. Once a final draft of the application is available, it is provided to appropriate management at the CBFO and DOE Headquarters (Environmental Management and the Office of General Counsel). Prior to submittal to the EPA Administrator, briefings are held with the DOE Secretary and appropriate staff, as necessary.

5.2 Planned Change Requests

Title 40 CFR §194.4 prescribes a process for reporting to EPA the changes to information in the most recent compliance application. Nonsignificant planned changes are reported to the EPA in the ACR. Planned changes that the EPA deems nonsignificant are approved or disapproved by the EPA. Nonsignificant changes do not require rulemaking or judicial review.

Significant changes that must be reported may be planned or unplanned. Significant changes cannot be implemented by the DOE until the EPA issues a modification to the certification. Any modification to the certification is conducted through rulemaking (§§194.65 and 194.66). Because the rulemaking process is lengthy and includes a formal public notice and comment period prior to issuance of a final rule, the DOE works closely with the EPA so that the timing of submittals results in the most effective review process. Strategically, this may involve only one submittal every five years or several planned changes in a "bundle." Budgets are established on the basis that one routine planned change request (PCR) occurs every year and one significant PCR is submitted every five years. The EPA cannot consider a PCR while they are evaluating the CRA. (See DOE, 2010a and DOE, 2011 for detailed discussions.)

5.3 "Unplanned Changes"

An unplanned change can be executed, analyzed, and submitted upon request from EPA or stakeholders. An unplanned change occurs when factors, conditions, or information change as a result of unforeseen or unexpected circumstances. For example, an unplanned change might occur if a new resource extraction technique emerges that renders the current human intrusion scenarios invalid or incomplete. Because the project cannot plan for unexpected events, monitoring activities are conducted to verify and constantly update such information. If an unplanned change occurs, immediate steps will be taken to determine the impact. Such events will be reported according to 40 CFR §194.4(b)(3). Such changes will also be documented in the next CRA submitted to the EPA.

5.4 Long-Term Impact Assessment Strategy

Changes to information in the certified baseline are assessed by SNL-C for impacts on assumptions or conceptual models, as well as impact on the long-term performance of the disposal system. A logical, step-wise sequence is used to assess these changes as follows:

1. Create and use a comprehensive list of changes since the most recent certification ruling.

2. Examine features, events, and processes (FEPs) that describe the disposal system (site, facility, and waste characteristics). If the previous assumptions remain valid and the screening arguments remain unchanged, proceed to the next step. If not, analyze the impacts on FEPs assumptions and screening arguments, modify as appropriate.

3. Evaluate scenarios as appropriate to determine if identified changes (steps 1 and 2) affect baseline performance scenarios. Changes to the conceptual models may require a peer review prior to use in the PA calculations. Peer reviews are performed as dictated by 40 CFR §194.27.

4. Assess the extent that the conceptual models, codes, and input parameters remain valid, and examine the change for its potential impact on repository performance. Decisions related to changing conceptual models, codes, and input parameters are justified with proper documentation. If steps 2 through 4 are completed and documented without any changes to the original assumptions, values, or models, the assessment is considered to be complete. If not, proceed to step 5.

5. Conduct PA and/or CA, as necessary. The decision to proceed down this path is dictated by the first four steps. Any of the previous steps could trigger the need to perform an impact assessment. Changes that were not accounted for in the compliance baseline must be evaluated for their potential impact on the long-term performance of the repository. This impact evaluation determines if a CA or PA is needed for the Recertification Project.

The WIPP Participant Recertification Plans are revised prior to each recertification to reflect up-to-date understanding of the actions necessary to support each subsequent recertification.

5.5 Maintenance and Use of the Performance Assessment Capability

The CBFO maintains the capability to perform PA and CA calculations throughout the WIPP operational life. It may be appropriate to conduct new compliance analyses using the PA modeling system if newly acquired data or information indicates that changes are needed in current conceptual, mathematical, or computational models or parameter values. New calculations may also be needed if changes are proposed for the design or operation of the repository or for the types of waste to be emplaced in the repository. As the SA, SNL-C makes recommendations regarding the need to conduct PA calculations or modify the modeling approach. The CBFO is responsible for determining when it is appropriate to conduct new analyses using PA, or to revise repository-related models.

6.0 QUALITY ASSURANCE

The quality of the work performed under the compliance program is controlled by *Quality Assurance Requirements for Nuclear Facility Applications,* ASME NQA-1, 1989 edition (ASME, 1989), and the application of the CBFO *Quality Assurance Program Document* (QAPD) (DOE, 2010c) and existing QA procedures employed by each project participant. The QA program is implemented to monitor progress and provide routine verification of compliance program activities. The QA program ensures that the CBFO meets the commitments made in the CCA (DOE, 1996), the first CRA (*Title 40 CFR Part 191 Subparts B and C Compliance Recertification Application 2004* [DOE,

2004]) and subsequent CRAs. If deficiencies are identified, corrective actions are implemented per applicable WIPP-participant procedures.

Another significant QA process within the project is document review. Consistent with the CBFO QAPD, the CRA must be reviewed for adequacy, correctness, and completeness prior to approval and issuance. This process also involves documentation of review comments and comment resolution.

There are two parts to the document review process. The first involves individual participants in the preparation of CRA sections and related documents. The second involves individuals from each of the project participants providing comments that are resolved through consensus. Documentation of the final comments and their resolution constitute the final QA documentation.

7.0 STAKEHOLDER INVOLVEMENT

The EPA is responsible for stakeholder interactions related to the CRA. Interactions include, but are not limited to, organizing and conducting public meetings; preparing and distributing fact sheets and other similar materials; and requesting, collecting, and responding to public comments. WIPP participant involvement in this process would be at the request of the EPA.

8.0 REFERENCES

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