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Docket A-93-02  
Item III-B-2

COMPLIANCE APPLICATION REVIEW DOCUMENTS  
FOR THE CRITERIA FOR THE CERTIFICATION  
AND RE-CERTIFICATION OF THE  
WASTE ISOLATION PILOT PLANT'S  
COMPLIANCE WITH THE  
40 CFR PART 191 DISPOSAL REGULATIONS:  
PROPOSED CERTIFICATION DECISION

U.S. Environmental Protection Agency  
Office of Radiation and Indoor Air  
Washington, D.C. 20460



## Introduction

The Waste Isolation Pilot Plant (WIPP) is a potential permanent repository for transuranic radioactive waste that is being constructed by the U.S. Department of Energy (DOE) near Carlsbad, New Mexico. The U.S. Environmental Protection Agency (EPA) is required by Section 8(d) of the WIPP Land Withdrawal Act (WIPP LWA) of 1992 (Pub. L. 102-579, as amended by the 1996 WIPP LWA Amendments, Pub. L. 104-201) to evaluate whether the WIPP will comply with subparts B and C of 40 CFR part 191 -- known as the "disposal regulations" -- and to issue or deny a certification of compliance. DOE is required by the WIPP LWA to submit an application to EPA that will be the basis of EPA's evaluation of whether a certification of the WIPP's compliance with the disposal regulations should be issued. DOE submitted this application on October 29, 1996, as announced by EPA in an Advance Notice of Proposed Rulemaking on November 15, 1996 (61 FR 58499). DOE may not begin to emplace transuranic waste for disposal at the WIPP until such time as EPA has issued a final certification of compliance and all other requirements of section 7(b) of the WIPP Land Withdrawal Act have been satisfied.

EPA's Compliance Criteria at 40 CFR part 194 implement and interpret the radioactive waste disposal regulations at 40 CFR part 191 expressly for the WIPP. These criteria are the measures against which EPA determines whether the WIPP will comply with the disposal regulations. In the event that the WIPP is opened to receive waste, the Compliance Criteria also apply to the periodic recertification by EPA of the WIPP's continued compliance with the disposal regulations, as established by section 8(f) of the WIPP Land Withdrawal Act. The Secretary of Energy must submit documentation of the WIPP's continued compliance with the disposal regulations to the Administrator of EPA every five years after the initial receipt of transuranic waste for disposal at the WIPP, until the end of the decommissioning phase.



## About This Document

This document is composed of twenty one Compliance Application Review Documents (CARDS). The CARDS contain separate, individual analyses; they have been bound together solely for convenience. Pages are numbered so that readers may identify the CARD they are reading. For example, page 23-100 is page 100 of CARD 23, page 24-22 is page 22 of CARD 24, etc. There is a CARD for each section of the Compliance Criteria for which EPA conducted an independent analysis (e.g., CARD 23 discusses the requirements of 40 CFR 194.23, Models and Computer Codes). These sections are listed below:

194.14	Content of Compliance Application	194.42	Monitoring
194.22	Quality Assurance	194.43	Passive Institutional Controls
194.23	Models and Computer Codes	194.44	Engineered Barriers
194.24	Waste Characterization	194.45	Consideration of the Presence of Resources
194.25	Future State Assumptions	194.46	Removal of Waste
194.26	Expert Judgment	194.51	Consideration of Protected Individual (combined with 194.52)
194.27	Peer Review	194.52	Consideration of Exposure Pathways
194.31	Applicability of Release Limits	194.53	Consideration of Underground Sources of Drinking Water
194.32	Scope of Performance Assessments	194.54	Scope of Compliance Assessments
194.33	Consideration of Drilling Events in Performance Assessments	194.55	Results of Compliance Assessments
194.34	Results of Performance Assessments		
194.41	Active Institutional Controls		

The purpose of the CARDS is to explain the technical basis for EPA's compliance determination for each of the Compliance Criteria. Taken as a whole, the CARDS are analogous to the Background Information Document usually provided for EPA rulemakings. All CARDS follow the same format. For each criterion (e.g., 40 CFR 194.14(a)(1)), a CARD contains: (1) a background section (if appropriate); (2) an abstract; (3) an explanation of EPA's criteria for determining DOE's compliance with the requirement; (4) a review of DOE's approach to demonstrating compliance; and (5) a discussion of EPA's compliance review and the basis for EPA's proposed compliance decision. Each CARD also contains a list of references and EPA's responses to public comments that pertain to the subject in question. These public comments were solicited by EPA in an Advance Notice of Proposed Rulemaking, published in the Federal Register on November 15, 1996.

Where more than one CARD addresses the same topic, EPA has not attempted to reproduce all relevant information in multiple CARDS. Instead, the CARDS indicate when a reader should refer to another CARD for certain information. Certain CARDS are supported by EPA Technical Support Documents that contain more detailed information concerning specific compliance issues. The CARDS contain references to these Technical Support Documents, as well as to EPA audit reports and other materials contained in EPA's Air Docket A-93-02.

Certain CARDS also refer to documents that are not kept in Docket A-93-02. A memorandum explaining how such documents may be obtained is located in Docket A-93-02 as Item III-B-1. This memorandum includes an attachment that lists all references cited by EPA in CARDS and Technical Support Documents. Finally, the list below identifies the item numbers of several frequently referenced documents that may be found in EPA dockets.

40 CFR Part 194 Final Rule: Docket A-92-56, Item V-A-1

40 CFR Part 194 Response to Comments Document: Docket A-92-56, Item V-C-1

40 CFR Part 194 Compliance Application Guidance Document: Docket A-93-02, Item II-B-29

DOE Compliance Certification Application (CCA): Docket A-93-02, Item II-G-01

## List of Abbreviations

AEA	Atomic Energy Act
ANPRM	Advance Notice of Proposed Rulemaking
ASME	American Society of Mechanical Engineers
ASTP	Actinide Source Term Program
BID	Background Information Document
BIR	Baseline Inventory Report
BLM	Bureau of Land Management
CA	Compliance Assessment
CAG	Compliance Application Guidance
CAO	Carlsbad Area Office
CARD	Compliance Application Review Document
CCA	Compliance Certification Application
CCDF	Complementary cumulative distribution functions
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH-TRU	Contact-handled transuranic waste
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DQO	Data quality objective
EATF	Engineered Alternatives Task Force
EEG	Environmental Evaluation Group
EPA	U.S. Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FR	Federal Register
HLW	High-level radioactive waste
HSWA	Hazardous and Solid Waste Amendments
ICRP	International Commission on Radiological Protection
INEEL	Idaho National Engineering and Environmental Laboratory
LANL	Los Alamos National Laboratories
LHS	Latin hypercube sampling
LLNL	Lawrence Livermore National Laboratory
LLW	Low-level radioactive waste
LWA	Land Withdrawal Act
MCL	Maximum contaminant level
MOU	Memorandum of Understanding
NACEPT	National Advisory Council on Environmental Policy
NAS	National Academy of Sciences
NAS-NRC	National Research Council
NDA	Nondestructive Assay
NMAG	New Mexico Attorney General
NMED	New Mexico Environment Department

NPRM	Notice of Proposed Rulemaking
NRC	U.S. Nuclear Regulatory Commission
ONWI	Office of Nuclear Waste Isolation
ORNL	Oak Ridge National Laboratory
PA	Performance assessment
PAVT	Performance Assessment Verification Test
PDP	Performance Demonstration Program
PRP	Peer Review Panel
QA	Quality assurance
QAO	Quality assurance objective
QAP	Quality assurance program
QAPD	Quality Assurance Program Description
QAPP	Quality Assurance Program Plan
QAPjP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFETS	Rocky Flats Environmental Technology Site
RH-TRU	Remote-handled transuranic waste
RTC	Response to Comments Document
RTR	Real time radiography
SAR	Safety Analysis Report
SDWA	Safe Drinking Water Act
SKI	Swedish Nuclear Power Inspectorate
SNL	Sandia National Laboratories
SRS	Savannah River Site
SWDA	Solid Waste Disposal Act
TDS	Total dissolved solids
TRU	Transuranic
TRU QAPD	Transuranic Waste Characterization Quality Assurance Program Document
TSCA	Toxic Substances Control Act
TSD	Technical Support Document
UMTRCA	Uranium Mill Tailings Radiation Control Act
USDW	Underground source of drinking water
USGS	U.S. Geological Survey
VE	Visual examination
VOC	Volatile organic compound
WAC	Waste Acceptance Criteria
WID	Waste Isolation Division
WIPP	Waste Isolation Pilot Plant
WTAC WIPP	Technical Support Contractor
WTWBIR	WIPP Transuranic Waste Baseline Inventory Report