40 CFR Part 191
Subparts B and C
Compliance Recertification Application 2026
for the
Waste Isolation Pilot Plant

Expert Judgment
(40 CFR 194.26)

United States Department of Energy
Waste Isolation Pilot Plant

Carlsbad Field Office
Carlsbad, New Mexico

Compliance Recertification Application 2026
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ACRONYMS AND ABBREVIATIONS

CARD	Compliance Application Review Document
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
PA	Performance assessment
PIC	Passive institutional control
QA	Quality assurance
WIPP	Waste Isolation Pilot Plant

26.0 EXPERT JUDGMENT (40 CFR 194.26)

26.1 Requirements

§ 194.26 Expert Judgment

(a) Expert judgment, by an individual expert or panel of experts, may be used to support any compliance application, provided that expert judgment does not substitute for information that could reasonably be obtained through data collection or experimentation.

(b) Any compliance application shall:

(1) Identify any expert judgments used to support the application and shall identify experts (by name and employer) involved in any expert judgment elicitation processes used to support the application.

(2) Describe the process of eliciting expert judgment, and document the results of expert judgment elicitation processes and the reasoning behind those results. Documentation of interviews used to elicit judgments from experts, the questions or issues presented for elicitation of expert judgment, background information provided to experts, and deliberations and formal interactions among experts shall be provided. The opinions of all experts involved in each elicitation process shall be provided whether the opinions are used to support compliance applications or not.

(3) Provide documentation that the following restrictions and guidelines have been applied to any selection of individuals used to elicit expert judgments:

(i) Individuals who are members of the team of investigators requesting the judgment or the team of investigators who will use the judgment were not selected; and

(ii) Individuals who maintain, at any organizational level, a supervisory role or who are supervised by those who will utilize the judgment were not selected.

(4) Provide information which demonstrates that:

(i) The expertise of any individual involved in expert judgment elicitation comports with the level of knowledge required by the questions or issues presented to that individual; and

(ii) The expertise of any expert panel, as a whole, involved in expert judgment elicitation comports with the level and variety of knowledge required by the questions or issues presented to that panel.

(5) Explain the relationship among the information and issues presented to experts prior to the elicitation process, the elicited judgment of any expert panel or individual, and the purpose for which the expert judgment is being used in compliance applications(s) [*sic*].

(6) Provide documentation that the initial purpose for which expert judgment was intended, as presented to the expert panel, is consistent with the purpose for which this judgment was used in compliance application(s).

(7) Provide documentation that the following restrictions and guidelines have been applied in eliciting expert judgment:

(i) At least five individuals shall be used in any expert elicitation process, unless there is a lack or unavailability of experts and a documented rationale is provided that explains why fewer than five individuals were selected.

(ii) At least two-thirds of the experts involved in an elicitation shall consist of individuals who are not employed directly by the Department or by the Department's contractors, unless the Department can demonstrate and document that there is a lack or unavailability of qualified independent experts. If so

demonstrated, at least one third of the experts involved in an elicitation shall consist of individuals who are not employed directly by the Department or by the Department's contractors.

(c) The public shall be afforded a reasonable opportunity to present its scientific and technical views to expert panels as input to any expert elicitation process.

26.2 Background

According to 40 Code of Federal Regulations (CFR) 194.26 (U.S. EPA 1996), expert judgment by an individual expert or a panel of experts may be used to support any compliance application, provided that expert judgment does not substitute for information that could reasonably be obtained through data collection or experimentation.

The U.S. Environmental Protection Agency's (EPA's) Certification Decision (U.S. EPA 1998) provides the following explanation of the use of the expert judgment process in demonstrating compliance with 40 CFR Part 194 (U.S. EPA 1996):

> The requirements of 40 CFR § 194.26 apply to expert judgment elicitation. Expert judgment is typically used to elicit two types of information: numerical values for parameters (variables) that are measurable only by experiments that cannot be conducted due to limitations of time, money, and physical situation; and essentially unknowable information, such as which features should be incorporated into passive institutional controls to deter human intrusion into the repository (61 FR 5228). Quality assurance (QA) requirements (specifically 40 CFR § 194.22(a)(2)(v)) must be applied to any expert judgment to verify that the procedures for conducting and documenting the expert elicitation have been followed.
>
> The requirements of 40 CFR Part 194 prohibit expert judgment from being used in place of experimental data, unless the Department of Energy (DOE) can justify that the necessary experiments cannot be conducted. Expert judgment may substitute for experimental data only in those instances in which limitations of time, resources, or physical setting preclude the successful or timely collection of data.

The Compliance Certification Application (CCA) (U.S. DOE 1996) did not identify any formal expert judgment activities related to the performance assessment (PA) parameters. During the EPA's review of the PA parameters, the EPA found inadequate explanation and information for some parameters that the DOE claimed had been derived using professional judgment. As a result of a more detailed review of these parameters, the EPA required the DOE to use expert judgment to develop the value for one specific parameter that they claimed was not adequately justified. This parameter was the waste particle size distribution parameter (Trovato 1997) used to calculate the volume of spall releases that may occur as inadvertent human intrusions (boreholes) reach or penetrate the waste emplaced in the Waste Isolation Pilot Plant (WIPP)

repository during the 10,000-year period following the closure of the WIPP. Additional historical information on this expert judgment is found in the 2014 Compliance Recertification Application (CRA-2014), Section 26 (U.S. DOE 2014) and CRA-2014, Compliance Application Review Document (CARD) 26 (U.S. EPA 2017a).

No expert-judgment activities were described in the DOE's CRA-2004, CRA-2009, CRA-2014, or CRA-2019 applications (U.S. DOE 2004, U.S. DOE 2009, U.S. DOE 2014, and U.S. DOE 2019). The EPA stated that the DOE continued to comply with the Section 26 requirements in all recertification decisions prior to the CRA-2026 (U.S. EPA 2006, U.S. EPA 2010, U.S. EPA 2017b, and U.S. EPA 2022a). Based on its review of the material pertaining to the CRA-2019, the EPA concluded that the DOE demonstrated continued compliance with the requirements of section 194.26 (U.S. EPA 2022b).

Information and data from previous compliance certification and recertification applications, which form the basis of past DOE compliance positions and EPA decision documents are found in the CRA-2019 (U.S. DOE 2019).

26.3 Changes and New Information Since CRA-2019

No formal expert-judgment elicitations have been performed for the WIPP project since the CRA-2019 was submitted. Information pertaining to expert judgment, as provided in the previous section, remains unchanged. Therefore, the DOE has demonstrated continued compliance with the provisions of 40 CFR 194.26 (U.S. EPA 1996).

26.4 References

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

Trovato, E.R. 1997. Letter to G. Dials (2 Enclosures). 25 April 1997. U.S. Environmental Protection Agency, Washington, DC: Office of Air and Radiation. ERMS 247206.

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

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

U.S. Department of Energy (DOE). 2009. Title 40 CFR Part 191 Compliance Recertification Application for the Waste Isolation Pilot Plant (March). DOE/WIPP 2009-3424. Carlsbad, NM: Carlsbad Field Office.

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

U.S. Department of Energy (DOE). 2019. Title 40 CFR 191 Subparts B and C Compliance Recertification Application 2019 for the Waste Isolation Pilot Plant (March). DOE/WIPP 2019-3609. 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 191 Disposal Regulations; Final Rule. *Federal Register*, vol. 61 (February 9, 1996): 5223–5245.

U.S. Environmental Protection Agency (EPA). 1998. 40 CFR Part 194: Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Certification Decision; Final Rule. *Federal Register*, vol. 63 (May 18, 1998): 27353–27406.

U.S. Environmental Protection Agency (EPA). 2006. 40 CFR Part 194: Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision; Final Notice. Federal Register, vol. 71 (April 10, 2006): 18010–18021.

U.S. Environmental Protection Agency (EPA). 2010. 40 CFR Part 194 Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision; Final Notice. *Federal Register*, vol. 75. (November 18, 2010): 70584–70595.

U.S. Environmental Protection Agency (EPA). 2017a. 2014 Compliance Recertification Application (CRA-2014) Compliance Application Review Document (CARD) No. 26, Expert Judgment. Washington, DC: Office of Radiation and Indoor Air. EPA Docket FDMS Docket ID No. EPA-HQ-OAR-2014-0609-0069.

U.S. Environmental Protection Agency (EPA). 2017b. 40 CFR Part 194: Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision; Final Rule. Washington, DC: Office of Radiation and Indoor Air. (July 19, 2017): EPA Docket FDMS Docket ID No. EPA-HQ-OAR-2014-0609-0081.

U.S. Environmental Protection Agency (EPA). 2022a. 40 CFR Part 194: Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision. *Federal Register*, vol. 87 (May 3, 2022) 26126–26136.*

U.S. Environmental Protection Agency (EPA). 2022b. Section 26 Expert Judgment. 2019 Compliance Recertification Application Review Document (CARD) (April) (p. 42). Washington, DC: Office of Radiation and Indoor Air.*