



Implementation of the Waste Isolation Pilot Plant Land Withdrawal Act

FY 1999 Report to Congress

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I. EXECUTIVE SUMMARY

On May 13, 1998, the U.S. Environmental Protection Agency (EPA or the Agency) certified that the Waste Isolation Pilot Plant (WIPP) can properly isolate radioactive wastes and prevent significant contaminations of the environment. On March 26, 1999, the WIPP facility began receiving radioactive waste.

The Waste Isolation Pilot Plant (WIPP) Land Withdrawal Act (the Act), Pub. L. No. 102-579, was signed by the President on October 30, 1992. The Act gives the EPA the authority to certify WIPP's compliance with standards developed by EPA for disposal of radioactive waste. The Act supplements EPA's authority, under the Atomic Energy Act and Reorganization Plan No. 3 of 1970, to establish environmental standards that protect the public and the environment from radioactive materials. Previously, EPA had no authority to ensure compliance with its radioactive waste standards. The Act gave EPA that authority and prescribed the regulatory framework for implementing its responsibilities for the WIPP disposal system.

EPA's responsibilities under the Act include:

- 1) issuing final radioactive waste disposal standards that apply to all spent nuclear fuel, high-level radioactive waste, and transuranic waste disposal facilities not characterized under Section 113(a) of the Nuclear Waste Policy Act (notably the proposed repository at Yucca Mountain);
- 2) issuing criteria for the certification of WIPP's compliance with the final disposal regulations;
- 3) certifying WIPP's compliance with the Agency's radioactive waste disposal regulations initially and, if certified, every five years thereafter; and
- 4) verifying WIPP's compliance with all other applicable Federal environmental laws and regulations.

EPA was originally required by the Act to review the Department of Energy's (DOE) test phase and retrieval plans for tests using radioactive waste at the WIPP and, through informal rulemaking, approve or disapprove these plans. On October 21, 1993, DOE announced that radioactive waste tests would not be conducted at the WIPP. Instead, the tests would be replaced with an expanded laboratory program using radioactive and hazardous wastes. EPA also was originally required to evaluate the WIPP's compliance with the no-migration requirements of the Resource Conservation and Recovery Act (RCRA). The 1996 WIPP LWA Amendments subsequently removed all requirements pertaining to the test phase and RCRA no-migration determination.

In Fiscal Year (FY) 1999, the EPA WIPP program:

- ! Informed the public of EPA's ongoing oversight activities of the WIPP. Maintained four public dockets in New Mexico and Washington, DC, and managed a toll-free information line and an Internet home page on EPA's WIPP program.
- ! Provided oversight and technical assistance to the State of New Mexico in processing the RCRA permit for WIPP.
- ! In January, audited the quality assurance (QA) program of DOE's Carlsbad Area Office at New Mexico, and determined that DOE's QA program was properly maintained.
- ! In February, audited the QA program of Westinghouse's Waste Isolation Division (WID) at the WIPP site, and determined that WID's QA program was properly maintained.
- ! In February, audited the QA program of Sandia National Laboratories (SNL) at Albuquerque NM, and determined that SNL's QA program was properly maintained.
- ! In March, inspected the waste characterization (WC) processes and QA programs of the Rocky Flats site in Colorado. The Agency approved the WC processes for additional waste streams and determined that the QA programs were properly maintained. (Certain WC processes at this site were approved by the EPA in FY 1998.)
- ! In March, inspected the WIPP site and verified start-up readiness and WIPP's ability to capture, measure, and calculate any potential releases during waste disposal operations.
- ! On March 26, 1999, the WIPP facility began receiving radioactive waste.
- ! In May and July, inspected the WC processes and QA programs of the Idaho National Engineering and Environmental Laboratory. The Agency verified that approved WC processes were adequately maintained and concurred with DOE's Carlsbad Area Office that the QA program was not properly maintained. (Certain WC processes at this site were approved by the EPA in FY 1998.)
- ! In June, inspected the WC processes and QA programs of the Nevada Test Site. The Agency determined that the site was not yet prepared to characterize and ship waste to WIPP.

- ! In June, inspected and approved additional WC processes at the Los Alamos site in New Mexico. (Certain WC processes at this site were approved by the EPA in FY 1998.)
- ! In June, completed review of proposed changes to the Application.
- ! In July, closed out the WIPP Review Committee of the National Advisory Council for Environmental Policy and Technology.
- ! In September, determined that the WIPP is in compliance with all applicable Federal environmental laws and regulations for the period 1996-98.
- ! In November, inspected WC processes at the Rocky Flats site in Colorado. The Agency approved the WC processes for additional waste streams.

In FY 99, EPA funded 11.35 staff positions at EPA Headquarters and EPA's Region 6 office in Dallas, TX as well as \$617,813 in contract support for WIPP.

II. INTRODUCTION

With this report the U.S. Environmental Protection Agency (EPA or the Agency) complies with the requirement in Section 23(a)(2) of the Waste Isolation Pilot Plant Land Withdrawal Act, Pub. L. No. 102-579 (the Act), which requires EPA to submit an annual report to the Congress "on the status of, and resources required for the fulfillment of the Administrator's responsibilities under this Act."

The Act, as amended in 1996, gives EPA the authority to oversee many of the Department of Energy's (DOE) activities at the Waste Isolation Pilot Plant (WIPP) throughout the facility's operational and decommissioning phases. The WIPP, which is under development by DOE, is a long-term geologic disposal facility for transuranic radioactive wastes located in southeastern New Mexico. Transuranic wastes are long-lived radioactive wastes generated as by-products from nuclear weapons production and decommissioning.

The Act requires EPA to take the following regulatory actions:

- ! Issue Radioactive Waste Disposal Standards
Develop environmental protection standards for the disposal of spent nuclear fuel, high-level waste and transuranic radioactive wastes, which will apply to all potential disposal sites except those characterized under the Nuclear Waste Policy Act, as amended (40 CFR Part 191).
- ! Develop Compliance Criteria
Establish criteria to determine whether the WIPP will comply with the Agency's radioactive waste disposal regulations (40 CFR Part 194).
- ! Conduct a Compliance Certification
Certify by informal rulemaking whether or not the WIPP complies with the Agency's radioactive waste disposal regulations [63 FR 27354].
- ! Recertify Periodically
Determine every five years whether or not the WIPP facility continues to be in compliance with the Agency's radioactive waste disposal regulations.

In addition to these regulatory actions, EPA must determine whether documentation submitted by DOE pursuant to Section 9(a)(2) of the Act demonstrates continued compliance with environmental laws, regulations, and permit requirements as described in Section 9(a)(1) of the Act.

This report contains five main sections:

- (1) Implementation Principles -- the foundation of all EPA WIPP activities;

- (2) 1996 WIPP Land Withdrawal Act (LWA) Amendments;
- (3) EPA's Responsibilities Under the LWA: Management and Resources;
- (4) EPA's Responsibilities Under the LWA: Regulatory Activities; and
- (5) Communications and Consultation Activities.

A schedule of important regulatory dates through Fiscal Year 1999 is provided at the end of the report.

III. IMPLEMENTATION PRINCIPLES

The Act provides EPA with extensive responsibility for establishing whether the WIPP complies with all applicable Federal environmental laws and regulations. The following general principles guide EPA's activities:

Protection

- ! EPA strives to develop a regulatory program designed to protect present and future generations from the potential risks posed by disposal of waste at the WIPP.

Good Science

- ! EPA bases its decisions on the best available scientific and technical data, while recognizing that uncertainties about the performance of the WIPP will always exist.

Consultation

- ! EPA recognizes the important roles of State and local governments, citizen and environmental groups, individual members of the public, industry, and other Federal agencies. The Agency conducts an open public process that includes extensive interaction with stakeholders.

Commitment

- ! EPA is committed to implement the WIPP legislation effectively and consistently within its legal authority.

IV. 1996 WIPP LAND WITHDRAWAL ACT AMENDMENTS

Amendments to the Act were signed into law by President Clinton on September 23, 1996. Changes that directly affected the EPA activities described in this report are listed below. The Amendments:

1. Removed all requirements pertaining to the test phase that DOE originally planned to conduct, then subsequently determined was unnecessary. EPA is no longer required to undertake any activity related to a test phase.
2. Required DOE to submit all chapters of the compliance application to EPA by October 31, 1996.
3. Removed the requirement that DOE remove all TRU waste from the WIPP and decommission the facility if EPA does not certify compliance within 10 years of the first receipt of waste. The Amendments also repealed a provision allowing a one-time, two-year extension of the 10-year deadline if EPA decides additional time is necessary to complete the certification rulemaking.
4. Exempted transuranic mixed waste designated for disposal at the WIPP from specific treatment standards and land disposal prohibitions of the Solid Waste Disposal Act (42 U.S.C. 6924(m)), including the “no-migration determination.”
5. Removed language calling for the removal of waste from the disposal system during the disposal and decommissioning phases in the event that EPA finds DOE not to comply with an environmental law, regulation, or permit requirement, and DOE fails to prepare an adequate remedial plan.
6. Added that DOE shall use engineered and natural barriers and “any other measures (including waste form modifications) to the extent necessary at WIPP to comply with the final disposal regulations.”
7. Declared the “sense of Congress” to be that DOE should complete all required actions to commence disposal of transuranic radioactive waste at the WIPP not later than November 30, 1997, provided that WIPP has complied with all applicable laws and health and safety standards.

V. EPA's RESPONSIBILITIES UNDER THE LWA: Management and Resources

Management

To ensure that EPA's oversight responsibilities are performed in a timely and scientifically credible manner, the Agency established an intra-agency committee of senior management to expedite the resolution of policy issues.

The Office of Radiation and Indoor Air (ORIA), which is in the Office of Air and Radiation (OAR), is charged with the primary responsibility for implementing the Act. Other EPA offices with significant roles are the Office of Solid Waste (OSW), the Office of General Counsel (OGC), and EPA Region 6. OSW and Region 6, together with the State of New Mexico, regulate the WIPP's compliance with the Resource Conservation and Recovery Act (RCRA). Region 6 also oversees DOE's demonstration of compliance with all other applicable Federal environmental laws.

Within ORIA, the Center for WIPP in the Radiation Protection Division (RPD) executes most of EPA's responsibilities under the Act. RPD's Outreach Team leads ORIA's WIPP public outreach efforts. Staff-level implementation of the Act is coordinated through an intra-agency work group established by RPD.

Resources

The Act authorizes DOE to transfer funds appropriated for environmental restoration and waste management to the EPA effort through the year 2001.

In FY99, EPA funded 11.35 staff positions at Headquarters and EPA's Region 6 office in Dallas, TX, as well as \$617,813 in contract support.

VI. EPA's RESPONSIBILITIES UNDER THE LWA: Regulatory Activities

A. 40 CFR Part 191: Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes

The Act requires that EPA promulgate final standards for the disposal of spent nuclear fuel, high-level and transuranic radioactive wastes. The final standards were published in the *Federal Register* on December 20, 1993. Background information on the standards and a summary of their development and content are presented below.

1. Background

On September 19, 1985, EPA issued final radiation protection standards for radioactive wastes: Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes in Part 191 of Chapter 40 of the Code of Federal Regulations (40 CFR Part 191). They appear in Volume 50 of the *Federal Register*, beginning on page 38066.

The standards for disposal consist of several types of requirements. According to the Containment Requirements (Section 191.13), waste disposal systems must be designed with the reasonable expectation that the total release of radionuclides from a disposal facility to the accessible environment does not exceed specified levels for 10,000 years. The Assurance Requirements (Section 191.14) help to provide additional confidence in reducing the likelihood of radiation releases from or intrusion into the disposal repository. The Individual Protection Requirements (Section 191.15) limit radiation doses to individual members of the public. The Ground Water Protection Requirements (Section 191.16) protect potable sources of ground water by limiting radiation levels in underground sources. Compliance with these requirements is to be determined by means of long-term modeling projections of disposal system performance.

Shortly after the standards were issued, several states and environmental groups mounted legal challenges to them. On July 17, 1987, the Court of Appeals for the First Circuit remanded the standards to the Agency for reconsideration. The WIPP Land Withdrawal Act reinstated all of the sections of the 40 CFR Part 191 disposal standards returned by the court except those that the court found problematic, i.e., aspects of the Individual and Ground Water Protection Requirements, which EPA then revised.

2. The Revised Standards

EPA published proposed amendments to the Individual and the Ground Water Protection Requirements in the *Federal Register* on February 10, 1993. The Agency held hearings in New Mexico that same month to receive comments on the proposal. Following consideration of all written and oral comments received, EPA developed the final disposal standards, which the Administrator signed on December 3, 1993, as an amendment to 40 CFR Part 191. The standards were published in the *Federal Register* on December 20, 1993.

The time frame for assessment of the Individual and the Ground Water Protection Requirements was changed from 1,000 to 10,000 years. The amended Individual Protection Requirements require radioactive waste disposal systems to be designed to provide a reasonable expectation that the annual radiation exposure to any individual in the accessible environment does not exceed 15 millirem committed effective dose. The amended Ground Water Protection Requirements state that release of radioactive materials from disposal systems must not cause the levels of radioactivity in underground sources of drinking water in the accessible environment to exceed the maximum radionuclide contaminant levels specified in regulations promulgated under the authority of the Safe Drinking Water Act.

B. 40 CFR Part 194: Criteria for the Certification of Compliance with 40 CFR Part 191 Disposal Regulations

The Act requires EPA to certify that the WIPP complies with the Agency's final radioactive waste disposal regulations (Subparts B and C of 40 CFR Part 191) before DOE may begin to dispose of transuranic waste in the WIPP. Under the Act, EPA is required to issue criteria upon which the Agency will base its determination of the WIPP's compliance with the disposal regulations.

The final rule promulgating WIPP compliance criteria (40 CFR Part 194) was signed by the Administrator on February 1, 1996, and was published in the *Federal Register* [61 FR 5224] on February 9, 1996. The final compliance criteria contain provisions regarding: 1) the procedures to be used to certify compliance with the 40 CFR Part 191 disposal regulations; 2) the methods to be employed to ensure the adequacy and quality of data and technical analyses; 3) the assumptions on which performance assessments and compliance assessments are to be based; and 4) opportunities for public participation in the certification process.

The Agency promulgated the final rule on compliance criteria after consideration of public comments on the proposed rule. In addition to the traditional method of soliciting the public's written comments during a set public comment period, EPA obtained public comments in several other ways. For example, in February 1995 the Agency hosted a technical workshop in Washington, DC, to discuss several key compliance issues. The workshop was open to the public and involved the participation of experts in several technical disciplines, as well as stakeholder representatives. EPA also held three public hearings in New Mexico (Albuquerque, Carlsbad and Santa Fe) in March 1995 to hear testimony on the proposed rule from the public.

EPA reopened the public comment period on the proposed rule in July 1995, after DOE submitted a draft certification application to EPA, for the purpose of affording stakeholders an additional opportunity to voice concerns about the proposal. During the additional comment period, EPA called a meeting of the WIPP Review Committee of the National Advisory Council for Environmental Policy and Technology (NACEPT). This meeting was held in Albuquerque, New Mexico, in September 1995 and was open to the public.

In preparing the final compliance criteria, the Agency considered the comments it received during both public comment periods, the technical workshop, and the NACEPT meeting. The Agency's rationale for substantive changes to the proposed rule is described in detail in the preamble to the final rule and in the Response to Comments document. The Agency also issued a Background Information Document for the final rule (40 CFR Part 194) in January 1996, providing much of the background information and technical analyses which the Agency used during the development of the

final compliance criteria.

Although not a requirement, EPA issued “Compliance Application Guidance (CAG) for the Waste Isolation Pilot Plant: A Companion Guide to 40 CFR Part 194,” in March 1996. The Agency developed the CAG to assist the DOE with the preparation of its compliance application by providing format and content instructions and, in turn, to assist the EPA and the general public in reviewing DOE’s application.

Three separate lawsuits challenging the final compliance criteria rule were filed against the Agency in the U.S. Court of Appeals for the D.C. Circuit by the Attorney General of New Mexico, the Attorney General of Texas, and two environmental groups in New Mexico. The Court of Appeals denied all of the petitions for review in toto. State of New Mexico v. Environmental Protection Agency, 114 F.3d 290 (D.C. Circuit, 1997).

C. Certification of Compliance with 40 CFR Part 191 Disposal Regulations

1. Review Activities

The Act requires EPA to certify whether the WIPP facility complies with the disposal regulations before DOE may place transuranic waste in the WIPP for disposal. The Act requires that DOE submit an application to EPA to enable the Agency to render a certification determination. DOE delivered the Compliance Certification Application (CCA) to EPA on October 29, 1996. This section describes EPA's process for reviewing the CCA.

EPA announced receipt of the CCA and the Agency's intent to conduct a rulemaking in the *Federal Register* on November 15, 1996, in an Advance Notice of Proposed Rulemaking. After a preliminary review of the CCA, EPA determined that the application was not complete. EPA requested additional information to complete the CCA in December 1996. After receiving application supplements from DOE between January and May 1997, EPA Administrator Carol M. Browner informed Secretary of Energy Federico PeÁa that the CCA was complete on May 16, 1997. This finding was announced in the *Federal Register* on May 22, 1997.

During the course of its technical review, EPA also sent DOE a series of detailed letters identifying areas where the Agency considered DOE's application to be technically insufficient. DOE in turn responded with a series of letters that sought to address EPA's concerns. All materials and correspondence exchanged by EPA and DOE were placed in EPA's public docket.

EPA utilized the compliance criteria (40 CFR Part 194) to assess the adequacy of DOE's final application for demonstrating the WIPP's compliance with the disposal regulations. EPA evaluated DOE's use of models; the potential for disruptive events that could affect the WIPP's performance over the 10,000-year regulatory time frame; uncertainty, sensitivity, and consequence analyses; field data and site characterization; and quality assurance records, among other areas. EPA conducted independent analyses in order to verify the results of DOE's performance assessment. The results of these analyses led EPA to require DOE to complete a modified performance assessment, called a Performance Assessment Verification Test. Additionally, EPA conducted extensive audits of DOE's quality assurance programs, and conducted inspections of characterization activities at the WIPP and several waste generator sites.

2. Proposed and Final Notice of Certification

EPA received DOE's 84,000-page compliance certification application in October 1996, and immediately began the rulemaking process with publication of an advance notice of proposed rulemaking. After an exhaustive scientific review of DOE's application, consideration of public comments, and performance of audits, tests and inspections, EPA issued a proposed decision in the *Federal Register* on October 30, 1997 [62 FR 58792], that the WIPP complies with the disposal regulations provided that DOE meets certain conditions.

On May 13, 1998, in compliance with the one-year statutory deadline, EPA issued its final certification decision, to certify that the WIPP is safe to contain transuranic waste and will comply with the Agency's radioactive waste disposal regulations. EPA issued a final rulemaking in the *Federal Register* on May 18, 1998 at 63 FR 27354. EPA's decision allows the DOE to begin disposing of radioactive waste in the WIPP once all other applicable health and safety standards have been met.

EPA's final certification decision included four conditions of compliance. EPA found it necessary for DOE to take additional steps to ensure that the measures actually implemented at the WIPP are consistent with DOE's compliance application and with the basis for EPA's decision. These conditions are described below.

First, DOE is required to employ the most robust of the panel seal design options proposed in its compliance application.

Second, at the time of the certification decision, the only waste generator site approved to ship waste to the WIPP for disposal is Los Alamos National Laboratory. No other generator site may ship waste until EPA determines that the site has established and executed the required quality assurance program, as specifically required by the Compliance Criteria.

Third, Los Alamos was approved to ship waste characterized using a certain process, which was approved at the time of the certification decision. No other waste may be shipped to the WIPP until EPA separately approves waste characterization programs for waste generator sites, determining that a generator site has (1) provided information on how process knowledge will be used to characterize the waste in question and (2) implemented a system of controls to confirm that waste components will fall within certain limiting values, as specifically required by the Compliance Criteria.

Fourth, DOE must submit more detailed implementation plans for passive institutional controls to deter future intruders.

In addition, EPA determined that it is not necessary for DOE to acquire Federal Oil and Gas Leases Nos. NMNM 02953 and NMNM 02953C, as specified in Section

4(b)(5)(B) of the Act. EPA determined that development of the existing leases would not cause the WIPP to fail to comply with the disposal regulations.

EPA's certification of compliance was conducted pursuant to the informal rulemaking procedures prescribed by the Administrative Procedure Act (5 U.S.C. Section 553). EPA opened a 120-day public comment period on its proposed rule in October 1997 and held public hearings in Albuquerque, Carlsbad, and Santa Fe, New Mexico. EPA also opened a 30-day comment period in January 1998, in order for the public to comment on a report on the potential effects of air drilling in the vicinity of the WIPP. Air drilling was a technical area that attracted considerable public concern during the second public comment period. Although not required to do so, EPA believed it would benefit from reviewing additional public comments on this subject. Based on careful consideration of public comments, EPA issued a final determination in the *Federal Register* [63 FR 27354] on May 18, 1998, that the WIPP will comply with the disposal regulations. Accordingly, the Administrator issued a final certification to the Secretary of Energy, who then notified Congress of DOE's intent to open the WIPP. EPA must recertify compliance with the disposal regulations every five years after disposal operations begin and throughout the facility's operational life, which is expected to be about 35 years.

EPA was sued in the United States Court of Appeals for the District of Columbia Circuit. Several groups and individuals asked the Court to overturn EPA's decision to certify WIPP. These groups include the State of New Mexico, Southwest Research and Information Center, and Concerned Citizens for Nuclear Safety. These groups claimed EPA's decision to certify WIPP was not justified because:

- (1) EPA violated the WIPP Land Withdrawal Act by not certifying all the waste generator sites at the same time that the WIPP site was certified,
- (2) The requirements for the study and selection of engineered barriers were not met, and
- (3) The performance assessment did not represent the conditions and characteristics of the WIPP (e.g., drilling, borehole plugs, brine pockets, karst.)

EPA defended the reasoning for its decision in writing to the Court. The State of New Mexico withdrew from the lawsuit just prior to the oral arguments. This withdrawal was due to the change in the Attorney General as a result of elections in New Mexico. On June 28, 1999, after both sides in the lawsuit had explained their positions, the Court ruled in favor of EPA. This means the Court decided that EPA's scientific decisions were reasonable and that the Agency followed the correct procedures to involve the public in making the certification decision.

3. Continuing Compliance

EPA will continue to monitor WIPP's compliance with EPA's radioactive waste disposal standards. This will be done in several ways, including, audits, site inspections, change reports, and recertification.

Audits

At §194.22(a)(1), EPA requires DOE to adhere to a quality assurance program that implements the requirements of the following: 1) ASME NQA-1-1989 edition; 2) ASME NQA-2a-1990 Addenda, Part 2.7, to ASME NQA-2-1989 edition; and 3) ASME NQA-3-1989 edition (excluding Section 2.1(b) and (c) and Section 17.1). The Agency verified that DOE established these requirements in the Quality Assurance Program Document (QAPD) included in the Compliance Certification Application for the WIPP. The QAPD is the documented quality assurance program plan for the WIPP project, as a whole, to comply with the NQA requirements. The QAPD is implemented by DOE's Carlsbad Area Office (CAO), which has the authority to audit all other organizations associated with waste disposal at the WIPP to ensure that their lower-tier quality assurance programs establish and implement the applicable requirements of the QAPD. The other DOE organizations such as the generator sites, which will characterize and ship waste for disposal in the WIPP, must prepare site-specific quality assurance program plans.

The EPA annually audits DOE's quality assurance program at CAO (reference EPA Air Docket No. A-93-02, Document Nos. II-A-43 and IV-A-4, and EPA Air Docket No. A-98-49, Document No. II-A-1-4) and has found that DOE properly adheres to a quality assurance program that implements the NQA standards. The Agency finds that the QAPD is in conformance with the NQA requirements and that DOE's quality assurance organization can properly perform audits and surveillance to internally check the quality assurance programs and waste characterization processes of the waste generator sites. The Agency may either conduct its own audits or inspect audits conducted by DOE. The difference between an audit and an inspection lies in the role that EPA performs. During an audit, EPA assumes all responsibilities associated with assessing a quality assurance program, while in an inspection, the Agency performs oversight of DOE's quality assurance checks of the site's quality assurance program and waste characterization processes.

Site Inspections

EPA will continue to conduct inspections at waste generator sites in order to implement Conditions 2 and 3 of the compliance certification. EPA's final WIPP certification included the conditions that DOE waste generator sites may not ship waste to the WIPP until two things happen: 1) EPA approves the site's quality assurance program for transuranic waste characterization activities and assumptions; and 2) EPA approves the transuranic waste characterization processes used at the site. Notices announcing EPA inspections or audits specific to the implementation of Conditions 2 and 3, quality assurance and waste characterization at waste generator facilities, are published in the

Federal Register. EPA provides an opportunity for the public to submit written comments, for at least 30 days, on the waste characterization and quality assurance program plans submitted by DOE. These documents are placed in EPA's dockets in Washington, DC and New Mexico. EPA's decisions on whether to approve waste generator site quality assurance program plans and waste characterization systems are conveyed by letter to DOE and will be placed in the public dockets.

There are approximately 20 major sites across the country that store transuranic waste. The DOE Carlsbad Area Office (CAO) determines which sites are eligible to ship waste to the WIPP and audits them for compliance with DOE requirements. As CAO certifies each site, EPA will inspect the site to determine that it also meets EPA's certification requirements.

As of September 30, 1999, three waste generator sites were approved by EPA to ship waste to the WIPP: (1) Los Alamos National Laboratories in New Mexico, (2) Rocky Flats site in Colorado, and (3) Idaho National Engineering and Environmental Laboratory (INEEL). These three sites may ship transuranic wastes that are characterized using only EPA-approved processes. In FY 00, the Agency will inspect additional waste characterization processes as they come on-line. In addition, the Agency found that Idaho National Engineering and Environmental Laboratory (INEEL) did not properly maintain its QA program since its initial approval; therefore, the Idaho site may only ship waste not affected by the QA program deficiencies. To re-approve INEEL's QA program, the Agency will re-inspect INEEL's QA program in FY 00 to verify that all deficiencies have been corrected. In FY 99, The EPA also withheld approval of NTS's quality assurance and waste characterization activities required under Conditions 2 and 3 of EPA's certification.

Change Reports

EPA requires at 40 CFR 194.4(b)(4) that DOE report any planned or unplanned changes in activities or conditions on which EPA's Compliance Certification decision was based. EPA provided DOE with reporting guidance on September 30, 1998, and placed it in EPA's public dockets. DOE submitted its first report to EPA on November 13, 1998. EPA conducted an evaluation of the changes and in June, 1999, EPA determined that the changes proposed by DOE did not require a modification, suspension or revocation of EPA's certification decision. DOE is required to continue reporting planned and unplanned changes pursuant to 40 CFR 194.4(b)(4).

Recertification

Five years after the initial receipt of transuranic waste for disposal in the WIPP, and every five years thereafter until the end of the decommissioning phase, EPA will evaluate the WIPP's continued compliance with the compliance criteria and disposal regulations. Documentation submitted by DOE will be made available in EPA's dockets, and there will

be a public comment period of at least 30 days. The Agency's decision on recertification will be announced in the *Federal Register*. EPA plans to complete the first recertification process by March 2004.

D. Oil and Gas Lease Provisions of the WIPP Land Withdrawal Act

The presence of oil and gas leases below the WIPP site raised concerns about the potential effect of drilling for these resources on the WIPP's ability to contain radionuclides.

Section 4(b)(5)(B) of the WIPP Land Withdrawal Act requires EPA to determine, after consultation with DOE and the Department of the Interior, whether acquisition of oil and gas leases No. NMNM 02953 and No. NMNM 02953C by the DOE is required in order for the WIPP to comply with the radioactive waste disposal regulations (40 CFR Part 191). Under the Act, DOE may not commence disposal of waste at the WIPP until EPA makes this determination.

EPA staff at the Region 6 office in Dallas, Texas and Headquarters evaluated the potential effects on the WIPP of oil and gas drilling at the leases in question. After careful consideration, the Agency determined that it is not possible for drilling to intercept the WIPP, nor is it expected that related practices such as fluid injection would cause the WIPP not to comply with the disposal regulations. It is therefore not necessary for DOE to acquire the leases. EPA proposed this finding together with its announcement of the proposed certification determination for the WIPP on October 30, 1997. In the Agency's final certification decision [63 FR 27354], EPA finalized its finding that DOE does not need to acquire existing oil and gas leases near the WIPP to comply with the disposal regulations.

E. 40 CFR Part 191, Subpart A

Subpart A of 40 CFR Part 191 contains EPA's environmental standards for the management and storage of spent fuel, high-level and transuranic waste at disposal facilities operated by the Department of Energy. For the WIPP, these standards apply to activities during the operational period of the facility, including when waste arrives at the above-ground portion of the WIPP, is unloaded and prepared for emplacement in the underground repository, and is lowered down the shaft and emplaced in the underground disposal rooms.

To implement Subpart A, EPA and DOE are following EPA's WIPP Subpart A guidance, issued in January 1997, which interprets the standard specifically for the WIPP. (See 62 FR 9188.) As recommended by this guidance document, DOE notified EPA when initial startup of the WIPP was expected. In March 1999, prior to start-up occurring, EPA performed an on-site inspection of the WIPP to verify DOE's start-up readiness and its ability to capture, measure, and calculate any potential releases during waste disposal operations. The EPA inspections found that the WIPP was ready to receive waste and DOE is able to monitor compliance with Subpart A.

In the future, DOE will continue to monitor the WIPP facility to detect any potential releases of radioactive materials. If any releases occur and cause radiation doses exceeding the Subpart A limits, then DOE will implement a "remedial plan" and submit monthly reports to EPA. Otherwise, DOE will report on compliance with Subpart A as part of the Biennial Environmental Compliance Report (BECR). The next BECR is expected to be submitted to EPA in October 2000.

F. Compliance with the Resource Conservation and Recovery Act

Substantial portions of the wastes proposed for disposal at the WIPP are called mixed waste, containing both hazardous waste subject to the Resource Conservation and Recovery Act (RCRA) and radioactive wastes subject to the Atomic Energy Act (AEA). The WIPP, therefore, must comply with regulations developed under RCRA. This section describes EPA's implementation of RCRA requirements.

EPA authorized the State of New Mexico to carry out the State's base RCRA program and the State's mixed waste program in lieu of the respective Federal programs. Therefore, the State will make determinations regarding those portions of the RCRA permit for WIPP. EPA's Region 6 office provides oversight and technical assistance to the State in processing this permit. The State and EPA share responsibility for enforcing the conditions of the permit.

The facility began receiving radioactive waste on March 26, 1999. The first shipments have been non-hazardous to facilitate the State permitting process. The WIPP was granted interim status in a decision from the US Circuit Court by Judge John Penn in an order dated March 22, 1999. Mixed waste may be disposed under the interim status determination.

The State of New Mexico received a RCRA permit application from DOE in May, 1995. The first draft permit went to public notice on May 15, 1998. Significant comments were received and incorporated into the draft permit followed by a second public notice on November 13, 1998. The State held public hearings from February 22 until March 26, 1999. The State issued the final permit on October 27, 1999. This permit covers the storage and disposal of the hazardous portion of the mixed waste sent to WIPP.

G. Compliance With Other Federal Environmental Laws

The Act requires DOE to submit documentation to EPA – and, where applicable, the State of New Mexico – every two years to demonstrate WIPP’s compliance with all applicable Federal environmental laws, regulations, and permit requirements, including: the radioactive waste management and storage regulations (40 CFR Part 191, Subpart A); the Clean Air Act (CAA); the Toxic Substances Control Act (TSCA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Solid Waste Disposal Act (SWDA); and the Safe Drinking Water Act (SDWA). This documentation must be submitted throughout the disposal and decommissioning phases of the WIPP. The Agency, and, where applicable, the State of New Mexico, must make a determination of compliance with these statutes, regulations, and permit requirements within six months of receiving DOE’s submission. If EPA determines that the WIPP does not comply with any applicable Federal law, regulation or permit requirement, the Agency will require DOE to develop a remedial plan within six months of this determination.

DOE submitted its first Biennial Environmental Compliance Report (BECR) to EPA in October 1994. EPA determined that this report did not give EPA sufficient information to verify DOE’s compliance with all applicable environmental laws, regulations, and permit requirements. In February 1995, EPA provided written guidance to DOE outlining the information that should be included in the BECR. Additional guidance was sent to DOE in June 1996. DOE subsequently sent a BECR for the 1994-1996 period to EPA in October 1996.

DOE provided all of the requested information, with the exception of documentation attesting to compliance with DOE orders, notices, and directives pertaining to public health and safety and the environment for the period 1992-1994. After reviewing the information provided, the Agency found DOE to be in compliance with applicable laws for the 1992-1994 and 1994-1996 periods. However, for the 1992-1994 period EPA was unable to determine DOE’s compliance with respect to Section 9(a)(1)(G) and (H) of the Act. EPA’s determinations for both periods were announced in the *Federal Register* in August 1997.

DOE submitted its 1998 BECR to EPA on October 30, 1998. This report covers the period from 1996 to 1998. And, in September 1999, the EPA determined that the WIPP is in compliance with all applicable Federal environmental laws and regulations for the period 1996-98.

VII. COMMUNICATION AND CONSULTATION ACTIVITIES

EPA believes that a successful communication and consultation program expedites the regulatory/oversight process and promotes sound public policy decisions. EPA continues to inform interested parties about its WIPP oversight functions and encourage public participation in the regulatory process.

EPA's toll-free WIPP Information Line [REDACTED] receives about 100 calls each month. The Information Line provides up-to-date, recorded information about public hearings and meetings, publications, and other WIPP activities. Callers may listen to recorded messages in English or Spanish, add their name to the WIPP mailing list, request a WIPP publication, or leave a question for EPA staff.

In an ongoing effort to keep the public well-informed, EPA regularly places all pertinent information about the WIPP in the official docket at EPA Headquarters in Washington, DC and informational dockets located in Carlsbad, Albuquerque, and Santa Fe, New Mexico. EPA also publishes periodically a newsletter, the *EPA WIPP Bulletin*, which informs the public about EPA's continuing oversight activities at the WIPP.

After proposing its certification determination in October 1997, EPA met with major stakeholder organizations in New Mexico in December 1997. EPA opened a public comment period on its proposed certification determination in October 1997. Another round of public hearings were held in Carlsbad, Albuquerque, and Santa Fe, New Mexico in January 1998 to receive comments on the proposed certification. Over 250 people testified at the hearings. The public comment period closed in February 1998. EPA announced its final certification decision that the WIPP was in compliance with its radioactive waste disposal regulations in May 1998.

After six years of operation, EPA closed out the WIPP Review Committee of the National Advisory Council for Environmental Policy and Technology (NACEPT). The Committee provided a forum for debate and independent advice to EPA officials as they performed their oversight role at WIPP. The ten Committee members ranged from public policy specialists to academics with expertise in radioactive waste disposal issues to scientific consultants. EPA used the Committee's expertise to focus on proposed approaches to regulation of the WIPP. All meetings were held in New Mexico and open to the public which provided an excellent opportunity for EPA to hear their concerns on the issues.

EPA highly valued the Committee's input and adopted many of the Committee's recommendations. The WIPP Review Committee fulfilled its purpose and completed its tasks as outlined in its Charter.

III. APPENDIX: WIPP LWA IMPLEMENTATION HIGHLIGHTS

<u>Date</u>	<u>Activity</u>
2/93	Radioactive Waste Disposal Standards proposed in the <i>Federal Register</i> .
2/93	Hearings on Radioactive Waste Disposal Regulations held in New Mexico.
2/93	Advance Notice of Proposed Rulemaking (ANPR) for Compliance Criteria published in the <i>Federal Register</i> .
3/93	Draft Test Phase and Retrieval Plans received from DOE.
3/93	Compliance Criteria ANPR comment period closed.
4/93	Radioactive Waste Disposal Standards comment period closed.
5/93	WIPP Review Committee of the National Advisory Council for Environmental Policy and Technology (NACEPT) Meeting on test phase and retrieval plans held in New Mexico.
9/93	NACEPT WIPP Review Committee meeting on Compliance Criteria held in New Mexico.
11/93	Comments submitted to DOE on December 1992 Preliminary Performance Assessment for the WIPP.
12/93	Final Radioactive Waste Disposal Standards promulgated.
1/95	Proposed Compliance Criteria published in the <i>Federal Register</i> [60 FR 5766].
1/95	First public comment period on Proposed Compliance Criteria opened.
3/95	Public hearings held in New Mexico on Proposed Compliance Criteria.
5/95	First comment period on Proposed Compliance Criteria closed.
5/95	EPA received Draft No-Migration Variance Petition from DOE.
7/95	Second comment period on Proposed Compliance Criteria opened.
9/95	NACEPT WIPP Review Committee meeting on Compliance Criteria issues held in New Mexico.

- 9/95 Second comment period on Proposed Compliance Criteria closed.
- 10/95 Notice of Availability of Draft Compliance Application Guidance Document announced in the *Federal Register*.
- 2/96 Final Compliance Criteria published in the *Federal Register*.
- 3/96 Final Compliance Application Guidance released.
- 3/96-9/96 Review of Draft Chapters of DOE Compliance Certification Application.
- 9/96 Availability of draft EPA Guidance for the implementation of 40 CFR 191, Subpart A, at the WIPP announced in the *Federal Register*.
- 10/96 DOE Compliance Certification Application received by EPA; EPA commences review of application for completeness and technical adequacy.
- 11/96 ANPR for the compliance certification announced in the *Federal Register*.
- 1/97 EPA staff meet with New Mexico stakeholders to discuss issues related to Compliance Certification Application.
- 2/97 Public hearings held in New Mexico on the ANPR for the compliance certification.
- 2/97 Availability of final EPA Guidance for the implementation of 40 CFR 191, Subpart A, at the WIPP announced in the *Federal Register*.
- 5/97 EPA announces in the *Federal Register* that the Compliance Certification Application is complete.
- 8/97 EPA announces in the *Federal Register* that the WIPP is in compliance with applicable Federal environmental laws and regulations (other than the disposal regulations) for the periods 1992-94 and 1994-96.
- 10/97 Notice of Proposed Rulemaking for the certification determination published in the *Federal Register*. EPA proposes to find the WIPP in compliance, with four conditions. Public comment period opened.
- 12/97 and 1/98 EPA staff met with New Mexico stakeholders to discuss issues related to the Agency's proposed certification determination.
- 1/98 Public hearings held in New Mexico on the NPR for the compliance

certification.

- 1/98 Issued in *Federal Register* air drilling report for public comment.
- 2/98 Public comment period on the proposed certification determination closed.
- 5/98 Final certification decision for the WIPP published in the *Federal Register*.
- 5/98 Issued in *Federal Register* notice of availability and opportunity to comment on quality assurance and waste characterization documents used by DOE to certify the Rocky Flats Environmental Technology Site to ship waste to WIPP.
- 6/98 Issued in *Federal Register* notice of availability and opportunity to comment on quality assurance and waste characterization documents used by DOE to certify the Idaho National Environmental Engineering Laboratory to ship waste to WIPP.
- 9/98 Provided DOE guidance on reporting to EPA changes in activities or conditions pertaining to the disposal system that differ from the most recent compliance application .
- 1/99 Audited the quality assurance (QA) program of DOE's Carlsbad Area Office at New Mexico, and determined that DOE's QA program was properly maintained.
- 2/99 Audited the QA program of Westinghouse's Waste Isolation Division (WID) at the WIPP site, and determined that WID's QA program was properly maintained.
- 2/99 Audited the QA program of Sandia National Laboratories (SNL) at Albuquerque NM, and determined that SNL's QA program was properly maintained.
- 3/99 Inspected the waste characterization (WC) processes and QA programs of the Rocky Flats site in Colorado. The Agency approved the WC processes for additional waste streams and determined that the QA programs were properly maintained. (Certain WC processes at this site were approved by the EPA in FY 1998.)
- 3/99 Performed an inspection with respect to 40 CFR 191 Subpart A and 40 CFR 194 Monitoring Requirements to verify start-up readiness of the WIPP.

- 3/99 WIPP facility began receiving radioactive waste.
- 5/99 Inspected the WC processes and QA programs at the Idaho National Engineering and Environmental Laboratory (INEEL).
- 6/99 Issued in *Federal Register* notice of availability and opportunity to comment on quality assurance and waste characterization documents of the Nevada Test Site. Inspected the WC processes and QA programs at the site, and determined that the site was not ready.
- 6/99 Completed review of proposed changes to the application.
- 6/99 Inspected WC processes at LANL.
- 7/99 Closed out the WIPP Review Committee of the National Advisory Council for Environmental Policy and Technology.
- 7/99 Performed a follow-up audit of the QA Program at INEEL.
- 9/99 Determined that the WIPP is in compliance with all applicable Federal environmental laws and regulations for the period 1996-98.
- 11/99 Inspected WC processes at the Rocky Flats site in Colorado.