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

Inspections
(40 CFR § 194.21)**



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

**Carlsbad Field Office
Carlsbad, New Mexico**

Inspections
(40 CFR § 194.21)

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Acronyms and Abbreviations

AMWTF	Advanced Mixed Waste Treatment Facility
CARD	Compliance Application Review Document
CRA	Compliance Recertification Application
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
QA	quality assurance
RH-TRU	remote-handled transuranic
TRU	transuranic
WIPP	Waste Isolation Pilot Plant
WWIS	WIPP Waste Information System

Elements and Chemical Compounds

MgO	magnesium oxide
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1 **21.0 Inspections (40 CFR § 194.21)**

2 **21.1 Requirements**

§ 194.21 Inspections

(a) The Administrator or the Administrator's authorized representative(s) shall, at any time:

(1) Be afforded unfettered and unannounced access to inspect any area of the WIPP, and any locations performing activities that provide information relevant to compliance application(s), to which the Department has rights of access. Such access shall be equivalent to access afforded Department employees upon presentation of credentials and other required documents.

(2) Be allowed to obtain samples, including split samples, and to monitor and measure aspects of the disposal system and the waste proposed for disposal in the disposal system.

(b) Records (including data and other information in any form) kept by the Department pertaining to the WIPP shall be made available to the Administrator or the Administrator's authorized representative upon request. If requested records are not immediately available, they shall be delivered within 30 calendar days of the request.

(c) The Department shall, upon request by the Administrator or the Administrator's authorized representative, provide permanent, private office space that is accessible to the disposal system. The office space shall be for the exclusive use of the Administrator or the Administrator's authorized representative(s).

(d) The Administrator or the Administrator's authorized representative(s) shall comply with applicable access control measures for security, radiological protection, and personal safety when conducting activities pursuant to this section.

3

4 **21.2 Background**

5 40 CFR § 194.21 (2004) provides the U.S. Environmental Protection Agency (EPA) with the
6 authority to inspect all activities at the Waste Isolation Pilot Plant (WIPP) and all activities
7 located off-site that provide information relevant to any compliance applications.

8 **21.3 1998 Certification Decision**

9 The EPA conducted no inspection under the authority of section 194.21 prior to the 1998
10 Certification Decision. With the issuance of its 1998 Certification Decision (U.S. Environmental
11 Protection Agency 1998), the EPA identified inspections that may be performed under the
12 authority at section 194.21. These include the following:

- 13 • The inspection of the panel closure system on waste panels that have been filled and are
14 being sealed to confirm compliance with Condition 1 of the EPA's 1998 Certification
15 Decision (U.S. Environmental Protection Agency 1998)
- 16 • The verification that specific actions identified by the U.S. Department of Energy (DOE) in
17 the Certification and supplementary information (and in any additional documentation
18 submitted in accordance with Condition 4) are being taken to test and implement passive
19 institutional controls
- 20 • Announced and unannounced inspections of activities at the WIPP and at all off-site facilities
21 that provide information included in certification applications

- 1 • The inspection of the DOE’s implementation of the monitoring plans that the DOE has set
2 forth to demonstrate compliance with 40 CFR § 194.42
- 3 • The inspection of any records relevant to the Certification kept by the DOE, including those
4 records required to be generated in accordance with the compliance criteria
- 5 • The inspections of approved quality assurance (QA) programs at the WIPP and at waste
6 generator sites to ensure the programs are being adequately maintained and documented

7 After the 1998 Certification Decision, the EPA began using the authority given by section 194.21
8 to conduct inspections at the WIPP. Inspections include magnesium oxide (MgO) backfill, waste
9 emplacement, the monitoring programs established to collect data for each of the Monitored
10 Parameters identified in Table 21-1, and the examination of documentation (records) to verify
11 compliance at the WIPP.

12 **Table 21-1. Monitored Parameters**

Monitored Parameters	
Geomechanical Parameters <ul style="list-style-type: none"> • Creep closure • Extent of deformation • Initiation of brittle deformation • Displacement of deformation features Hydrological Parameters <ul style="list-style-type: none"> • Culebra groundwater composition • Change in Culebra groundwater flow direction 	Waste Activity Parameter <ul style="list-style-type: none"> • Waste activity subsidence parameter • Subsidence measurements Drilling-Related Parameters <ul style="list-style-type: none"> • Drilling rate • The probability of encountering a Castile brine reservoir

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14 The monitoring inspection activities included an examination of monitoring and sampling
15 equipment both on- and off-site and underground. The EPA also reviewed sampling procedures
16 and measurement techniques and verified implementation of an effective QA program for
17 monitoring activities.

18 This provision of the EPA’s Compliance Criteria was not applied prior to the 1998 Certification
19 Decision. After 1998, the EPA used the authority given by section 194.21 to inspect the WIPP
20 monitoring programs, MgO backfill, and waste emplacement requirements.

21 **21.4 Changes in the CRA-2004**

22 The 2004 Compliance Recertification Application (CRA-2004) (U.S. Department of Energy
23 2004) did not address the EPA’s inspection activities under section 194.21. However, the EPA
24 inspection activities were addressed in Compliance Application Review Document (CARD) 21
25 (U.S. Environmental Protection Agency 2006a). CARD 21 identified monitoring inspections
26 and waste emplacement inspections that were conducted from March 23, 1999, through July 12,
27 2005. This information is duplicated in Table 21-2.

Table 21-2. CRA-2004 Monitoring and Waste Emplacement Inspection Results (1999–2005)

Date of Inspection	Inspection Type	Inspection Results	Reference
March 24–25, 1999	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (1999a)
September 8, 1999	Waste Emplacement	The EPA did not have any findings. The EPA had one minor concern that two procedures did not specify the form that records must take. This concern did not require a response from the DOE.	U.S. Environmental Protection Agency (1999b)
June 21–22, 2000	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2000a)
June 20–22, 2000	Waste Emplacement	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2000b)
June 20–21, 2001	Monitoring	The EPA had one finding and no concerns. The finding noted that the subsidence monitoring program at the WIPP did not have an adequate written procedure to implement an effective QA program. In response to the EPA's finding, the DOE developed a new subsidence procedure. The EPA evaluated the procedure and found it to be adequate.	U.S. Environmental Protection Agency (2001a)
June 21, 2001	Waste Emplacement	The EPA did not have any findings, but they identified one concern. The EPA found that the DOE did not appear to have a procedure that required proper documentation of off-normal events. This concern did not require a response from the DOE because the DOE provided all documentation requested.	U.S. Environmental Protection Agency (2001b)
June 26–28, 2002	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2002a)
June 24–27, 2002	Waste Emplacement	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2002b)
June 18–19, 2003	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2003a)
June 17–19, 2003	Waste Emplacement	The EPA had one finding and no concerns during this inspection. The EPA was unable to determine that waste was being emplaced in a random manner. This finding was resolved in the CRA-2004.	U.S. Environmental Protection Agency (2003b)

Table 21-2. CRA-2004 Monitoring and Waste Emplacement Inspection Results (1999–2005) (continued)

Date of Inspection	Inspection Type	Inspection Results	Reference
June 28 through July 1, 2004	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2004a)
June 28 through July 1, 2004	Waste Emplacement	The EPA did not have any findings but did have one concern. The EPA found that the DOE did not appear to have a real-time system to track and calculate the actual MgO placed with waste at disposal. This concern was resolved by using the WIPP Waste Information System (WWIS) to track the quantities of MgO.	U.S. Environmental Protection Agency (2004b)
July 12–15, 2005	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2005a)
May 17–19, 2005	Waste Emplacement	The EPA did not have any findings, but did have one concern during this inspection. The EPA found that the DOE needed to develop a formal procedure that guides the MgO emplacement decision-making process rather than using training materials, and that the WWIS needs to be back-populated with the quantity of emplaced MgO. In response to this concern, the WWIS was back-populated.	U.S. Environmental Protection Agency (2005b)

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2 **21.5 EPA’s Evaluation of Compliance for the 2004 Recertification**

3 During each of the inspections listed in Table 21-3, the DOE provided the EPA with unfettered
 4 access to facilities, lists of records, access to these records as requested, and access to private
 5 office space. Additionally, the DOE actively supported the EPA’s inspection activities. Based
 6 on the EPA’s review and evaluation of the CRA-2004, the EPA determined that the DOE
 7 continued to comply with the requirements for section 194.21 (U.S. Environmental Protection
 8 Agency 2006a).

9 **21.6 Changes or New Information Since the 2004 Recertification**

10 Table 21-3 lists the seven new inspections conducted by the EPA under the authority of section
 11 194.21 since the ones reported in CARD 21 (U.S. Environmental Protection Agency 2006a).

12 During each of the inspections listed in Table 21-3, the DOE met all the requirements of section
 13 194.21, providing the EPA with unfettered access to facilities, lists of records, access to the
 14 records requested, and access to private office space. Additionally, the DOE actively supported
 15 the EPA’s inspection activities as required by section 194.21.

Table 21-3. Post-CRA-2004 Monitoring and Waste Emplacement Inspection Results (2006–2007)

Date of Inspection	Inspection Type	Inspection Results	Reference
June 20–22, 2006	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2006b)
June 20–22, 2006	Waste Emplacement	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2006c)
July 10–12, 2007	Monitoring	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2007a)
July 10-12, 2007	Waste Emplacement	The EPA did not have any findings or concerns during this inspection.	U.S. Environmental Protection Agency (2007b)
January 9–11, 2007	Remote-Handled (RH) transuranic (TRU) (RH-TRU) Emplacement Plan	The EPA did not have any findings or concerns during this inspection. The EPA verified that RH-TRU waste could be emplaced in the WIPP repository according to the RH-TRU Emplacement Plan.	U.S. Environmental Protection Agency (2007c)
October 7, 2007	Unannounced inspection at the Advanced Mixed Waste Treatment Facility (AMWTF) and the Accelerated Retrieval Project at the Idaho National Laboratory	The EPA did not have any findings or concerns during the inspection of the AMWTF. However, the EPA requested information on the process used for regrouping four pre-1970 buried waste streams. EPA also requested information for estimating TRU, mixed TRU, and low-level waste volumes. On December 28, 2007, the DOE provided the EPA with the requested information. The DOE is awaiting the EPA’s response as of November 1, 2008.	U.S. Environmental Protection Agency (2007d)
November 21-28, 2007	DOE document development and review process	Five process improvement recommendations were made.	Reyes (2008)

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2 **21.7 References**

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