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

**Peer Review
(40 CFR 194.27)**



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

Carlsbad Field Office
Carlsbad, New Mexico

Compliance Recertification Application 2019
Peer Review
(40 CFR 194.27)

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Acronyms and Abbreviations

CAO	Carlsbad Area Office
CBFO	Carlsbad Field Office
CCA	Compliance Certification Application
CFR	Code of Federal Regulations
CRA	Compliance Recertification Application
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
MP	management procedure
NRC	Nuclear Regulatory Commission
WIPP	Waste Isolation Pilot Plant

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27.0 Peer Review (40 CFR 194.27)

27.1 Requirements

§ 194.27 Peer Review

(a) Any compliance application shall include documentation of peer review that has been conducted, in a manner required by this section, for:

- (1) Conceptual models selected and developed by the Department;
- (2) Waste characterization analyses as required in § 194.24(b); and
- (3) Engineered barrier evaluation as required in § 194.44.

(b) Peer review processes required in paragraph (a) of this section, and conducted subsequent to the promulgation of this part, shall be conducted in a manner that is compatible with NUREG-1297, “Peer Review for High-Level Nuclear Waste Repositories,” published February 1988. (Incorporation by reference as specified in § 194.5.)

(c) Any compliance application shall:

- (1) Include information that demonstrates that peer review processes required in paragraph (a) of this section, and conducted prior to the implementation of the promulgation of this part, were conducted in accordance with an alternate process substantially equivalent in effect to NUREG-1297 and approved by the Administrator or the Administrator’s authorized representative; and
- (2) Document any peer review processes conducted in addition to those required pursuant to paragraph (a) of this section. Such documentation shall include formal requests, from the Department to outside review groups or individuals, to review or comment on any information used to support compliance applications, and the responses from such groups or individuals.

27.2 Background

According to 40 CFR 194.27 ([U.S. EPA 1996](#)), peer review evaluations related to changes in conceptual models, waste characterization analyses, and engineered barrier evaluation are required under the responsibility of the U.S. Department of Energy (DOE). A peer review is the mechanism by which an independent group of experts perform an in-depth critique of assumptions, calculations, extrapolations, alternative interpretations, methodology and acceptance criteria employed, and conclusions drawn in the original work. Peer review confirms the adequacy of the work under review ([U.S. NRC 1988](#)). The required peer reviews must be performed in accordance with NUREG-1297, Peer Review for High-Level Nuclear Waste Repositories ([U.S. NRC 1988](#)), which establishes guidelines for conducting and documenting a peer review. The provisions in 40 CFR 194.27(c)(2) also require the DOE to document in the compliance application any additional peer reviews beyond those explicitly required by 40 CFR 194.27(a). For the peer reviews required by 40 CFR 194.27(a) and performed before submitting the Compliance Certification Application (CCA) ([U.S. DOE 1996a](#)), the DOE developed Carlsbad Area Office (CAO) team procedure 10.5, Peer Review ([U.S. DOE 1996b](#)), to guide all Waste Isolation Pilot Plant (WIPP) peer reviews and to follow a process consistent with 40 CFR 194.27 and NUREG-1297 requirements.

For the 2004 Compliance Recertification Application (CRA-2004) ([U.S. DOE 2004](#)), the DOE changed this procedure to Carlsbad Field Office (CBFO) management procedure (MP) 10.5, Peer Review ([U.S. DOE 2002](#)). CBFO MP 10.5 has been revised several times since 2002 and the latest version (Revision 9, 01/08/16, and Interim Change Notice #1 to Revision 9, 09/21/18) ([U.S. DOE 2016a](#) and [2016b](#)) provides the current criteria for establishing the peer review selection committee, selecting the peer review panel members, peer review process used, interface requirements, review plan development requirements, peer review report preparation requirements, and many other aspects of the peer review process.

Information and data from previous compliance certification and recertification applications that form the basis of past DOE compliance positions and past U.S. Environmental Protection Agency (EPA) decision documents are found in the CRA-2014 ([U.S. DOE 2014](#)).

27.3 Changes or New Information Since the CRA-2014

Since the CRA-2014, no peer reviews have been performed by the DOE. One revision and an interim change notice to CBFO MP 10.5 have occurred as summarized below.

Revision 9 of CBFO MP 10.5 ([U.S. DOE 2016a](#)) was to update CBFO organizational and position titles, redefine the word “independence,” revise several procedure sections for clarification and consistency, clarify records considered as “lifetime” quality assurance records in accordance with the CBFO Quality Assurance Program Document, clarify what records should be included in the conclusion of a peer review report, specify the need and criteria for an alternate peer review panel member, clarify peer review panel member nominee’s education verification and evaluation, and make numerous editorial and formatting changes.

The Interim Change Notice #1 to CBFO MP 10.5, Revision 9, was to incorporate editorial revisions ([U.S. DOE 2016b](#)).

Therefore, the DOE believes it has demonstrated continued compliance with the provisions of 40 CFR 194.27.

27.4 References

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

U.S. Department of Energy (DOE). 1996a. Title 40 CFR Part 191 Compliance Certification Application for the Waste Isolation Pilot Plant (October). 21 vols. DOE/CAO 1996-2184. Carlsbad, NM: Carlsbad Area Office.

U.S. Department of Energy (DOE). 1996b. CAO Team Procedure: Peer Review (Revision 0). Team Procedure No. 10.5. Carlsbad, NM: Carlsbad Area Office.

U.S. Department of Energy (DOE). 2002. CBFO Management Procedure: Peer Review (Revision 4). MP No. 10.5. Carlsbad, NM: Carlsbad Field Office.

U.S. Department of Energy (DOE). 2004. Title 40 CFR Part 191 Compliance Recertification Application for the Waste Isolation Pilot Plant (March). 10 vols. DOE/WIPP 2004-3231. Carlsbad, NM: Carlsbad Field Office.

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

U.S. Department of Energy (DOE). 2016a. CBFO Management Procedure: Peer Review (Revision 9). MP No. 10.5. Carlsbad, NM: Carlsbad Field Office.*

U.S. Department of Energy (DOE). 2016b. Interim Change Notice #1 to CBFO MP 10.5, Revision 9, Peer Review. Memorandum, September 21, 2016. Carlsbad, NM: Carlsbad Field Office.*

U.S. Environmental Protection Agency (EPA). 1996. 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): 5223–45.U.S.

U.S. Nuclear Regulatory Commission (NRC). 1988. Peer Review for High-Level Nuclear Waste Repositories: Generic Technical Position. NUREG-1297. Washington, DC.

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