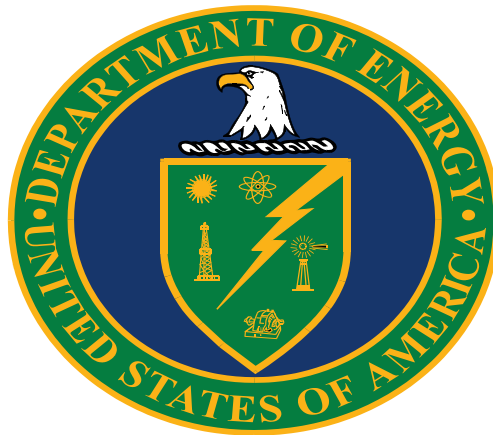


**Title 40 CFR Part 191
Subparts B and C
Compliance Recertification Application 2019
for the
Waste Isolation Pilot Plant**

**Removal of Waste
(40 CFR 194.46)**



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

Carlsbad Field Office
Carlsbad, New Mexico

Compliance Recertification Application 2019
Removal of Waste
(40 CFR 194.46)

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Acronyms and Abbreviations

CARD	Compliance Application Review Document
CFR	Code of Federal Regulations
CRA	Compliance Recertification Application
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
WIPP	Waste Isolation Pilot Plant

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46.0 Removal of Waste (40 CFR 194.46)

46.1 Requirements

§ 194.46 Removal of Waste

Any compliance application shall include documentation which demonstrates that removal of waste from the disposal system is feasible for a reasonable period of time after disposal. Such documentation shall include an analysis of the technological feasibility of mining the sealed disposal system, given technology levels at the time a compliance application is prepared.

46.2 Background

The U.S. Environmental Protection Agency's (EPA's) 40 CFR 194.46, "Removal of Waste", is one of the six assurance requirements in the Compliance Criteria ([U.S. EPA 1996a](#)). The EPA states in the preamble to the 1993 promulgation of the disposal standards of 40 CFR Part 191 ([U.S. EPA 1993](#)) that the assurance requirements were included in the disposal standards to compensate in a qualitative manner for the inherent uncertainties in projecting the behavior of natural and engineered components of the Waste Isolation Pilot Plant (WIPP) for thousands of years.

To meet the criteria of 40 CFR 194.46, the EPA states in its Compliance Application Guidance ([U.S. EPA 1996b](#)) that compliance is demonstrated by an analysis that includes (1) completeness of procedures for removal of waste after disposal, (2) descriptions of current technology that could be used in implementing these procedures, and (3) an estimate of when it will no longer be technologically feasible to remove the waste.

The U.S. Department of Energy's (DOE's) demonstration of compliance with 40 CFR 194.46 was included in the Compliance Certification Application ([U.S. DOE 1996](#)), Chapter 7.0 and Appendix WRAC. The DOE presented a five-phased approach to accomplish the removal of waste. This approach was supported by a discussion of techniques that could be used to remove the waste, given repository conditions at the time of removal. The EPA reviewed the techniques to assess the completeness of the strategy and the justification of the proposed technology for removing the waste. The EPA states in its 1998 Certification Decision ([U.S. EPA 1998a](#)) that the DOE has demonstrated it is possible to remove waste from the repository for a reasonable period of time after disposal; therefore, the EPA found the DOE in compliance with 40 CFR 194.46. A complete description of the EPA's decision can be found in [U.S. EPA 1998a](#), Section VIII.D.6, and Compliance Application Review Document (CARD) 46 ([U.S. EPA 1998b](#)).

No changes were made to the DOE's approach to waste removal after closure during the CRA-2004 ([U.S. DOE 2004](#)) or the CRA-2009 ([U.S. DOE 2009](#)). The EPA determined that the DOE continued to comply with 40 CFR 194.46 requirements during these recertification cycles ([U.S. EPA 2006](#) and [U.S. EPA 2010](#)). In addition, no changes were made to the DOE's approach to waste removal after closure in the CRA-2014 ([U.S. DOE 2014](#)). However, during the EPA's review of the CRA-2014, the EPA stated the DOE's waste removal plan did not reflect updates and modifications to the repository design and waste characteristics and that Appendix WRAC should be updated (EPA comment 2-46-1; [U.S. EPA 2015](#)). The DOE submitted a revision of

Appendix WRAC in response to EPA's comment ([U.S. DOE 2015](#)). The EPA reviewed the updated information and determined the DOE continues to comply with the requirements of 40 CFR 194.46 (CARD 46; [U.S. EPA 2017](#)).

Information and data from previous applications (Compliance Certification Application, Compliance Recertification Application [CRA]-2004, CRA-2009 and CRA-2014) are found in the CRA-2014 ([U.S. DOE 2014](#)), which includes references that form the basis of DOE compliance positions and EPA decision documents. Hyperlinks are provided to CRA-2014 ([U.S. DOE 2014](#)) which contains hyperlinks to past applications and reference documents as applicable.

46.3 Changes or New Information Since CRA-2014

The DOE has not changed its position on waste removal since the CRA-2014. There have been no waste characteristic changes or changes to the disposal system that would impact the proposed waste removal plans after closure outlined in the updated Appendix WRAC-2014 ([U.S. DOE 2015](#)). The DOE submitted a Planned Change Notice ([U.S. DOE 2017](#)) outlining the addition of a new ventilation shaft and associated drifts. These additions do not impact potential waste removal after closure, as they are not associated with the waste disposal rooms and would be isolated from planned removal activities. Thus, there is no new information to be provided as part of the CRA-2019. The information presented in the CRA-2004, Chapter 7.0, Section 7.6, pp. 7-90 and 7-91, and the Appendix WRAC-2014, continues to demonstrate compliance with the provisions of 40 CFR 194.46.

46.4 References

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

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U.S. Environmental Protection Agency (EPA). 2010. 2009 Compliance Recertification Application (CRA-2009) Compliance Application Review Document (CARD) No. 46, Removal of Waste. Washington, DC: Office of Radiation and Indoor Air. EPA Docket FDMS Docket ID No. EPA-HQ-OAR-2009-0330.

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