

# DOE/WIPP-01-3199

# Recertification Project Plan

Revision 7

October 2017



This document supersedes DOE/WIPP-01-3199, Revision 6.

U.S. Department of Energy  
Carlsbad Field Office

DOE/WIPP-01-3199

Recertification Project Plan

Revision 7

October 2017

U.S. Department of Energy  
Carlsbad Field Office

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Date

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## EXECUTIVE SUMMARY

The Waste Isolation Pilot Plant (WIPP) Recertification Project was developed to guide the WIPP project to meet section 8(f) of the Waste Isolation Pilot Plant Land Withdrawal Act (WIPP LWA), Public Law 102-579, 106 Stat. 4777, as amended by Public Law 104-201, 110 Stat. 2422, requirement to demonstrate continued compliance with U.S. Environmental Protection Agency (EPA) disposal regulations. This plan sets the overall path forward for a complex and interdependent set of tasks that is repeated at 5-year intervals. It describes activities and events that the recertification team (DOE and contractors) must follow in order to reach specific goals of the Recertification Project Team. The plan also provides detail on each activity and its integration to support the Recertification Project Team's mission. The EPA's recertification decision demonstrates continued compliance with Title 40 *Code of Federal Regulations* (CFR) Part 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes* (EPA, 1993), pursuant to WIPP LWA section 8(f).

This plan establishes the roles and responsibilities of WIPP project participants in the recertification effort 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 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 WIPP 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.

A critically important milestone of the Recertification Project is the production and delivery of the CRA to the EPA on or before the 5-year mandated interval identified in section 8 of the WIPP LWA. The desired result of the Recertification Project is a decision by the EPA to recertify the WIPP repository in a timely and efficient manner without interruption in disposal operations.

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### CHANGE HISTORY SUMMARY

Revision Number	Date Issued	Description of Changes
7	10/19/17	<ul style="list-style-type: none"><li>● Complete rewrite of document.</li><li>● Added Change History Summary and formatted document according to requirements of CBFO MP 4.4, <i>Document Preparation and Control</i>.</li></ul>

## ABBREVIATIONS AND ACRONYMS

ACR	Annual Change Report
ASME	American Society of Mechanical Engineers
CA	Compliance Assessment
CARD	Compliance Application Review Document
CBFO	Carlsbad Field Office
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
DRR	Document Review Record
EPA	U.S. Environmental Protection Agency
FEP	features, events, and processes
FR	Federal Register
HQ	Headquarters
IA	Impact Assessment
LANL–CO	Los Alamos National Laboratory – Carlsbad Operations
LWA	Land Withdrawal Act
M&O	management and operating contractor
MP	management procedure
NWP	Nuclear Waste Partnership LLC
PA	Performance Assessment
PABC	Performance Assessment Baseline Calculation
PCN	Planned Change Notice
PCR	Planned Change Request
POC	Point of Contact
QA	quality assurance
QAPD	Quality Assurance Program Document
RPT	Recertification Project Team
RRC	Recertification Response Committee
SA	Scientific Advisor
SNL–CPG	Sandia National Laboratories – Carlsbad Programs Group
TRU	transuranic
TSDs	Technical Support Documents
WBS	Work Breakdown Structure
WIPP	Waste Isolation Pilot Plant



## GLOSSARY

**Annual Change Report (ACR)** – Report submitted to the U.S. Environmental Protection Agency (EPA) by the U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) each November that outlines nonsignificant changes to the information in the latest Compliance Certification; satisfies criteria in 40 Code of Federal Regulations (CFR) Part 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 in 40 CFR Part 194.4. For detailed information on planned and unplanned change reporting see, for example, *Waste Isolation Pilot Plant Certification Management Plan* (DOE, 2012).

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

**Compliance Baseline** – Includes, but is not limited to, the WIPP 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 Recertification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*; 63 Federal Register (FR) 27354, 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, 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 Part 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*; DOE/WIPP-14-3503, *40 CFR Part 191 Subparts B and C Compliance Recertification Application 2014*; EPA Certification and Recertification Decisions (as published in the Federal Register); 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 the DOE's responses.

**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

WIPP LWA section 8(d)(1). Compliance Recertification Applications (CRAs) are submitted pursuant to WIPP LWA section 8(f).

**Data Cutoff Date** – The date after which no additional data are considered in the current CRA cycle. Data are gathered and used to develop 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 Waste Isolation Pilot Plant (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, CBFO Deputy Manager, the CBFO Office of Environmental Protection Director, 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.

**Expert Judgment** - Expert judgment, by an individual expert or panel of experts, may be used to support any compliance application, provided that expert judgment does not substitute for information that could reasonably be obtained through data collection or experimentation, as defined in 40 CFR Part 194.26.

**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 in 40 CFR Part 194.4(b)(1) and 40 CFR Part 194.65.

**Peer Review** – Evaluation of scientific, academic, or professional work by others working in the same field.

**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 WIPP LWA and 40 CFR Part 191.13, and Parts 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. The PABC may use the EPA-specified parameters, distributions, and other needed changes. A confirmatory WIPP PA calculation may be conducted if the EPA requests one as part of their completeness review. Relevant materials for the current compliance baseline are found in the 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 the EPA reviewed to determine whether the certification should be modified, suspended, or revoked, and the demonstration of continued compliance for recertification.

**Planned Change Notice (PCN)** – A formal submittal of information to the EPA that describes changes to activities and conditions at the WIPP that are different from what is described in the compliance baseline. This change does not require the EPA’s approval to implement.

**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 disposal system which would result in those conditions or activities that are different from those described in the compliance baseline.

**Point of Contact (POC)** – Consists of a single technical/programmatic lead from each of the participating WIPP organizations. The participating organizations are the CBFO, the WIPP management and operating contractor (M&O), Sandia National Laboratories – Carlsbad Programs Group (SNL-CPG), Los Alamos National Laboratory – Carlsbad Operations (LANL-CO), Carlsbad Field Office Technical Assistance Contractor (CTAC). The POC is responsible for reviewing the CRA, incorporating comments on a Document Review Record form and attending CRA comment resolution meetings to achieve and document consensus on how each comment is resolved. Should a disagreement arise where the resolution of a comment cannot be agreed upon between the POCs, the Recertification Project Manager will make the final decision.

**Project Participants** – Those organizations involved in planning, writing, and reviewing documentation related to compliance, testing, or research to support recertification. Currently, these organizations are the CBFO, M&O, SNL-CPG, LANL-CO, CTAC, and their supporting contractors.

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

**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 Project Team (RPT)** – Consists of technical and programmatic leads with at least one representative from each of the project participants. M&O 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 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 the DOE Regulatory Response Plan – *Resolving Requests for Additional Information Associated with the 2014 Compliance Recertification Application* (DOE, 2014).

**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.

**Rulemaking** – The Administrative Procedures Act (Section 553 of Title 5, United States Code) defines rulemaking as the EPA's process for formulating, amending, or repealing a rule. Similarly, adjudicate means an EPA statement of general or particular applicability designed to implement, interpret, or prescribe law or policy (in this case the WIPP LWA 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 RECERTIFICATION PROJECT**

### **1.1 Project Mission**

The Recertification Project mission is to evaluate, develop, refine, and submit documentation that demonstrates continued compliance with the regulations set forth in 40 Code of Federal Regulations (CFR) Part 191, Subparts B and C (EPA, 1993), pursuant to the criteria at 40 CFR Part 194 (EPA, 1996).

### **1.2 Regulatory Project Foundation**

The Environmental Protection Agency's initial certification was published on May 18, 1998, and the initial receipt of contact-handled transuranic (TRU) waste at the Waste Isolation Pilot Plant (WIPP) occurred on March 26, 1999. This initiated the 5-year interval for the subsequent recertification cycles.

The requirement for compliance certification stems from the Waste Isolation Pilot Plant Land Withdrawal Act (WIPP LWA), Public Law 102-579, 106 Stat. 4777, as amended by Public Law 104-201, 110 Stat. 2422. This public law established the EPA as the certifier of the WIPP's compliance with the long-term disposal regulations in 40 CFR Part 191, Subparts B and C. The WIPP LWA also required the 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 U.S. Department of Energy (DOE) submitted the Compliance Certification Application (CCA) to the EPA in October 1996. The WIPP LWA also required that the 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 in 63 Federal Register (FR) 27354 certifying that the DOE had demonstrated compliance with 40 CFR Part 191, Subparts B and C.

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 Part 194.15. After the EPA receives the CRA, it will issue an FR Notice opening a public comment period. The FR Notice specifies the duration of the public comment period. As prescribed in Part 194.64(c), this period is at least 30 days. Once the public comment period has expired and the EPA review is complete, public comments and any EPA concerns are addressed in Certification Application Review Documents (CARDs) and Technical Support Documents (TSDs) that support the EPA's recertification decision.

Public meetings may also be held at the EPA's discretion. The EPA reviews the CRA and determines if more information is required. Once the EPA determines that the information is complete, it has 6 months to determine whether the WIPP project continues to comply. The EPA will then publish a notice in the FR announcing a decision to recertify. As specified by WIPP LWA section 8(f)(2) and referenced in 40 CFR Part 194.64, this process is not subject to rulemaking or judicial review.

The WIPP LWA also mandated that the DOE submit documentation of continued compliance to the EPA every 5 years from the initial date of waste receipt, as required by WIPP LWA section 8(f).

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.

The intent of this project plan is to establish institutional roles and responsibilities of WIPP project participants. 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 from the EPA during its review. Roles and specific duties are discussed in section 3.1.

The CCA (DOE, 1996) demonstrates a broad range of WIPP-related activities and analyses required by 40 CFR Parts 191 and 194. CRAs consist of appropriate updates within each category where WIPP-relevant work has been performed or new WIPP-relevant data are available. If requested by the EPA, this information may include a summary of the Performance Assessment Baseline Calculation (PABC) from the previous recertification decision, the most recent monitoring data, results of field and laboratory studies, and the incorporation of such data into the performance assessment, as appropriate.

### **1.3 Enabling Objectives**

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

1. Submit a CRA no later than 5 years after receipt of waste (March 26, 1999) and every 5 years thereafter, as required by the WIPP LWA.
2. Provide the EPA with any new or revised information in the CRA. Specifically, updated information from what was included in the most recent application that was approved by the EPA, as required by 40 CFR Part 194.15.
3. Provide detailed information in the CRA of the 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 transuranic (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 PA calculations. Sandia National Laboratory was designated by the 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 the *DOE Regulatory Response Plan – Resolving Requests for Additional Information Associated with the 2014 Compliance Recertification Application* (DOE, 2014).

#### **1.4 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.
- The CRA is formatted to reflect regulatory sections of 40 CFR Part 194.
- Technical exchange meetings between the EPA and the DOE provide input for major project decisions.
- There is no disruption in emplacement operations due to the recertification process.
- Monitoring and experimental data are submitted to Sandia National Laboratories – Carlsbad Programs Group (SNL-CPG) on or before the planned data cutoff date.
- Performance Assessment Inventory Report based on data of the latest published annual inventory report is used to support the CRA documentation.

- The Recertification Project Manager makes decisions regarding changes to the project planning, strategy, and scope.
- 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 Carlsbad Field Office (CBFO) and other project participants are prepared to provide additional information after the submittal of the CRA.
- The budget for the Recertification Project is based on CBFO's annual budget planning guidance for contractors.

## **2.0 COMPLIANCE AND RELATED PROCESSES**

At the WIPP, the process of maintaining compliance with 40 CFR Part 191, Subparts B and C, is ongoing. See *Waste Isolation Pilot Plant Certification Management Plan* (DOE, 2012), and *Waste Isolation Pilot Plant Environmental Notification or Reporting Implementation Plan* (DOE, 2013), for detailed discussion on activities related to managing and maintaining certification, and on compliance change reporting. This plan specifically describes the iterative processes for recertifying WIPP's compliance with 40 CFR Part 191, Subparts B and C.

### **2.1 Regulatory Framework**

The WIPP 5-year recertification requirement is mandated by the WIPP LWA. Environmental Protection Agency Disposal Regulations in Section 8(f) of the WIPP LWA provides for periodic recertification and requires:

- (1) *Not later than 5 years after the initial receipt of transuranic waste for disposal at WIPP, 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 EPA has provided criteria for fulfilling this requirement. Title 40 CFR Part 194.64, *Documentation of Continued Compliance*, establishes the process for recertification.

The EPA regulation 40 CFR Part 194.15, *Content of Compliance Recertification 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 recertification application. Such description shall consist of a description of the waste characteristics and waste components identified in Part 194.24(b)(1) and Part 194.24(b)(2);*
  - (6) Any significant information not previously included in a compliance certification or recertification 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 recertification of compliance remains valid and has been submitted in previous certification or recertification application(s), such information need not be duplicated in subsequent applications; such information may be summarized and referenced.*

## **2.2 The Recertification Process**

The results of an evaluation of all the EPA compliance programs at WIPP are documented and submitted to the EPA at 5-year intervals. 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.

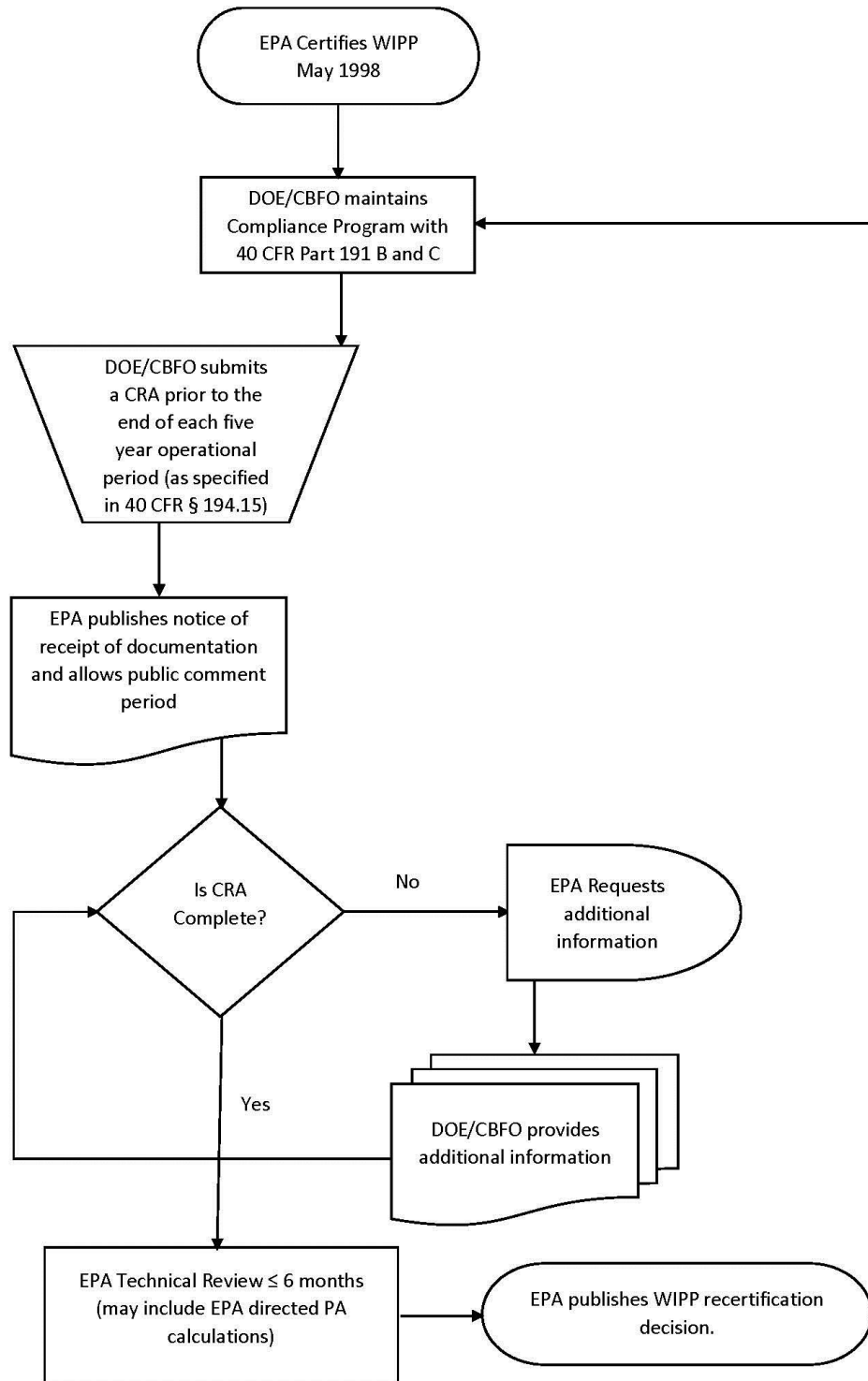


Figure 1 – Workflow for Compliance Recertification at the WIPP

## 2.3 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 WIPP project and externally. Compliance information is normally generated through data acquisition and data assessment functions. The data acquisition function is primarily the responsibility of the management and operating contractor (M&O). The data assessment function is generally performed by the SA, currently SNL-CPG, and Los Alamos National Laboratory – Carlsbad Operations (LANL-CO).

The flow of compliance information within the WIPP project is managed to ensure that important results are communicated to the responsible 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 CBFO divisions 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 accessed by authorized users 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.

## 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(s) 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). The responsibilities of each organization are summarized below.

**CBFO** – Several organizational offices in 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, CBFO Deputy Manager, and CBFO Office of Environmental Protection Director to provide direction to the overall Recertification Project, including strategy and scope. Additional members of the CBFO senior management may provide guidance.

**Recertification Project Manager** – A person within the CBFO who manages the WIPP Recertification Project so that activities are complete and documentation is sufficient for submittal to the EPA. Directs development of recertification project plans, schedules, and documentation for CBFO senior management review, and verifies that resources necessary to complete the recertification project are allocated. The Recertification Project Manager also resolves internal recertification 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 recertification project to CBFO senior management, and coordinates and manages post-submittal information transfer to the EPA via the RRC. In addition, this person also ensures that technical studies and documentation developed for recertification activities are coordinated, scheduled, and meet recertification project and regulatory requirements.

**SNL-CPG** – Performs sensitivity analyses, PA, Compliance Assessment (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 judgments. Participates in the RRC for post-CRA submittal activities.

**M&O** – Produces, collects, and assembles CRA documentation; manages data collection and management activities related to the ten monitored parameters; provides SNL-CPG with the monitoring data and operational information for input into IA and relevant PA calculations; writes and edits sections of CRAs, performs technical reviews of the CRAs, and 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** – Manages the recertification project plan and schedule, coordinates development and production of application documentation, and assists in recertification project organization, planning, and management.

**LANL-CO** – Serves as the senior technical advisor to CBFO for TRU waste characterization, certification, and shipping throughout the complex; conducts actinide, brine chemistry and microbial effects experimental studies; reviews/assesses WIPP-related actinide literature; reviews features, events, and processes (FEP) pertaining to the actinide source term and provides parameter assessments and updates to support WIPP PA; provides TRU waste inventory data updates and analyses to support PA; documents TRU waste inventory updates; coordinates and participates in the DOE and

the 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.

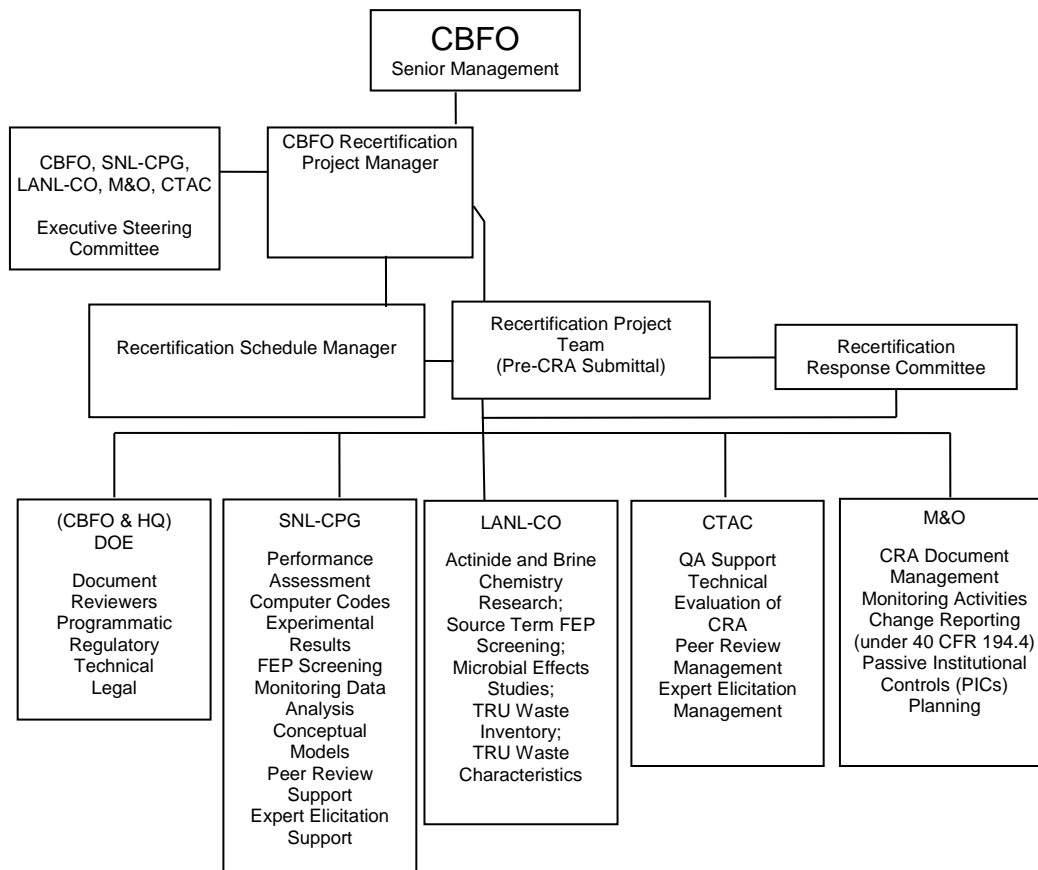
**Carlsbad Field Office Technical Assistance Contractor (CTAC)** – Provides information, on behalf of CBFO – Office of Quality Assurance, on waste generator site compliance and audits, and QA overview of WIPP project documentation; performs surveillances and audits of WIPP project participants and waste generator site QA programs as they relate to compliance certification; coordinates and oversees CBFO-directed peer reviews and expert judgment elicitation; writes and edits sections of CRAs, performs technical reviews of the CRAs, 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), M&O, SNL-CPG, LANL-CO, and CTAC. Recertification 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 the 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 Recertification 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 Regulatory Response Plan* (DOE, 2014).

Figure 2 represents the Recertification Project organization structure. It is the responsibility of the Recertification Project Manager to ensure that participants complete 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 2.0.



**Figure 2 – Project Organization Structure**

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 Recertification 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 Recertification Project Schedule. The Recertification Schedule Manager coordinates these activities within the schedule to ensure successful results.

### 3.3 Change Control

Changes to Recertification Project strategy, schedule, or scope or to this plan may be initiated by a member of the RPT, Executive Steering Committee, or by direction from CBFO Management. Changes are discussed with CBFO Management and can be 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).

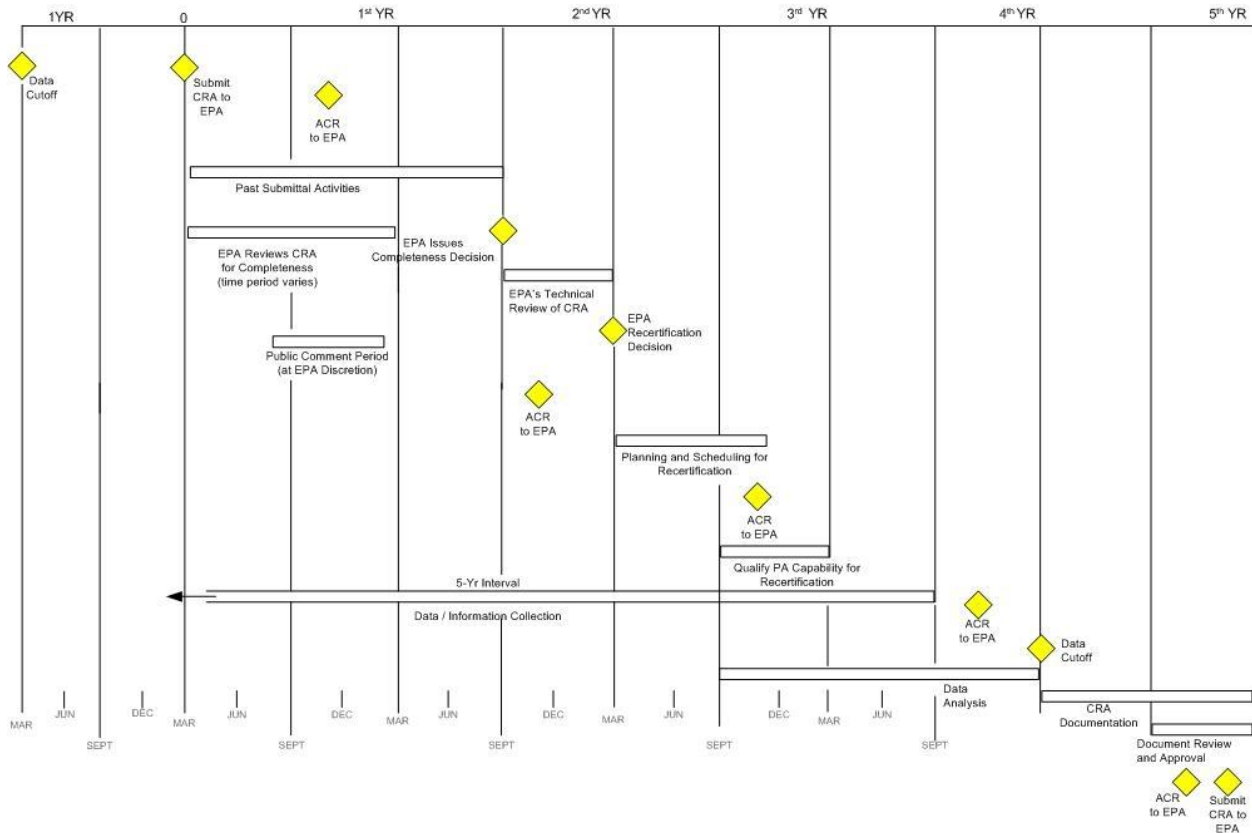
### **3.4 Project Status and Progress Reporting**

Periodic RPT meetings are held during the active production of a CRA. During these meetings, each Recertification 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 Recertification Project participants is updated at the WIPP Monthly Progress Meeting. The Executive Steering Committee is briefed on an as needed basis.

### **4.0 PROJECT SCOPE**

The scope of the Recertification Project is derived from the certification criteria in 40 CFR Part 194, and is 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, 2000). 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 5-year cyclic schedule (see Figure 3). The 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. However, if the EPA review takes longer than usual, project preparation time for the next CRA may be impacted. As noted in the WIPP LWA section 8(f), the EPA has 6 months from the time they declare completeness to make a recertification decision.



**Figure 3 – 5-year Rolling Plan for CRA**

**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 5-year cycle. The recertification WBS is maintained in accordance with the *Carlsbad Field Office Programmatic Change Control Process* (DOE, 2017c).

The Recertification 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**

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

**4.1.1 Scope of Work – SNL-CPG**

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

- **Performance Assessment** – The SNL-CPG 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-CPG QA program. Past and current baseline PAs are stored and maintained per SNL-CPG QA requirements.

- **Compliance Assessment** – The SNL-CPG conducts compliance assessments in accordance with 40 CFR Parts 191.15 and 191.24. Calculations maintenance and records storage are conducted under QA controls as identified under SNL-CPG's QA program.
- **Performance Assessment Baseline Review** – The SNL-CPG conducts reviews of the current PA baseline to assure that changes since the previous recertification have been identified and included in the current performance calculations, as necessary. This includes evaluation of baseline FEPs, 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 Change Notices (PCNs), and PCRs.
- **Science and Experimental Programs** – SNL-CPG conducts scientific investigations to support the WIPP long-term performance. 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-CPG 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 QA controls as identified under SNL-CPG's QA program.

- **Compliance Monitoring** – SNL-CPG 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-CPG, determines the need to perform revised PA and/or CA calculations. If assessments are performed, documentation is completed by SNL-CPG and submitted to the M&O 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-CPG for inclusion in the CRA documentation.

Additional details regarding SNL-CPG activities that support the Recertification Project can be found in the *Sandia National Laboratories Project Execution Plan for the Compliance Recertification Application – 2014, Revision 0* (SNL-CPG, 2012).

#### **4.1.2 Scope of Work - M&O**

The M&O (currently Nuclear Waste Partnership LLC [NWP]) consists of operational, legal, and regulatory staff. Each 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 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 Parts 194.4(b)(3) and 194.4(b)(4). Prepare the Annual Change Report (ACR) that summarizes nonsignificant changes occurring between July 1 and June 30, and which is submitted to the EPA each November. Provide details of changes over the 5-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, memoranda, 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 QA controls as identified under the M&O's QA program.
- Collect disposal system monitoring program data that are provided to SNL-CPG, including the Geotechnical, Groundwater, Delaware Basin Drilling Surveillance, Emplaced Waste Tracking, and Subsidence programs. Documentation is prepared under the QA controls as identified under the M&O's QA program.
- Manage the technical editing, physical production, and distribution of paper and electronic versions of the CRA as appropriate. This includes the maintenance

of the *CRA Format and Content Guide* in accordance with format and content guidance from the EPA.

The M&O's *Recertification Strategy and Project Execution Plan* (NWP, 2012) 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 consists of personnel who have experience in WIPP QA activities, regulatory and environmental compliance, and waste generator site characterization processes. Working on behalf of the CBFO – Office of Quality Assurance, CTAC provides updated QA/quality control information related to WIPP and waste generator site activities. CTAC performs technical reviews, and ensures that the CRA documentation meets applicable QA requirements. Each 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 technical and editorial reviews of the CRAs during their 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-CPG. 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 Part 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/brine chemistry and microbial experimental program that addresses issues relating to the compliance demonstration. All these experimental activities are coordinated by the CBFO to ensure that the activities and results are integrated with the PA, 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 help support source-term model development, perform literature assessments of non-WIPP data to evaluate potential impacts, and assess/recommend parameter values that support the development of the actinide source term for WIPP PA. Experimental results that support the WIPP long-term compliance are documented and included, as appropriate, in the recertification application. LANL-CO experimental activities are conducted under the LANL-CO QA program. Additional details describing the work scope and strategy that LANL-CO uses to support the Recertification Project

can be found in the *LANL-CO Recertification Program Document* (LANL-CO, 2012) that is revised prior to each recertification.

#### **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 the 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. The CBFO ensures that the information in the application is consistent with the DOE's programmatic positions in part by soliciting review comments from Environmental Management Headquarters (HQ) programmatic and legal staff.

#### **4.3 Project Schedule**

Recertification project activities and milestones are identified and tracked in a WIPP Recertification Project Schedule that integrates the activities of participants and reflects both recurring and one-time events. A schedule is maintained by the M&O.

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 participants agree that appropriate actions have been made to correct the delay.

### **5.0 PROJECT STRATEGY**

The Recertification Project strategy incorporates the ongoing compliance activities performed by the participants to develop a CRA that contains information needed to support the compliance determination. This section describes the strategy specific to the recertification effort.

#### **5.1 Documentation Strategy**

To develop the appropriate documentation for the CRA, the RPT evaluates the most recent application and determines modifications to the application because of EPA-approved changes (as described in section 1.3). Applicable changes occurring in the last 5 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.

Recertification 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 participants revise sections as needed. This information is reviewed and approved by the Point of Contact (POC).

The application is formatted based on the structure of 40 CFR. Each applicable section of 40 CFR Part 194 is addressed individually. Each section describes or quotes the Part 194 criterion, discusses background and reference information, discusses any changes that have occurred over the 5-year period, and states the DOE position that demonstrates compliance with the criterion. The document references the EPA's compliance position from applicable CARs, TSDs, or certification decision sections.

CRA production is managed to a detailed schedule that defines draft documentation preparation, inter-organizational review, the DOE HQ's 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 the DOE HQ (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. The CRA must be signed by the Secretary of Energy before submittal to the EPA.

## **5.2 Planned Change Requests**

Title 40 CFR Part 194.4 prescribes a process for reporting to the EPA changes to information in the most recent compliance application. Nonsignificant planned changes are reported to the EPA in the ACR. 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 (Parts 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. Budgets are established on the basis that one routine PCR is submitted every year with a maximum of up to two significant PCRs submitted throughout the year (DOE, 2017b). PCRs will not be considered while the CRA is being evaluated (see DOE, 2012 and DOE, 2013 for detailed discussions).

## **5.3 Unplanned Changes**

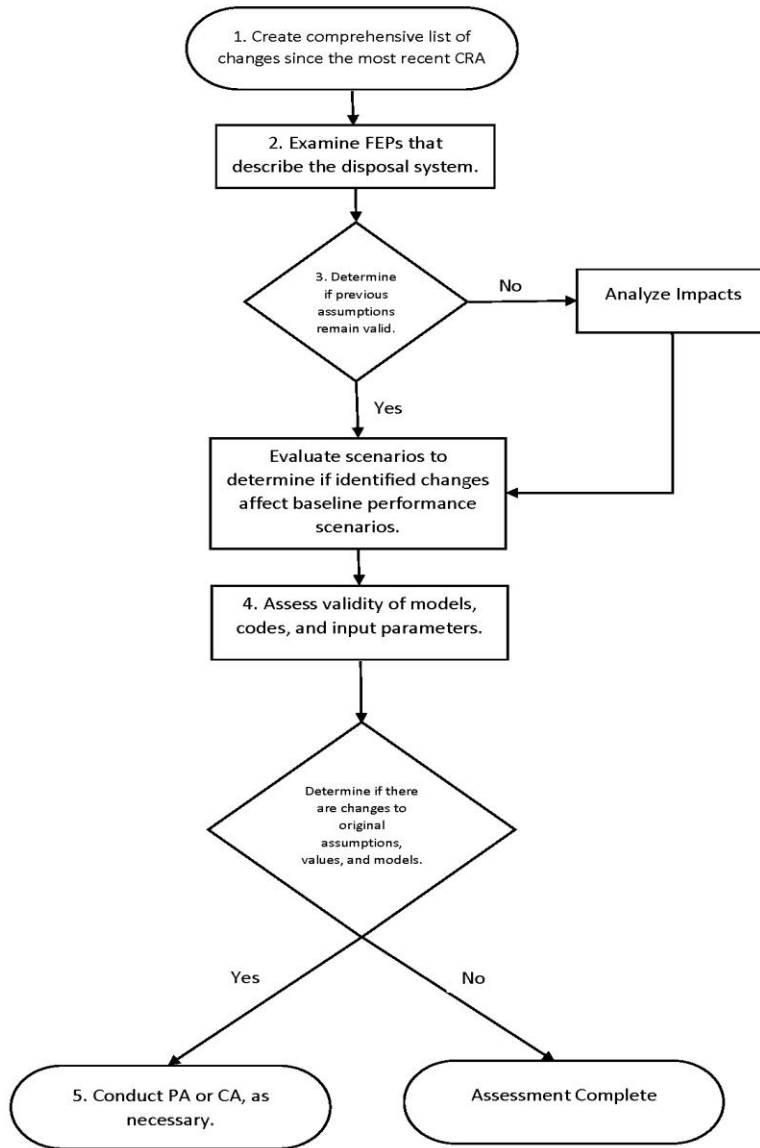
An unplanned change can be executed, analyzed, and submitted upon request from the EPA or stakeholders. An unplanned change occurs when factors, conditions, or information change as a result of unforeseen or unexpected circumstances. For example, an unplanned change might occur if a new resource extraction technique emerges that renders the current human intrusion scenarios invalid or incomplete. Because the WIPP 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 Part 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 for impacts on assumptions or conceptual models, as well as impact on the long-term performance of the disposal system. A logical sequence is used to assess these changes as follows, also see Figure 4:

1. Create and use a comprehensive list of changes since the most recent recertification decision.
2. Examine 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 FEP assumptions and screening arguments and 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 per 40 CFR Part 194.27 requirements.
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 prescribed 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.



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 SNL-CPG 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-CPG 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 QA program is implemented to monitor progress and provide routine verification of compliance program activities. The quality of the work performed under the compliance program is controlled by *Quality Assurance Program Requirements for Nuclear Facilities*, American Society of Mechanical Engineers (ASME) NQA-1, 1989 edition (ASME, 1989), the application of the CBFO *Quality Assurance Program Document* (QAPD) (DOE, 2017a), and existing QA procedures employed by each Recertification Project participant. 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 Recertification 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 many parts to the document review process. The first involves individual participants in the preparation of CRA sections and related documents. These sections and documents are reviewed by each participant under their organization's QA program. The second involves individuals from each of the organizations providing comments that are resolved through consensus. Documentation of the final comments and their resolution constitute the informal CBFO management procedure (MP) 4.2 review. Last is the official MP 4.2 review which is in accordance with CBFO's QA program. For more details see the CBFO QAPD (DOE, 2017a).

## 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. Participation by the RPT is at the request of the EPA.

## **8.0 RECORDS**

The following records are generated during the process of writing and reviewing the Compliance Recertification Application. These records become part of the records package that is submitted to the CBFO when the CRA is issued.

1. Signed and dated Document Review/Approval Matrix (CBFO Form 4.2-1).
2. Hardcopy (printout) of draft document (version sent for review).
3. Hardcopy (printout) of electronic notice of review (including any supporting documentation).
4. Signed and dated Document Review Records (DRRs) (CBFO Form 4.2-2) or “No Comments” emails submitted in place of a DRR for assigned/delegated reviewers.
5. Emails, memoranda, correspondence, and any other supporting documentation pertaining to the document review (if applicable).
6. Original, signed and dated final document.
7. Original, signed and dated Records Package Validation Form (CBFO Form 4.2-3).

## 9.0 REFERENCES

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