


**WIPP 2019 Compliance
Recertification
Application:
Virtual Public Meeting**
August 17, 2021



EPA Office of Radiation and Indoor Air
<https://www.epa.gov/radiation>

- Meeting Ground Rules and Agenda
 - ✓ Staff Introductions
 - ✓ DOE Presentations
 - ✓ EPA Presentations
- Questions and comments from stakeholders: WIPP CRA-2019 & Recertification Process
- Questions and comments from stakeholders: Other General WIPP Issues

Meeting Goals and Agenda: WIPP CRA-2019



- Goals
 - ✓ Hear your comments/questions/concerns on the 2019 WIPP Compliance Recertification Application (CRA)
 - ✓ Help clarify issues about the CRA and provide general information on the recertification process & schedule

- Agenda
 - ✓ Short introductory presentations (Please save questions until after all presentations are completed)
 1. DOE
 - Summary of Changes to Performance Assessment for the 2019 WIPP Compliance Recertification Application
 2. EPA
 - Overview of WIPP Performance Assessment
 - WIPP Recertification Process
 - Issues Identified in CRA-2019
 - EPA Sensitivity Calculations

- Dialogue/Questions/Comments

- Wrap-up for CRA-2019 discussion before addressing other general WIPP issues

Ground Rules



- EPA and DOE staff are on hand to respond to comments and answer questions from the public related to the WIPP CRA-2019
 - ✓ The completeness process is still ongoing, so not every question will have a full answer at this time
 - ✓ All public questions/issues will be noted for the upcoming completeness determination
- Initially, questions/comments will be kept to issues that are specifically related to recertification and the WIPP CRA-2019
 - ✓ Opportunity to discuss other general WIPP topics will occur following all recertification-related issues
- This is an informal dialogue (no official transcript)
 - ✓ Meeting will be recorded
 - ✓ Any formal comments should be submitted in writing/electronically to the docket
- EPA staff will be facilitating the meeting via Zoom
 - ✓ Please be civil/polite
 - ✓ Stakeholders can submit questions/comments/issues in the chat box; they will be addressed separately in turn

WIPP 2019 Recertification Process



What is EPA's Role at the WIPP?

- WIPP Land Withdrawal Act (1992 and 1996) established the EPA as regulator for the radioactive wastes at WIPP
 - The hazardous portion regulated by State of New Mexico Environment Department (NMED)
 - Initial Certification Decision in 1998
- Our major tasks:
 - Set environmental standards and establish WIPP-specific compliance criteria for radioactive wastes, recertification and continuing oversight (e.g., inspections)
- Recertification occurs every 5 years – involves an evaluation of changes that have occurred since the previous recertification, such as new experimental data, changes to the repository, or general understanding of the site
- The current recertification submitted by DOE as the “Compliance Recertification Application” (CRA) is the fourth recertification
 - EPA recertified WIPP last in 2017 using information DOE submitted in 2014

Steps In the Review Process



- **First Step - Completeness Review.** EPA reviews if DOE has provided sufficient information for each requirement of the WIPP Compliance Criteria
 - EPA submitted six completeness letters to DOE requesting more information
 - EPA and DOE held three virtual exchanges to further clarify questions in the CRA
 - DOE has responded to all completeness comments in 13 responses
- **Second Step – Final Review.** Begins when EPA determines DOE’s application is complete.
 - Completeness announced with a letter from the EPA to the Secretary of Energy
 - Federal Register notice of completeness contains letter to DOE and establishes the end of the public comment period (a minimum of 30 days after publication)
- **Decision** –EPA issues the recertification decision as a letter to DOE and a Federal Register Notice within 6 months of the completeness determination
 - Supporting documentation will be in the EPA WIPP docket (via regulations.gov)

Steps in CRA Review to Date



March 2019

- DOE Submits First Part of CRA 2019 to EPA

December 2019

- DOE Submits Second Part of CRA 2019 “Deferred PA”

December 2019

- EPA Initiates Full Completeness Review

December 2019-July 2021

- EPA Requests and Receives Additional Information from DOE

August 2021

- EPA Continues Completeness Review Documentation (CARDs, TSDs)
- EPA Holds Public Meeting with Stakeholders

Performance Assessment (PA) is used to demonstrate numerical compliance with 40 CFR 191 release requirements

Purpose – Calculations model potential repository behavior over the 10,000-year regulatory period

PA Building Blocks and Areas of Focus for Changes in:

Features – geology, facility design

Events – future scenarios - probabilistic and quantitative (e.g., future drilling)

Processes – acting on the features (e.g., gas generation, creep closure, hydrology)

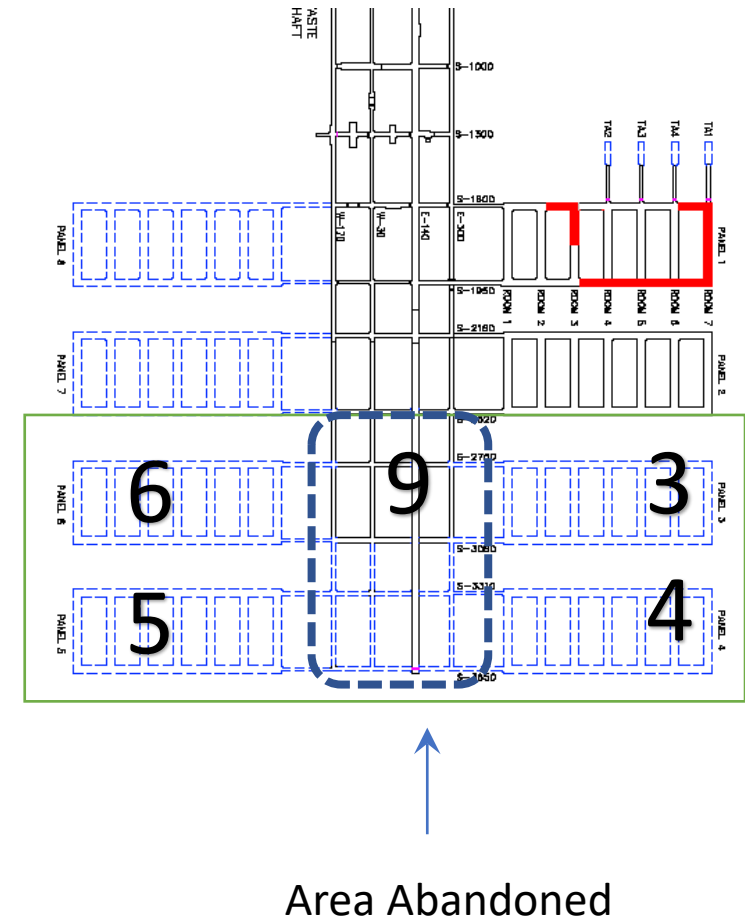
Submittal of CRA-2019 and Deferred PA



- DOE submitted the 2019 Compliance Recertification Application (CRA-2019) to EPA on March 19, 2019
- The CRA-2019 did not have new performance assessment calculations as EPA agreed to defer them to give DOE more time to work through issues EPA identified in the 2017 recertification
- In December 2019, DOE provided the deferred performance assessment calculations and corresponding sections associated with the CRA-2019
- We did not have the normal early stakeholder meeting after receipt of the CRA because of the deferred calculations and then the pandemic

Key Issue

- DOE abandoned the area affected by 2014 radiological incident: Panels 3-6 and 9
- DOE modeled the repository differently; will not have panel closures in Panels 3-6 and will not use Panel 9 for waste
- DOE proposed modeling the repository to account for the volume of waste that won't be in Panel 9 in the Abandoned Panel Closure System (APCS) Approach and the location of the replacement panel was unknown
 - EPA approved this proposed approach
 - DOE's intent was to model Panel 9 and show that it would bound the results that would be expected for the repository if Panel 9 were included w/o panel closures
 - Assumption was that calculated releases would be higher without panel closures



Other Important Issues



- FEPs (Features, Events, and Processes) are being reviewed to see how DOE has updated these over the last 5 years
- Geochemistry information being reviewed to determine:
 - If assumptions and data being used appropriately reflect available data
 - That the foundation for the geochemical calculations is sound, notably the database used to evaluate the expected geochemical reactions in the repository
- Boreholes and drilling rates are being reviewed to determine if DOE's approach appropriately reflects what is being done in the Delaware Basin and WIPP region
- Culebra hydrogeology assumptions and modeling are being reviewed in light of new data

Sensitivity Studies by EPA



EPA's Calculations for CRA19 review

- CRA19_COMP (Comparison Model):
 - Calculations to look at new DOE approach to modeling Panel 9
 - Model less permeable salt to compare where DOE use more permeable salt in panel closures and the disturbed rock zone around the mined areas
- Sensitivity studies on physical parameters related to human intrusion
 - Deep Drilling Rate
 - Borehole Plugging Pattern Probabilities
- Sensitivity studies on chemical parameters that address how easily plutonium and other radionuclides will move around/out of the repository in the presence of brine (e.g., factors affecting plutonium solubility)
- Comprehensive performance assessment with multiple parameters changed



Questions and Comments?

For more information:

- Access EPA's WIPP certification materials on EPA's webpage:
<https://www.epa.gov/radiation/certification-and-recertification-wipp#2019>
- Access EPA's WIPP certification materials through the federal online docket:
<https://www.regulations.gov/docket?D=EPA-HQ-OAR-2019-0534>
- General recertification process questions? Contact Ray Lee at lee.raymond@epa.gov