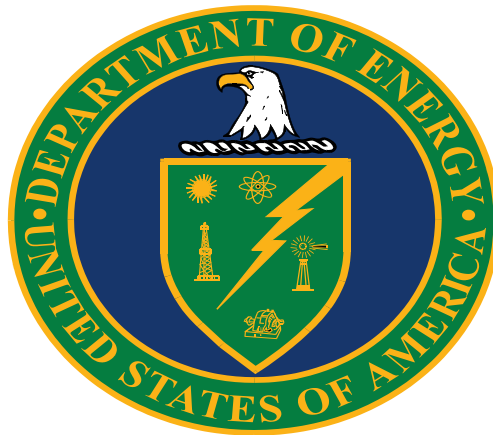


**Title 40 CFR Part 191
Subparts B and C
Compliance Recertification Application 2019
for the
Waste Isolation Pilot Plant**

**Expert Judgment
(40 CFR 194.26)**



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

Carlsbad Field Office
Carlsbad, New Mexico

Compliance Recertification Application 2019
Expert Judgment
(40 CFR 194.26)

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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
WIPP	Waste Isolation Pilot Plant

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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 application(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 CFR 194.26 ([U.S. EPA 1996](#)), the 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.

The U.S. Environmental Protection Agency's (EPA's) Certification Decision ([U.S. EPA 1998a](#)) 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 U.S. Department of Energy (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 the process of expert judgment to develop the value for one specific parameter that they claimed was not adequately justified, the waste particle size distribution parameter ([Trovato 1997](#)). 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](#)).

In the CCA, Appendix EPIC, the DOE proposed a 700-year credit for the passive institutional controls (PICs) to prevent human intrusion at the Waste Isolation Pilot Plant (WIPP) and argued that PA for the WIPP need not consider human intrusion for the first 700 years due to the postulated effectiveness of active and passive institutional controls. Such credit is allowed by 40 CFR 194.43(c) ([U.S. EPA 1996](#)). In its discussion on the 1998 decision on the CCA, CARD 43 ([U.S. EPA 1998b](#)), the EPA did not allow the requested credit, based in part on the argument that the DOE did not conduct an expert judgment process in the manner prescribed by 40 CFR 194.26 (Expert Judgment) to derive the PICs credit. Additional historical information on the denial of the results of DOE's expert judgment is found in CCA CARD 43 ([U.S. EPA 1998b](#)).

No formal assessments using expert judgment have been requested by the EPA or performed for the WIPP project since the CCA. No Expert Judgment activities were described in the DOE's CRA-2004, CRA-2009 or CRA-2014 applications ([U.S. DOE 2004](#), [U.S. DOE 2009](#) and [U.S. DOE 2014](#)). The EPA stated the DOE continued to comply with the Section 26 requirements in all recertification decisions prior to the CRA-2019 ([U.S. EPA 2006](#), [U.S. EPA 2010](#) and [U.S. EPA 2017b](#)).

26.3 Changes and New Information Since CRA-2014

No formal expert judgment elicitation have been performed for the WIPP project since the CRA-2014. Information pertaining to expert judgment as provided in the previous section remains unchanged. Therefore, the DOE believes it 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.

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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.*