
**Title 40 CFR Part 191
Subparts B and C
Compliance Recertification Application 2019
for the
Waste Isolation Pilot Plant**

**Consideration of the Presence of Resources
(40 CFR 194.45)**



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

Carlsbad Field Office
Carlsbad, New Mexico

Compliance Recertification Application 2019
Consideration of the Presence of Resources
(40 CFR 194.45)

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Acronyms and Abbreviations

CRA	Compliance Recertification Application
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
PA	performance assessment
WIPP	Waste Isolation Pilot Plant

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45.0 Consideration of the Presence of Resources (40 CFR 194.45)

45.1 Requirements

§ 194.45 Consideration of the Presence of Resources

Any compliance application shall include information that demonstrates that the favorable characteristics of the disposal system compensate for the presence of resources in the vicinity of the disposal system and the likelihood of the disposal system being disturbed as a result of the presence of those resources. If performance assessments predict that the disposal system meets the containment requirements of §191.13 of this chapter, then the Agency will assume that the requirements of this section and §191.14(e) of this chapter have been fulfilled.

45.2 Background

Title 40 CFR 194.45 ([U.S. EPA 1996a](#)) implements the assurance requirement that the favorable characteristics of the disposal system compensate for any increased probability of disruption by humans resulting from exploring and developing existing resources. In promulgating this requirement, the U.S. Environmental Protection Agency (EPA) determined that performance assessment (PA) provides a rigorous analytical methodology to determine whether the Waste Isolation Pilot Plant (WIPP) site has compensating features that outweigh the presence of resources ([U.S. EPA 1996b](#)). In accordance with the compliance criteria, the U.S. Department of Energy (DOE) must demonstrate that PA has incorporated the potential effects of human activities near the WIPP prior to waste disposal, and of drilling and excavation mining over the regulatory time frame.

The DOE has continually demonstrated in previous compliance applications that the WIPP complies with containment requirements while including the effects of resources present at the site. Information and data from previous compliance certification and recertification applications that form the basis of past DOE compliance positions and past EPA decision documents are found in the 2014 Compliance Recertification Application (CRA-2014) ([U.S. DOE 2014](#)).

45.3 Changes or New Information Since the CRA-2014

The DOE monitors resource-related activities within the WIPP vicinity, and updates parameters and/or models as appropriate to assure that current practices are accurately represented in the WIPP PA ([U.S. DOE 2017](#)). Since the last recertification application, the rate of drilling for petroleum resources has increased to 93.4 boreholes per square kilometer over 10,000 years, an increase from the CRA-2014 value of 67.3 boreholes per square kilometer per 10,000 years. Additionally, the representation of borehole plugs has changed slightly, based on minor changes in the number of plugs emplaced per borehole in recently plugged and abandoned boreholes near the WIPP ([U.S. DOE 2017](#)). Finally, the WIPP PA parameter GLOBAL:PBRINE has been modified to reflect the EPA's review ([U.S. EPA 2017](#)) of the CRA-2014 and has been updated accordingly. See Section 33 of this CRA-2019 for more information on drilling-related parameter updates.

Conventional mining for potash is continuing within the vicinity of the WIPP. The effects of mining are accounted for in the WIPP PA as prescribed by section 194.32(b). The

implementation of the mining scenario in the WIPP PA is described in Appendix PA-2014, Section PA-2.1.2.6 and Section PA-3.9.

A solution mining project operated by Intrepid Potash Corporation continues to operate just outside the Delaware Basin boundary. This operation does not affect the current representation of mining in the WIPP PA, and therefore no changes have been made to the WIPP models. The description, screening argument, and screening decision for this activity are presented in Appendix SCR-2014, Section SCR-5.2.2.3. This activity will be reevaluated during the next update to Appendix SCR, although no changes have been identified to date.

The DOE has deferred submittal of the CRA-2019 PA until after submission of the CRA-2019 (see Executive Summary 2019, Section 1.3). As such, the CRA-2014 PA continues to be the baseline calculation for the CRA-2019. As directed in 40 CFR 194.15(b), where information remains valid and has been submitted in previous recertification applications, such information may be summarized and referenced. The results of the deferred PA will be described in a second submission that will also include revisions, when appropriate, to the information submitted in March, 2019.

Because the CRA-2014 PA results show that predicted releases are below the limits established by 40 CFR 191.13, and because these calculations account for the exploitation of resources present, it has been demonstrated that the favorable characteristics and isolating capability of the WIPP outweigh the risks associated with the presence of resources at the site. The information in this section is a summary of the associated CRA-2014 information and, as such, the requirements of 40 CFR 194.45 are met.

45.4 References

(*Indicates a reference that has not been previously submitted.)

U.S. Department of Energy (DOE). 2014. Title 40 CFR Part 191 Subparts B and C. Compliance Recertification Application for the Waste Isolation Pilot Plant (March). Carlsbad, NM: Carlsbad Field Office. DOE/WIPP 2014-3503.*

U.S. Department of Energy (DOE). 2017. Delaware Basin Monitoring Annual Report. (September 2017) Carlsbad, NM: Carlsbad Field Office. DOE/WIPP-17-2308.*

U.S. Environmental Protection Agency (EPA). 1996a. 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; Final Rule. *Federal Register*, vol. 61 (February 9, 1996): 5223–5245.

U.S. Environmental Protection Agency (EPA). 1996b. Response to Comments Document for 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 (January 31). Washington, DC: Office of Air and Radiation. EPA 402-R-96-001.

U.S. Environmental Protection Agency (EPA). 2017. Technical Support Document for the Probability of Encountering Castile Brine Beneath the WIPP Waste Panels Using the TDEM Block Method. June 2017. Washington, DC: Office of Radiation and Indoor Air.*

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