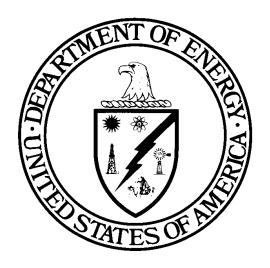
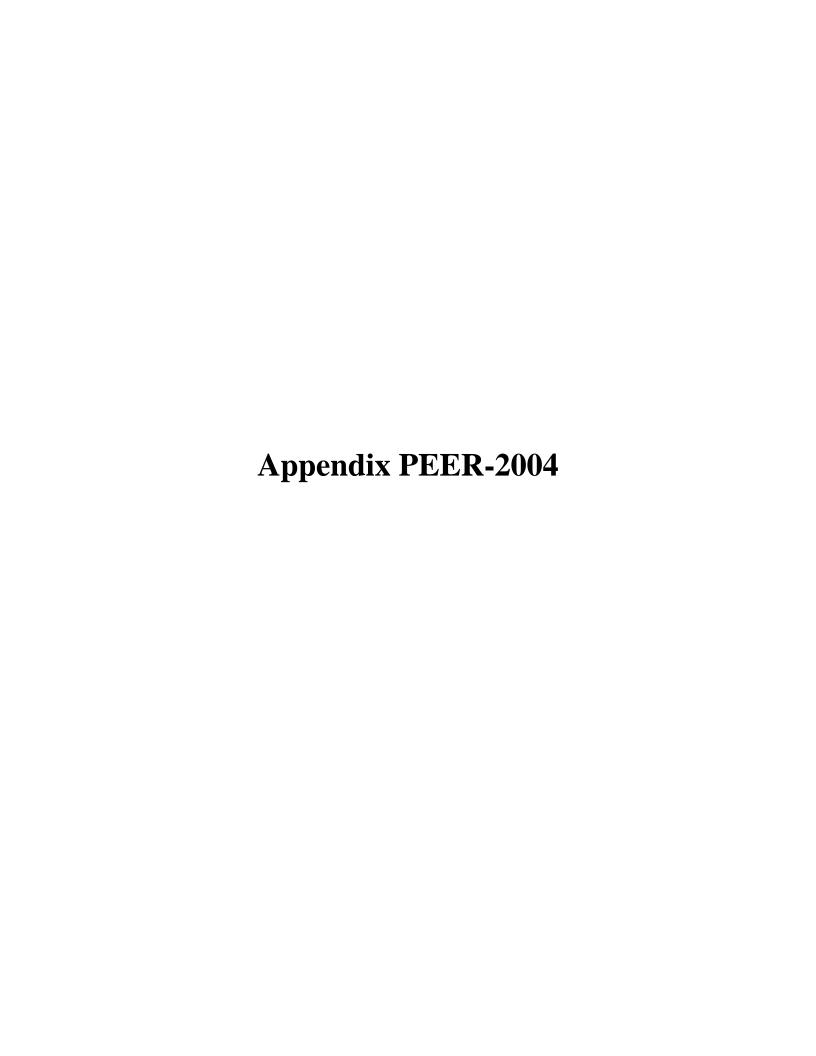
## Title 40 CFR Part 191 Subparts B and C Compliance Recertification Application for the Waste Isolation Pilot Plant

**Appendix PEER-2004** 



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

Carlsbad Field Office Carlsbad, New Mexico



**FOREWORD** 

2 Appendix PEER-2004 contains primarily the documents related to peer reviews performed after the submission of the Compliance Certification Application (CCA). The documents included in 3 4 CCA Appendix PEER are not repeated in this Appendix, with one exception. All documents 5 related to the Conceptual Models Peer Review (CMPR), contained in Appendix PEER are 6 copied in Appendix PEER-2004. This is because the peer review panel, whose work was 7 reported in CCA Appendix PEER, conducted three supplementary peer reviews after the 8 submission of the CCA. Also, two peer reviews performed in 2003, while conducted by new 9 peer review panels, are related to the CMPR panel's work performed in 1996-97.

- 10 In addition to the peer reviews conducted in accordance with NUREG-1297 in specific
- compliance with 40 CFR section 194.27 (a), CCA Appendix PEER included reviews performed 11
- 12 by a number of review and oversight groups. This appendix includes additional reviews
- 13 performed by the National Academy of Sciences (NAS), International Atomic Energy Authority
- 14 (IAEA) and Nuclear Energy Authority (NEA) of the Organization for Economic Cooperation
- 15 and Development (OECD), Institute for Regulatory Science (RSI), and Environmental
- 16 Evaluation Group (EEG).

1

- 17 Chapter 9 of the Compliance Recertification Application (CRA) contains discussion of the peer
- 18 review process and results, including detailed summaries of the peer reviews conducted since the
- 19 submittal of the CCA in 1996.
- 20 Appendix PEER-2004 is divided into 38 attachments. These attachments break the appendix
- 21 into major topical areas. Within each attachment there may be several documents of interest, as
- 22 outlined in the Table of Contents.

This page intentionally left blank

1 2

1	Table of Contents		
2	PEER-2004 1.0 Conceptual Model	ls Peer Review (1996-97)	
3	PEER-2004 1.1 Plan and Reports		
4	PEER-2004 1.1.1	Conceptual Models Peer Review Plan (3/28/96)	
5	PEER-2004 1.1.2	Conceptual Models Peer Review Report (July 1996)	
6	PEER-2004 1.1.3	Conceptual Models Supplementary Peer Review	
7		Report (December 1996)	
8	PEER-2004 1.1.4	Conceptual Models Second Supplementary Peer	
9		Review Report (January 1997)	
10	PEER-2004 1.1.5	Conceptual Models Third Supplementary Peer	
11		Review Report (April 1997)	
12	PEER-2004 1.2 Suppleme	entary Information	
13	PEER-2004 1.2.1	Determination of Peer Review Member	
14		Independence	
15	PEER-2004 1.2.2	Thompson memo (7/24/96)-Long-term Performance	
16		of Panel Closures	
17	PEER-2004 1.2.3	Larson memo (1/24/96)-Fracture Models	
18	PEER-2004 1.2.4	Lord memo (1/29/96)-Variable Porosity and	
19		Permeability in Anhydrite MaterialPEER-2004	
20	PEER-2004 1.2.5	Papenguth Presentation (5/21/96) – Colloidal	
21		Actinide Retardation	
22	PEER-2004 1.2.6	Stoelzel paper (7/19/96)- Comparison of Effects of	
23	DTTD 200442 =	Brine Pocket Size	
24	PEER-2004 1.2.7	Bergland paper (7/19/96)-Tensile Strength of	
25	DEED 2004 1 2 0	Degraded Waste	
26 27	PEER-2004 1.2.8	Bennett memo (8/20/96)-Heat Generation Processes at WIPP	
28	PEER-2004 2.0 Salado Conceptua	l Models Peer Review (2003)	
29	PEER-2004 2.1 Plans and	Report	
30	PEER-2004 2.1.1	Salado Flow Conceptual Models Peer Review Plan	
31		(February 7, 2003)	
32	PEER 2004 2.1.2	Salado Flow Conceptual Models Peer Review	
33		Report (May 2002)	
34	PEER-2004 2.1.3	Salado Flow Conceptual Models Peer Review	
35		Report (March 2003)	
36	PEER-2004 2.2 Suppleme	entary Information	
37	PEER-2004 2.2.1	Determination of Salado Flow Peer Review	
38		Member Independence	

1	PEER-2004 3.0 Spalling Conceptual Models Peer Review (2003)
2 3 4 5 6	PEER-2004 3.1 Plan and Report PEER-2004 3.1.1 Spallings Conceptual Models Peer Review Plan PEER-2004 3.1.2 Spallings Conceptual Models Peer Review Report PEER-2004 3.1.3 Revised Spallings Conceptual Models Peer Review Report
7 8 9	PEER-2004 3.2 Supplementary Information PEER-2004 3.2.1 Determination of Spallings Peer Review Member Independence
10	PEER-2004 4.0 Other Reviews Since CCA Submission
11 12 13 14 15 16	PEER-2004 4.1 National Academy of Sciences (NAS)  PEER-2004 4.1.1 The Waste Isolation Pilot Plant: A Potential Solution for the Disposal of Transuranic Waste (October 1996)  PEER-2004 4.1.2 Improving Operations and Long-Term Safety of the Waste Isolation Pilot Plant, Final Report (April
17 18 19 20	PEER-2004 4.1.3 Characterization of Remote-Handled Transuranic Waste for the Waste Isolation Pilot Plant, Final Report (July 2002)
21 22 23 24 25	PEER-2004 4.2 International Atomic Energy Authority (IAEA)/ Nuclear Energ Authority (NEA/OECD) PEER-2004 4.2.1 International Peer Review of the 1996 Performance Assessment of the US Waste Isolation Pilot Plant (WIPP) (April 1997)
26 27 28 29 30 31	PEER-2004 4.3 Institute for Regulatory Sciences (RSI) PEER-2004 4.3.1 Requirements for Disposal of Remote-Handled Transuranic Wastes at the Waste Isolation Pilot Plant (2001) PEER-2004 4.3.2 Desirability of Performing Certain Transuranic Waste Characterization Tests (August 2003)
32 33 34 35	PEER-2004 4.4 Environmental Evaluation Group (EEG) PEER-2004 4.4.1 EEG-62: Fluid Injection of Salt Water Disposal and Enhanced Oil Recovery as a Potential Problem for the WIPP: Proceedings of a June 1995
36 37 38 39	Workshop and Analysis (August 1996) PEER-2004 4.4.2 EEG-64: Review of the Draft Supplement to the WIPP Environmental Impact Statement, DOE/EIS- 0026-S-2 (April 1997)

1	PEER-2004 4.4.3	EEG-66: Individual Radiation Doses from
2		Transuranic Waste Brought to the Surface by
3		Human Intrusion at the WIPP (February 1998)
4	PEER-2004 4.4.4	EEG-68: Evaluation of the WIPP Project's
5		Compliance with the EPA Radiation Protection
6		Standards for Disposal of Transuranic Waste
7		(March 1998)
8	PEER-2004 4.4.5	EEG-69: Sensitivity Analysis of Performance
9		Parameters Used in Modeling the Waste Isolation
10		Pilot Plant (May 1998)
11	PEER-2004 4.4.6	EEG-75: Evaluation of Risks and Waste
12		Characterization Requirements for the Transuranic
13		Waste Emplaced in WIPP During 1999 (May 2000)
14	PEER-2004 4.4.7	EEG-77: Plutonium Chemistry Under Conditions
15		Relevant for WIPP Performance Assessment.
16		Review of Experimental Results and
17		Recommendations for Future Work. (September
18		2000)
19	PEER-2004 4.4.8	EEG-82: Evaluation of Proposed Panel Closure
20		Modifications at WIPP (December 2001)
21	PEER-2004 4.4.9	EEG-83: Identification of Issues Relevant to the
22		First Recertification of WIPP (September 2002)
23	PEER-2004 4.4.10	EEG-85: Analysis of Emplaced Waste Data and
24		Implications of Non-Random Emplacement for
25		Performance Assessment for the WIPP (May 2003)
26	PEER-2004 4.4.11	EEG-86: Contact Handled Transuranic Waste
27		Characterization Requirements at the Waste
28		Isolation Pilot Plant (September 2003)