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(2) *Decisions issued prior to January 1, 1992.* Decisions rendered by the Board of Veterans' Appeals prior to January 1, 1992, have been indexed to facilitate access to the contents of the decisions (BVA Index I-01-1). The index, which was published quarterly in microfiche form with an annual cumulation, is available for review at Department of Veterans Affairs regional offices and at the Research Center at the Board of Veterans' Appeals in Washington, DC. Information on obtaining a microfiche copy of the index is also available from the Board's Research Center. The index can be used to locate citations to decisions with issues similar to those of concern to an appellant. Each indexed decision has a locator number assigned to it. The manner in which the locator number is written depends upon the age of the decision. Decisions archived prior to late 1989 have a number such as 82-07-0001. Decisions archived at a later date have a number such as BVA-90-12345. This number must be used when requesting a paper copy of that decision. These requests must be directed to the Research Center (01C1), Board of Veterans' Appeals, 810 Vermont Avenue, NW., Washington, DC 20420. (Authority: 5 U.S.C. 552(a)(2), 38 U.S.C. 501(a))

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## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 194

[EPA-HQ-OAR-2004-0025; FRL-8055-1]

#### Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance With the Disposal Regulations: Recertification Decision

**AGENCY:** Environmental Protection Agency.

**ACTION:** Final notice.

**SUMMARY:** With this notice, the Environmental Protection Agency (EPA) recertifies that the U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP) continues to comply with the "Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic (TRU) Radioactive Waste."

EPA initially certified that WIPP met applicable regulatory requirements on May 18, 1998, and the first shipment of waste was received at WIPP on March 26, 1999.

Today's action represents the first instance of EPA's periodic evaluation of WIPP's continued compliance with the disposal regulations and WIPP Compliance Criteria. The compliance criteria implement and interpret the disposal regulations specifically for WIPP. As directed by Congress in the WIPP Land Withdrawal Act (LWA), this "recertification" will occur five years after the WIPP's initial receipt of TRU waste (March 26, 1999), and every five years thereafter until the end of the decommissioning phase. For each recertification—including the one being announced with today's action—DOE must submit documentation of the site's continuing compliance with the disposal regulations to EPA for review. In accordance with the WIPP Compliance Criteria, documentation of continued compliance was made available in EPA's dockets, and the public was provided at least a 30-day period in which to submit comments. In addition, all recertification decisions must be announced in the **Federal Register**, as this first recertification is today. According to the WIPP LWA, Section 8(f), these periodic recertification determinations are not subject to rulemaking or judicial review.

Today's action is not a reconsideration of the decision to open WIPP. Rather, recertification is a process that evaluates changes at WIPP to determine if the facility continues to meet all the requirements of EPA's disposal regulations. The recertification process ensures that WIPP's continued compliance is demonstrated using the most accurate, up-to-date information available.

Today's recertification decision is based on a thorough review of information submitted by DOE, independent technical analyses, and public comments. The Agency has determined that DOE continues to meet all applicable requirements of the WIPP Compliance Criteria, and with this notice, recertifies the WIPP facility. This recertification decision does not otherwise amend or affect EPA's radioactive waste disposal regulations or the WIPP Compliance Criteria.

**DATES:** The effective date for the recertification was March 29, 2006.

**FOR FURTHER INFORMATION CONTACT:** Ray Lee or Sharon White, Radiation Protection Division, Center for Federal Regulations, Mail Code 6608J, U.S. Environmental Protection Agency, 1200

Pennsylvania Avenue, Washington, DC, 20460; telephone number: 202-343-9601; fax number: 202-343-2305; e-mail address: [lee.raymond@epa.gov](mailto:lee.raymond@epa.gov) or [white.sharon@epa.gov](mailto:white.sharon@epa.gov). Copies of the Compliance Application Review Documents (CARDs) supporting today's action and all other recertification-related documentation can be found in the Agency's electronic docket (Docket ID No. EPA-HQ-OAR-2004-0025), hard-copy Air Docket A-98-49, or on its WIPP Web site (<http://www.epa.gov/radiation/wipp>).

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#### I. General Information

*A. How can I get copies of this document and other related information?*

1. *Docket.* EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2004-0025; FRL-8053-5. Publicly available docket materials are available either electronically at <http://www.regulations.gov> or in hard copy at

the Air and Radiation Docket in the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket is (202) 566-1742. These documents are also available for review in hard-copy form at the following three EPA WIPP informational docket locations in New Mexico: in Carlsbad at the Municipal Library, Hours: Monday–Thursday, 10 a.m.–9 p.m., Friday–Saturday, 10 a.m.–6 p.m., and Sunday, 1 p.m.–5 p.m., phone number: 505-885-0731; in Albuquerque at the Government Publications Department, Zimmerman Library, University of New Mexico, Hours: vary by semester, phone number: 505-277-2003; and in Santa Fe at the New Mexico State Library, Hours: Monday–Friday, 9 a.m.–5 p.m., phone number: 505-476-9700. As provided in EPA's regulations at 40 CFR part 2, and in accordance with normal EPA docket procedures, if copies of any docket materials are requested, a reasonable fee may be charged for photocopying.

2. *Electronic Access.* You may access this **Federal Register** document electronically through the EPA Internet under the "**Federal Register**" listings at <http://www.epa.gov/fedrgstr/>.

## II. What Is WIPP?

The Waste Isolation Pilot Plant (WIPP) is a disposal system for transuranic (TRU) radioactive waste. Developed by the Department of Energy (DOE), WIPP is located near Carlsbad in southeastern New Mexico. At WIPP, radioactive waste is disposed of 2,150 feet underground in an ancient layer of salt which will eventually "creep" and encapsulate the waste. WIPP has a total capacity of 6.2 million cubic feet of waste.

Congress authorized the development and construction of WIPP in 1980 "for the express purpose of providing a research and development facility to demonstrate the safe disposal of radioactive wastes resulting from the defense activities and programs of the United States."<sup>1</sup> The waste which may be emplaced in the WIPP is limited to TRU radioactive waste generated by defense activities associated with nuclear weapons; no high-level waste or

spent nuclear fuel from commercial power plants may be disposed of at the WIPP. TRU waste is defined as materials containing alpha-emitting radioisotopes, with half lives greater than twenty years and atomic numbers above 92, in concentrations greater than 100 nanocuries per gram of waste.<sup>2</sup>

Most TRU waste proposed for disposal at the WIPP consists of items that have become contaminated as a result of activities associated with the production of nuclear weapons (or with the clean-up of weapons production facilities), e.g., rags, equipment, tools, protective gear, and organic or inorganic sludges. Some TRU waste is mixed with hazardous chemicals. Some of the waste proposed for disposal at the WIPP is currently located at Federal facilities across the United States, including locations in Idaho, New Mexico, Nevada, Ohio, South Carolina, Tennessee, and Washington.

The WIPP LWA, passed initially by Congress in 1992 and amended in 1996, is the statute that provides EPA the authority to oversee and regulate the WIPP. (Prior to the passage of the WIPP LWA in 1992, DOE was self-regulating with respect to WIPP; that is, DOE was responsible for determining whether its own facility complied with applicable regulations for radioactive waste disposal.) The WIPP LWA delegated to EPA three main tasks, to be completed sequentially, for reaching an initial compliance certification decision. First, EPA was required to finalize general regulations which apply to all sites—except Yucca Mountain—for the disposal of highly radioactive waste.<sup>3</sup> These disposal regulations, located at Subparts B and C of 40 CFR Part 191, were published in the **Federal Register** in 1985 and 1993.<sup>4</sup>

Second, EPA was to develop criteria, by rulemaking, to implement and interpret the general radioactive waste disposal regulations specifically for the WIPP. In 1996, the Agency issued the WIPP Compliance Criteria, which are found at 40 CFR Part 194.<sup>5</sup>

Third, EPA was to review the information submitted by DOE and publish a certification decision.<sup>6</sup> The Agency issued its certification decision on May 18, 1998, as required by Section 8 of the WIPP LWA (63 FR 27354–27406).

<sup>2</sup> WIPP Land Withdrawal Act, Pub. L. 102-579, section 2(18), as amended by the 1996 WIPP LWA Amendments, Pub. L. 104-201.

<sup>3</sup> WIPP LWA, section 8(b).

<sup>4</sup> 50 FR 38066–38089 (September 19, 1985) and 58 FR 66398–66416 (December 20, 1993).

<sup>5</sup> 61 FR 5224–5245 (February 9, 1996).

<sup>6</sup> WIPP LWA, section 8(d).

### A. 1998 Certification Decision

The WIPP LWA, as amended, required EPA to evaluate whether the WIPP site complied with EPA's standards for the disposal of radioactive waste. On May 18, 1998 (63 FR 27354–27406), EPA determined that the WIPP met the standards for radioactive waste disposal. This decision allowed the emplacement of radioactive waste in the WIPP to begin, provided that all other applicable health and safety standards, and other legal requirements, had been met. The first shipment of TRU waste was received at WIPP on March 26, 1999.

Although EPA determined that DOE met all of the applicable requirements of the WIPP Compliance Criteria in its original certification decision (63 FR 27354–27406; May 18, 1998), EPA also found that it was necessary for DOE to take additional steps to ensure that the measures actually implemented at the WIPP (and thus the circumstances expected to exist there) were consistent with DOE's Compliance Certification Application (CCA) and with the basis for EPA's compliance certification. To address these situations, EPA amended the WIPP Compliance Criteria, 40 CFR Part 194, and appended four explicit conditions to its certification of compliance for the WIPP.

Condition 1 of the certification applies to the panel closure system, which is intended, over the long-term, to block brine flow between waste panels in WIPP. In the CCA, DOE presented four options for the design of the panel closure system, but did not specify which one would be constructed at the WIPP facility. The Agency based its certification decision on DOE's use of the most robust design (referred to in the CCA as "Option D"). The Agency found the Option D design to be adequate, but also determined that the use of a Salado mass concrete—using brine rather than fresh water—would produce concrete seal permeabilities in the repository more consistent with the values used in DOE's performance assessment. Therefore, Condition 1 of EPA's certification required DOE to implement the Option D panel closure system at WIPP, with Salado mass concrete replacing fresh water concrete.

Conditions 2 and 3 of the final certification decision apply to activities conducted at waste generator sites that produce TRU waste proposed for disposal at WIPP. The WIPP Compliance Criteria (§§ 194.22 and 194.24) require DOE to have, in place, a system of controls to measure and track important waste components, and to apply quality assurance (QA)

<sup>1</sup> Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Pub. L. 96-164, section 213.

programs to waste characterization activities. At the time of EPA's proposed certification decision, the Los Alamos National Laboratory (LANL) was the only site to demonstrate the execution of the required QA programs and the implementation of the required system of controls. Therefore, EPA's certification constituted final approval under the WIPP LWA for DOE to ship waste for disposal at the WIPP only from LANL, and only for retrievably-stored (legacy) debris waste at LANL for which EPA had inspected and approved the applicable system of controls.

Before other waste can be shipped for disposal at WIPP, Conditions 2 and 3 state that EPA must separately approve the QA programs for other generator sites (Condition 2) and the waste characterization system of controls for other waste streams (Condition 3). The approval process includes an opportunity for public comment, and an inspection or audit of the waste generator site by EPA. The Agency's approval of waste characterization systems of controls and QA programs are conveyed by letter from EPA to DOE. In response to public comments on these conditions, the process for EPA approvals for waste generator site programs were incorporated into the body of the WIPP Compliance Criteria, in § 194.8. EPA also recently made changes to the compliance criteria in July 2004 (69 FR 42571–42583). The new provisions provide equivalent or improved oversight and better prioritization of technical issues in EPA inspections to evaluate waste characterization activities at DOE WIPP waste generator sites. The new provisions also offer more direct public input into EPA's decisions about what waste can be disposed of at WIPP. The Agency continues to conduct independent inspections to evaluate a site's waste characterization capabilities, consistent with Conditions 2 and 3.

Condition the certification applies to passive institutional controls (PICs). The WIPP Compliance Criteria require DOE to use both records and physical markers to warn future societies about the location and contents of the disposal system, and thus to deter inadvertent intrusion into the WIPP (§ 194.43). In the CCA, DOE provided a design for a system of PICs, but stated that many aspects of the design would not be finalized for many years (even up to 100) after closure. The PICs actually constructed and placed in the future must be consistent with the basis for EPA's certification decision. Therefore, Condition 4 of the certification requires DOE, prior to the submission of the final

recertification application, to submit a revised schedule showing that markers and other measures will be implemented as soon as possible after closure of the WIPP. The Department also must provide additional documentation showing that it is feasible to construct markers and place records in archives as described in the CCA. After WIPP's closure, DOE will not be precluded from implementing additional PICs beyond those described in the application.

The complete record and basis for EPA's 1998 certification decision can be found in Air Docket A-93-02 in each of the dockets (in Washington, DC and the three locations in New Mexico) listed in Section 1.A.1 of this document.

### III. With which regulations must WIPP comply?

#### A. Radioactive Waste Disposal Regulations & Compliance Criteria

WIPP must comply with EPA's radioactive waste disposal regulations, located at Subparts B and C of 40 CFR Part 191. These regulations limit the amount of radioactive material which may escape from a disposal facility, and protect individuals and ground water resources from dangerous levels of radioactive contamination. In addition, the Compliance Recertification Application (CRA) and other information submitted by DOE must meet the requirements of the WIPP Compliance Criteria at 40 CFR Part 194. The WIPP Compliance Criteria implement and interpret the general disposal regulations specifically for WIPP, and clarify the basis on which EPA's certification decision is made.

#### B. Compliance With Other Environmental Laws and Regulations

The WIPP must also comply with a number of other environmental and safety regulations in addition to EPA's disposal regulations—including, for example, the Solid Waste Disposal Act and EPA's environmental standards for the management and storage of radioactive waste. Various regulatory agencies are responsible for overseeing the enforcement of these Federal laws. For example, enforcement of some parts of the hazardous waste management regulations has been delegated to the State of New Mexico. The State is authorized by EPA to carry out the State's Resource Conservation and Recovery Act (RCRA) programs in lieu of the equivalent Federal programs. New Mexico's Environment Department reviews DOE's permit applications for treatment, storage, and disposal facilities for hazardous waste, under

Subtitle C of RCRA. The State's authority for such actions as issuing a hazardous waste operating permit for the WIPP is in no way affected by EPA's recertification decision. It is the responsibility of the Secretary of Energy to report the WIPP's compliance with all applicable Federal laws pertaining to public health and the environment to EPA and the state of New Mexico.<sup>7</sup> Compliance with environmental or public health regulations other than EPA's disposal regulations and WIPP Compliance Criteria is not addressed by today's action.

### IV. What has EPA's role been at WIPP since the 1998 Certification Decision?

#### A. Continuing Compliance

Since EPA's 1998 certification decision, the Agency has been monitoring and evaluating changes to the activities and conditions at WIPP. EPA monitors and ensures continuing compliance with EPA regulations through a variety of activities, including: Review and evaluation of DOE's annual change reports, monitoring of the conditions of compliance, site inspections and technical information exchanges.

At any time, DOE must report any planned or unplanned changes in activities pertaining to the disposal system that differ significantly from the most recent compliance application (§ 194.4(b)(3)). The Department must also report any releases of radioactive material from the disposal system (§ 194.4(b)(3)(iii), (v)). Finally, EPA may request additional information from DOE at any time (§ 194.4(b)(2)). This information allows EPA to monitor the performance of the disposal system and evaluate whether the certification must be modified, suspended, or revoked to prevent or quickly reverse any potential danger to public health and the environment.

#### B. Annual Change Reports

Under § 194.4(b) DOE was required to submit a report of any changes to the conditions and activities at WIPP within six months of the 1998 certification decision and annually thereafter. DOE met this requirement by submitting the first change report in November 1998 and annually thereafter.

Since 1998, DOE's annual change reports have reflected the progress of quality assurance and waste characterization inspections, minor changes to DOE documents, information on monitoring activities, and any additional EPA approvals for changes in

<sup>7</sup> WIPP LWA, sections 7(b)(3) and 9.

activities and conditions. All correspondence and approvals regarding the annual change reports can be found in EPA's Air Docket A-98-49, Categories II-B2 and II-B3.

### C. Monitoring the Conditions of Compliance

As discussed previously, Condition 1 of the WIPP certification requires DOE to implement the Option D panel closure system at WIPP, with Salado mass concrete used in place of fresh water concrete. Since the 1998 certification decision, DOE has indicated that they would like to change the design of the Option D panel closure system selected by EPA (Air Docket A-98-49, Item II-B3-19). At the same time, EPA chose to defer review of a new panel closure design until after we issue the first recertification decision (Air Docket A-98-49, Item II-B3-42).

In November 2002, DOE requested permission to install only the explosion isolation portion of the Option D panel closure design until EPA and NMED can render their respective final decisions on DOE's request to approve a new design for the WIPP panel closure system. In December 2002, EPA approved DOE's request to install only the explosion wall and to extend the panel closure schedule until a new design is approved (Air Docket A-98-49, Item II-B3-44). As of March 2006, DOE has installed the isolation explosion wall for Panels 1 and 2. EPA expects DOE to re-submit a new panel closure design soon after this recertification decision.

Since 1998, the Agency has conducted numerous audits and inspections at waste generator sites in order to implement Conditions 2 and 3 of the compliance certification. Notices announcing EPA inspections or audits to evaluate implementation of QA and waste characterization (WC) requirements at waste generator facilities were published in the **Federal Register** and also announced on EPA's WIPP Web site (<http://www.epa.gov/radiation/wipp>) and WIPP e-mail listserv. The public has had the opportunity to submit written comments on the waste characterization and QA program plans submitted by DOE in the past, and based on the newly-revised WIPP Compliance Criteria, are now able to submit comments on EPA's proposed waste characterization approvals (See 69 FR 42571-42583). As noted above, EPA's decisions on whether to approve waste generator QA program plans and waste characterization systems of controls—and thus, to allow shipment of specific waste streams for disposal at WIPP—are

conveyed by a letter from EPA to DOE. The procedures for EPA's approval are incorporated in the amended WIPP Compliance Criteria in § 194.8.

Since 1998, EPA has audited and approved the QA programs at Carlsbad Field Office (CBFO), Washington TRU Solutions (WTS), Sandia National Laboratory (SNL), and at 11 other DOE organizations. Following the initial approval of a QA program, EPA conducts follow-up audits to ensure continued compliance with EPA's QA requirements. EPA's main focus for QA programs has been the demonstration of operational independence, qualification, and authority of the QA program at each location.

EPA has approved waste characterization (WC) activities at eight waste generator sites since 1998, including Idaho National Laboratory, Hanford, Rocky Flats Environmental Technology Site, Savannah River Site, and the Nevada Test Site. EPA inspects waste generator sites to ensure that waste is being characterized and tracked according to EPA requirements. EPA's WC inspections focus on the personnel, procedures and equipment involved in WC. A record of EPA's WC and QA correspondences and approvals can be found in Air Docket A-98-49, Categories II-A1 and II-A4.

EPA will evaluate DOE's compliance with Condition 4 of the certification when DOE submits a revised schedule and additional documentation regarding the implementation of PICs. This documentation must be provided to EPA no later than the final recertification application. Once received, the information will be placed in EPA's public docket, and the Agency will evaluate the adequacy of the documentation. During the operational period when waste is being emplaced in WIPP (and before the site has been sealed and decommissioned), EPA will verify that specific actions identified by DOE in the CCA, CRA, and supplementary information (and in any additional documentation submitted in accordance with Condition 4) are being taken to test and implement passive institutional controls.

### D. Inspections and Technical Exchanges

The WIPP Compliance Criteria provide EPA the authority to conduct inspections of activities at the WIPP and at all off-site facilities which provide information included in certification applications (§ 194.21). Since 1998, the Agency conducted periodic inspections to verify the adequacy of information relevant to certification applications. EPA has conducted annual inspections at the WIPP site to review and ensure

that the monitoring program meets the requirements of § 194.42. EPA has also inspected the emplacement and tracking of waste in the repository. The Agency's inspection reports can be found in Air Docket A-98-49, Categories II-A1 and II-A4.

EPA and DOE held numerous technical exchanges since the 1998 certification decision. At these exchanges, EPA and DOE discussed preparations for recertification, activity schedules, changes that may be requested by DOE, and other technical issues. The materials distributed at these meetings can be found in EPA Air Docket A-98-49, Category II-B3.

### V. What is EPA's Recertification Decision?

EPA recertifies that DOE's WIPP continues to comply with the requirements of Subparts B and C of 40 CFR Part 191. The following information describes EPA's determination of compliance with each of the WIPP Compliance Criteria specified by 40 CFR Part 194.

#### A. What information did the Agency examine to make its final decision?

40 CFR part 194 sets out those elements which the Agency requires to be in any complete compliance application. In general, compliance applications must include information relevant to demonstrating compliance with each of the individual sections of 40 CFR Part 194 to determine if the WIPP will comply with the Agency's radioactive waste disposal regulations at 40 CFR Part 191, Subparts B and C. The Agency published the "Compliance Application Guidance for the Waste Isolation Pilot Plant: A Companion Guide to 40 CFR Part 194" (CAG) which provided detailed guidance on the submission of a complete compliance application (EPA Pub. No. 402-R-95-014, Air Docket A-93-02, Item II-B2-29).<sup>8</sup>

To make its decision, EPA evaluated basic information about the WIPP site and disposal system design, as well as information which addressed all the provisions of the compliance criteria. As required by § 194.15(a), DOE's recertification application updated the previous compliance application with sufficient information for the Agency to determine whether or not WIPP

<sup>8</sup> Section 194.11 provides that EPA's certification evaluation would not begin until EPA notified DOE of its receipt of a "complete" compliance application. This ensures that the full one-year period for EPA's review, as provided by the WIPP LWA, shall be devoted to substantive, meaningful review of the application (61 FR 5226).

continues to be in compliance with the disposal regulations.

The first step in recertification is termed the “completeness determination.” “Completeness” is a key, administrative step that EPA uses to determine that the CRA addresses all the required regulatory elements and provides sufficient information for EPA to conduct a full, technical review. Following receipt of the CRA on March 26, 2004, EPA began to identify areas of the application where additional information was needed. A May 24, 2004, **Federal Register** notice announced availability of the CRA and opened the official public comment period on the CRA. Over the course of the following 19 months, the Agency submitted six official letters (May 20, 2004; July 12, 2004; September 2, 2004; December 17, 2004; February 3, 2005; and March 4, 2005) to DOE requesting additional information regarding the CRA. The Department responded with a series of 11 letters (July 15, 2004; August 16, 2004; September 7, 2004; September 29, 2004; October 20, 2004; November 1, 2004; December 17, 2004; January 19, 2005; March 21, 2005; May 11, 2005; and September 20, 2005) submitting all of the requested supplemental information to EPA. On September 29, 2005, EPA announced that DOE’s recertification application was complete (70 FR 61107–61111).

EPA also relied on materials prepared by the Agency or submitted by DOE in response to EPA requests for specific additional information necessary to address technical sufficiency concerns. For example, EPA directed DOE to conduct a revised performance assessment—referred to as the performance assessment baseline calculation (PABC)—to address technical issues. All requests for additional technical information and the DOE responses are located in EPA’s Air Docket A–98–49, Categories II–B2 and II–B3. Though not an official rulemaking, the Agency also considered public comments related to recertification, concerning both completeness and technical issues.

In summary, EPA’s recertification decision is based on the entire record available to the Agency, which is located in EPA’s Air Docket A–98–49 (FMDS Docket ID No. EPA–HQ–OAR–2004–0025). The record consists of the complete CRA, supplementary information submitted by DOE in response to EPA requests for additional information, technical reports generated by EPA, EPA audit and inspection reports, and public comments submitted on EPA’s proposed recertification decision during the public comment

period. (Most of these documents can also be found on EPA’s WIPP Web site at <http://www.epa.gov/radiation/wipp>).

EPA’s technical review evaluated compliance of the CRA with each section of the WIPP Compliance Criteria. The Agency focused its review on areas of change relative to the original certification decision as identified by DOE, in order to ensure that the effects of the changes have been addressed. As with its original certification decision, EPA’s evaluation of DOE’s demonstration of continuing compliance with the disposal regulations is based on the principle of reasonable expectation. 40 CFR 191.13(b) states, “proof of the future performance of a disposal system is not to be had in the ordinary sense of the word in situations that deal with much shorter time frames. Instead, what is required is a reasonable expectation, on the basis of the record before the implementing agency, that compliance with § 191.13 (a) will be achieved.” As discussed in 40 CFR Part 191, and applied to the 1998 certification decision, reasonable expectation is used because of the long time period involved and the nature of the events and processes at radioactive waste disposal facilities. There are inevitable and substantial uncertainties in projecting disposal system performance over long time periods. EPA applies reasonable expectation to the evaluation of both quantitative (*i.e.*, performance assessment) and qualitative (*i.e.*, assurance requirements) aspects of any compliance application.

#### *B. Content of the Compliance Recertification Application (§§ 194.14 and 194.15)*

According to § 194.14, any compliance application must include, at a minimum, basic information about the WIPP site and disposal system design. This section focuses on the geology, hydrology, hydrogeology, and geochemistry of the WIPP disposal system. A compliance application must also include information on WIPP materials of construction, standards applied to design and construction, background radiation in air, soil, and water, as well as past and current climatological and meteorological conditions. Section 194.15 states that recertification applications shall update this information to provide sufficient information for EPA to determine whether or not WIPP continues to be in compliance with the disposal regulations.

In Chapter 1 of the CRA, DOE identified changes to the disposal system since the 1998 certification

decision. DOE correctly reviewed changes that were approved by EPA between the 1998 certification decision and the submission of the CRA. Changes included facility design changes such as the early closure of Panel 1, moving the repository horizon up 2.4 meters to clay seam G, and reducing the amount of magnesium oxide (MgO). EPA’s evaluation and approval of these changes can be obtained from Air Docket A–98–49, Category II–B3.

The CRA also identified several changes to technical information relevant to §§ 194.14 and 194.15. The technical changes initiated by DOE or directed by EPA include: increased drilling rate, updated understanding of Culebra transmissivity and new transmissivity field calculations, new monitoring data including Culebra water levels, modified gas generation rate, updated actinide solubility and actinide solubility uncertainty values, and an increase in the uranium (+VI) solubility. Items related to the waste inventory were also updated: inclusion of supercompacted waste from Idaho National Laboratory (INL), new estimate of radionuclides, and DOE’s use of pipe overpacks and ten-drum overpacks storage containers.

Although EPA considers these updates important to the current understanding of the disposal system, EPA determined that the changes, both individually and collectively, do not have a significant impact on the performance of the disposal system. EPA’s Compliance Application Review Documents (CARDs) and Technical Support Documents (TSDs) thoroughly document EPA’s review of the changes in DOE’s compliance application. Today’s notice summarizes the most important of these changes.

**Culebra Dolomite:** The Culebra Dolomite is considered by DOE to be the prime pathway for long-term radionuclide transport in ground water. As part of the required monitoring program, DOE has identified that the water levels in the Culebra have continued to fluctuate and generally increase, for unknown reasons. DOE hypothesizes that human influences, such as potash mining and petroleum production, may be responsible. DOE concluded that these human influences would be short-lived compared to the 10,000-year regulatory time period, and that effects on water levels are captured in the current performance assessment (PA). The CRA used water levels that were measured in 2000. These showed a change in water levels across the site since the CCA. The hydraulic gradient, or driving force across the site, is less

for the CRA than the CCA, increasing estimated radionuclide travel times.

DOE used the Culebra hydrologic data in combination with new geologic information and new modeling software to develop transmissivity fields for the PA modeling. The approach DOE used was based on generally accepted approaches, which EPA considers as adequate. The new CRA geologic information provides better understanding of broad transmissivity changes than in the CCA, but it still lacks prediction power for transmissivity at specific points. EPA's review is discussed more thoroughly in the Performance Assessment Baseline Calculation (PABC) Technical Support Document (TSD) (Air Docket A-98-49, Item II-B1-16).

**Chemistry changes:** During the completeness review, EPA reviewed PA issues related to chemistry and identified several areas where DOE needed to further update or correct information. First, EPA required DOE to change the solubility of uranium (+VI) to a fixed value of  $1 \times 10^{-3}$  M based on experimental data that has become available since the CCA. Second, EPA required DOE to update the actinide solubility uncertainty range based on the fracture matrix transport (FMT) database and currently available experimental solubility data. Third, EPA required DOE to assume that microbial degradation would occur in 100% of the vectors because of new data on microbial survival in extreme environments. Prior to the PABC, DOE requested to update the gas generation rates used in PA calculations with results from the gas generation experiments which indicated a two-stage rate that was faster initially, but slower after several years. EPA agreed to the change based on new experimental data, which is discussed and documented in its TSDs (Air Docket A-98-49, Items II-B1-3 and II-B1-16).

**Inventory changes:** DOE updated the CCA inventory with data calls to the waste generator sites, in a process similar to the one used for the CCA. The waste inventory numbers have changed since the CCA because the waste generator sites have an improved understanding of the waste that is in storage. As DOE characterizes more waste, EPA expects the estimates to continue to change. EPA reviewed the information in the inventory, conducted several waste generator site visits, conducted corroborating decay calculations and determined that DOE's process is adequate. DOE's supplemental waste inventory documentation provided this

information (Air Docket A-98-49, Category II-B2; see also CRA CARD 24).

In conclusion, EPA finds that DOE has adequately characterized and assessed the site characteristics for the purposes of the PA and has demonstrated continued compliance with §§ 194.14 and 194.15.

In addition to the technical changes identified by DOE and EPA, the Agency received comments regarding the geology surrounding the WIPP site. Some stakeholders commented that the recertification application does not properly characterize the shallow geology around WIPP. The stakeholders believe that karst features are prevalent in the vicinity of WIPP. Karst is a type of topography in which there are numerous sinkholes and large voids, such as caves. Karst is caused when soluble rock dissolves. Karst may form when rainwater reacts with carbon dioxide from the air, forms carbonic acid, and seeps through the soil into the subsurface rock. Soluble rock includes limestone and evaporite rocks, such as halite (salt) and gypsum. If substantial and abundant karst features were present at WIPP, they could increase the speed at which releases of radionuclides travel away from the repository through the subsurface to the accessible environment.

In the 1998 certification decision, EPA reviewed existing information to understand the issue of karst around the WIPP site. As a result of that review, EPA concluded that, although it is possible that dissolution has occurred in the vicinity of the WIPP site sometime in the past (e.g., Nash Draw was formed ~500,000 years ago), dissolution is not an ongoing, pervasive process at the WIPP site. Therefore, karst feature development would not impact the containment capabilities of the WIPP for at least the 10,000-year regulatory period (Air Docket A-93-02, Item III-B-2, CCA CARD 14).

Following the 1998 certification decision, several groups challenged EPA's decision in the United States Court of Appeals for the District of Columbia Circuit (No. 98-1322). One of the issues in this lawsuit was EPA's conclusions regarding karst at the WIPP site. The petitioners argued that EPA denied and ignored evidence of karst features at WIPP, and failed to address public comments regarding karst. On June 28, 1999, the U.S. Court of Appeals upheld all aspects of EPA's 1998 certification decision, including EPA's conclusion that karst is not a feature that will likely impact the containment capabilities of the WIPP.

In comments to EPA on the CRA, some stakeholders continue to assert

that the geologic characterization of the subsurface surrounding the WIPP repository does not adequately identify the presence of karst. As a result of these concerns, EPA agreed to evaluate any new information on the potential of karst at WIPP and the possible impacts of the long-term containment of waste for WIPP recertification.

For recertification, EPA conducted a thorough review of the geologic and hydrologic information related to karst. Most of the information was reviewed prior to the 1998 certification decision. In addition, DOE had collected and analyzed additional data since the submission of the CCA. Certain stakeholders also identified additional documentation (e.g., the "Hill report"—Air Docket A-98-49, Item II-B3-95) that they wanted EPA to review and consider.

As part of this effort, EPA made a site visit to re-examine the evidence of karst around the WIPP site. During the site visit, EPA searched for karst indicators such as sinkholes, evidence of large-scale water exchange underground, or springs in the vicinity of WIPP. EPA found no evidence of these features at the WIPP site.

EPA prepared a technical support document (TSD) that discusses EPA's in-depth review of the karst issue for recertification (Air Docket A-98-49, Item II-B1-15). Our review again concludes as follows: The WIPP site does not exhibit evidence of karst; it is highly unlikely that reactive water could reach and dissolve the Rustler dolomites; and the hydrologic regime at WIPP is adequately modeled without modeling karst features. EPA is convinced that its 1998 conclusion is still valid after this CRA review.

The Agency also requested that DOE/SNL conduct a separate analysis of the potential for karst and address some general and specific issues raised by stakeholders. The major issues reviewed in the SNL report were: Insoluble residues, negative gravity anomalies, specific well results, water in the exhaust shaft, and recharge and discharge issues. DOE's report reaffirmed the previous analysis demonstrating that pervasive karst processes have been active outside the WIPP site but not directly at WIPP. Additional information on this topic is also found in EPA's CRA Compliance Application Review Document (CARD) 15. (CARDS contain the detailed technical rationale for EPA's recertification decision and are found in Air Docket A-98-49, Item V-B2-1).

*C. Performance Assessment: Modeling and Containment Requirements (§§ 194.14, 194.15, 194.23, 194.31 Through 194.34)*

The disposal regulations at 40 CFR Part 191 include requirements for containment of radionuclides. The containment requirements at 40 CFR 191.13 specify that releases of radionuclides to the accessible environment must be unlikely to exceed specific limits for 10,000 years after disposal. At WIPP, the specific release limits are based on the amount of waste in the repository at the time of closure (§ 194.31). Assessment of the likelihood that WIPP will meet these release limits is conducted through the use of a process known as performance assessment, or PA.

The WIPP PA process culminates in a series of computer simulations that attempts to describe the physical attributes of the disposal system (site characteristics, waste forms and quantities, engineered features) in a manner that captures the behaviors and interactions among its various components. The computer simulations require the use of conceptual models that represent physical attributes of the repository based on features, events, and processes that may impact the disposal system. The conceptual models are then expressed as mathematical relationships, which are solved with iterative numerical models, which are then translated into computer codes. (§ 194.23) The results of the simulations are intended to show estimated releases of radioactive materials from the disposal system to the accessible environment over the 10,000-year regulatory time frame.

The PA process must consider both natural and man-made processes and events which have an effect on the disposal system (§§ 194.32 and 194.33). The PA must consider all reasonably probable release mechanisms from the disposal system and must be structured and conducted in a way that demonstrates an adequate understanding of the physical conditions in the disposal system. The PA must evaluate potential releases from both human-initiated activities (e.g., via drilling intrusions) and natural processes (e.g., dissolution) that may occur independently of human activities. DOE must justify the omission of events and processes that could occur but are not included in the final PA calculations.

The results of the PA are used to demonstrate compliance with the containment requirements in 40 CFR 191.13. The containment requirements

are expressed in terms of “normalized releases.” The results of the PA are assembled into complementary cumulative distribution functions (CCDFs) which indicate the probability of exceeding various levels of normalized releases. (§ 194.34)

To demonstrate continued compliance with the disposal regulations, DOE submitted a new PA as part of the recertification application. The new PA incorporated changes to a few conceptual models and some parameter values. DOE made modifications to the PA computer codes and parameter values after the original CCA. EPA monitored and reviewed these changes, as summarized below.

DOE modified four conceptual models after the original CCA: Disposal System Geometry, Repository Fluid Flow, Disturbed Rock Zone, and the Spallings conceptual model. The first three conceptual models were changed to incorporate the EPA mandated Option D panel closure system (CCA Condition 1). The new Spallings conceptual model was developed to account for certain deficiencies identified by the CCA peer review panel.

DOE updated its analysis of features, events and processes (FEPs) that could impact WIPP. This update of FEPs did not result in any changes to the scenarios used in the CRA PA. The CRA PA included calculations of the same scenarios as the original CCA PA: (1) The undisturbed scenario, where the repository is not impacted by human activities, and three drilling scenarios, (2) the E1 Scenario, where one or more boreholes penetrate a Castile brine reservoir and also intersect a repository waste panel, (3) the E2 Scenario, where one or more boreholes intersect a repository waste panel but not the brine reservoir, and (4) the E1E2 Scenario, where there are multiple penetrations of waste panels by boreholes of the E1 or E2 type, at many possible combinations of intrusions times, locations, and E1 or E2 drilling events.

For the CRA PA, DOE changed, updated, or corrected several parameter values that were used in the CCA PA (see CRA CARD 23 for details). Some of the changed parameters included: Waste inventory estimates, chemistry related parameters, actinide solubility values, disturbed rock zone values, retardation coefficient values, and drilling rate.

During EPA’s review of the CRA PA, both EPA and DOE independently identified several technical changes and corrections that were necessary. These changes included using more complete and up-to-date waste inventory projections and correcting the implementation of calculational

requirements that ensure appropriate statistical confidence in the PA results. In a March 2005 letter to DOE, EPA informed DOE that a new PA was required to demonstrate continued compliance for recertification (Air Docket A–98–49, Item II–B3–80). In the letter, EPA notified DOE that the new PA must be comprised of three full replicates (i.e., 300 iterations of the models) according to the requirements of § 194.34(f). EPA also provided direction for changes and updates to other aspects of the PA, such as: Uranium (+VI) solubility, solubility uncertainty ranges, actinide solubilities, the probability of microbial degradation, revised gas generation rates, modification of the methanogenesis assumption, inclusion of waste packaging materials in the calculation of amounts cellulosic, plastic, and rubber materials, and corrections to the Culebra transmissivity fields.

In response to EPA’s direction to conduct a new performance assessment for recertification, DOE produced the Performance Assessment Baseline Calculations (PABC). The Agency’s review of the PABC found that DOE made all the changes required by EPA, and that the PABC demonstrates compliance with the containment requirements specified in 40 CFR Part 191. Although the results of the PABC indicate more potential releases from a human intrusion event, the releases remain well within the limits established by 40 CFR Part 191. EPA considers the PABC to be a sufficiently conservative and current representation of the knowledge of the WIPP and how it will interact with the surrounding environment. EPA also finds that DOE is in continued compliance with our 40 CFR 194.23 and 194.31 through 194.34 requirements. EPA found that DOE calculated the release limits properly (§ 194.31), adequately defined the scope of the PA (§ 194.32), included drilling scenarios as in the original CCA (§ 194.33), and calculated and presented the results of the CRA PA and PABC properly (§ 194.34). EPA analysis of compliance with the performance assessment related requirements of 40 CFR 194 may be found in its aforementioned TSD (Air Docket A–98–49, Item II–B1–16). Additional information on these issues can also be found in CRA CARDS 23 and 31–34.

EPA received public comments related to the CRA performance assessment. Commenters questioned the appropriateness of the drilling rate used in the PA, which is described below. They also raised concerns about the accuracy of WIPP waste inventory

parameters, which is discussed further in Section VI.B.4 of this document.

Public comments expressed concern that the drilling rate was underestimated in the CRA's performance assessment calculations given the amount of drilling that is currently taking place throughout the Delaware Basin. Commenters suggested that the drilling rate be doubled to demonstrate compliance. Although EPA determined that DOE appropriately calculated and implemented a drilling rate of 52.2 boreholes/km<sup>2</sup>/year in compliance with § 194.33(b) for recertification, EPA requested that DOE evaluate the impacts of doubling the current drilling rate to respond to public concerns.

DOE performed the calculations for this analysis by assuming the drilling rate was increased to 105 boreholes per square kilometer per year for 10,000 years. The results of computer modeling showed that doubling the drilling rate would increase releases from the repository. However, this increase was relatively small and still well below EPA's regulatory release limits. (See CRA CARD 23)

DOE monitors natural resource related issues in the Delaware Basin annually. Through this monitoring, DOE identified that the drilling rate in the surrounding area increased from 46.8 to 52.2 boreholes per km<sup>2</sup> per 10,000 years since the original certification. EPA reviewed the documentation provided by DOE and has conducted annual inspections of DOE's information collection process and determined that DOE has done due diligence in keeping abreast of all drilling information. DOE also identified that the fluid injection rate per well is the same as that used for the original CCA. EPA finds that DOE adequately characterized drilling related issues.

#### D. General Requirements

##### 1. Approval Process for Waste Shipment From Waste Generator Sites for Disposal at WIPP (§ 194.8)

EPA codified the requirements of § 194.8 at the time of the 1998 certification decision. Under these requirements, EPA evaluates site specific waste characterization and QA plans to determine that DOE can adequately characterize and track waste for disposal at WIPP.

Since 1998, EPA has conducted numerous inspections and approvals pursuant to § 194.8. For more information on activities related to § 194.8, please refer to CRA CARD 8.

##### 2. Inspections (§ 194.21)

Section 194.21 provides EPA with the right to inspect all activities at WIPP and all activities located off-site which provide information in any compliance application. EPA did not exercise its authority under this section prior to the 1998 certification decision.

Since 1998, EPA has inspected WIPP site activities, waste generator sites, monitoring programs, and other activities. For all inspections, DOE provided EPA with access to facilities and records, and supported our inspection activities. Additional information on EPA's 194.21 inspection activities can be found in CRA CARD 21.

##### 3. Quality Assurance (§ 194.22)

Section 194.22 establishes QA requirements for WIPP. QA is a process for enhancing the reliability of technical data and analyses underlying compliance applications. Section 194.22 requires DOE to demonstrate that a Nuclear Quality Assurance (NQA) program has been established and executed/implemented for items and activities that are important to the long-term isolation of transuranic waste. In the CRA, DOE extensively revised Chapter 5, Quality Assurance, to better match the structure of the NQA standards and to update information since the CCA.

EPA determined that the CRA provides adequate information to demonstrate the establishment of each of the applicable elements of the NQA standards. EPA also verified the continued proper implementation of the NQA Program during its CRA review and during previous audits conducted in accordance with § 194.22(e).

EPA's determination of compliance with § 194.22 can be found in CRA CARD 22.

##### 4. Waste Characterization (§ 194.24)

Section 194.24, waste characterization, generally requires DOE to identify, quantify, and track the chemical, radiological and physical components of the waste destined for disposal at WIPP. In order to compile the waste inventory for recertification, DOE required data reporting and collection from the waste generator sites. Based on the WIPP LWA's timeline for recertification, DOE's cut-off date for including waste in the WIPP recertification inventory was September 30, 2002.

Descriptions of the chemical, radiological, and physical components of the waste were thoroughly documented in the CRA and supporting

documents. This information was collected using similar methods as during the 1998 certification decision. DOE classified the wastes as emplaced, stored or projected (to-be-generated). DOE used the data from the WIPP Waste Information System (WWIS) to identify the characteristics of the waste that has been emplaced at WIPP since 1999. DOE listed the projected wastes in waste profile tables in the CRA (Appendix DATA, Attachment F). The projected wastes were categorized similarly to existing waste (e.g., heterogeneous debris, filter material, soil).

Although DOE's recertification waste inventory was largely the same as the inventory evaluated for the 1998 certification decision, there were some changes. As of September 30, 2002,  $7.7 \times 10^3$  m<sup>3</sup> of contact-handled (CH) waste had been emplaced at WIPP. This volume was used in the PABC. DOE estimated the combination of emplaced, stored, and projected waste to be 145,000 m<sup>3</sup> versus the 112,000 m<sup>3</sup> estimated for the CCA. Although EPA approved DOE's general framework for the characterization of remote-handled (RH) waste on March 26, 2004 (Air Docket A-98-49, Item II-B2-21), RH has not yet been approved for disposal at WIPP. (The current projected volume of remote-handled waste at WIPP is greater than the 7,080 m<sup>3</sup> in the consent agreement with the State of New Mexico.) Despite the changes in the volume of CH and RH waste, the total number of curies projected for a full repository was reduced from 3.44 million curies in the CCA to 2.32 million curies in the CRA.

Some commenters noted that the recertification waste inventory clearly contains amounts of CH and RH waste that exceed the WIPP capacity. The Agency agrees that the inventory of RH does exceed the capacity of WIPP as it did in the CCA inventory; however, EPA does not consider this a problem in demonstrating compliance with the disposal regulations. EPA recognizes that the WIPP waste inventory is a dynamic projection of the waste that may or may not be disposed of at WIPP. The Agency's acceptance of a waste inventory is not an authorization to dispose of a particular waste at WIPP. Before any waste is disposed at WIPP, EPA seeks to ensure that the waste meets the waste acceptance criteria for WIPP and that DOE can characterize and track the waste. To demonstrate continuing compliance, the performance assessment reflects a repository that meets the capacity requirements for CH and RH wastes, as limited by the LWA and the consent agreement with the State of New Mexico.



During EPA's evaluation of the completeness of the CRA, EPA identified updates and additional information needs for the waste chemistry and waste inventory. For waste chemistry, EPA evaluated issues such as: The modified gas generation rate, actinide solubility and associated uncertainty values, and uranium (+VI) solubility. For more information on EPA's review of the waste chemistry, please refer to CRA CARDS 15, 23 and 24 and applicable TSDs (Air Docket A-98-49, Category II-B1).

As previously mentioned, EPA directed DOE to conduct a new performance assessment for recertification in March 2005 (Air Docket A-98-49, Item II-B3-80)—the PABC. For the PABC, EPA required DOE to update information on the waste inventory. In the PABC, DOE modified the CRA inventory to correct errors identified in the inventory, including modifying a CH waste stream from LANL that had RH characteristics, and correcting the amounts of a Hanford waste stream. DOE also included buried waste from INL.

EPA reviewed the CRA and supplemental information provided by DOE to determine whether they provided a sufficiently complete description of the chemical, radiological and physical composition of the emplaced, stored and projected wastes proposed for disposal in WIPP. The Agency also reviewed DOE's description of the approximate quantities of waste components (for both existing and projected wastes). EPA considered whether DOE's waste descriptions were of sufficient detail to enable EPA to conclude that DOE did not overlook any component that is present in TRU waste and has significant potential to influence releases of radionuclides.

The CRA did not identify any significant changes to DOE's waste characterization program in terms of measurement techniques, or quantification and tracking of waste components. Since the 1998 certification decision, EPA has conducted numerous inspections and approvals of generator site waste characterization programs to ensure compliance with §§ 194.22, 194.24, and 194.8. For a summary of EPA's waste characterization approvals, please refer to CRA CARD 8.

Public comments identified some wastes in the WIPP recertification inventory from the Hanford site in Washington State as high-level waste (HLW) and spent nuclear fuel (SNF), which are prohibited by the LWA from disposal at WIPP. The public commented that these wastes are not

transuranic and should not be allowed in the WIPP waste inventory. According to public comments, EPA should not recertify WIPP or should exclude these wastes from the WIPP waste inventory. In a December 2005 letter to DOE, EPA requested additional information from DOE on the basis for considering these wastes as TRU waste instead of high-level waste.

DOE provided additional information on the Hanford Tank wastes that indicate that the Hanford Tank wastes will be treated and will eventually be able to meet the WIPP waste acceptance criteria (Air Docket A-98-49, Items II-B2-47 and II-B2-50). DOE stated that the tank wastes that may eventually be disposed of at WIPP are TRU waste or would be TRU waste. DOE also stated that the tank wastes have not been designated as HLW but have been managed as HLW, in accordance with their radioactive waste management procedures. DOE has committed to removing these wastes from the tanks and treating them, if needed, to meet the WIPP waste acceptance criteria. DOE also stated that the HLW fission products, precipitated salts and other solids will be removed, to the extent practicable, from the Hanford K-basin sludges. DOE stated that this waste would then be RH TRU waste and would meet the WIPP waste acceptance criteria.

DOE has provided information stating that the waste in question will be processed so that high-level waste will be removed, to the extent practical, in its preparation to meet the WIPP waste acceptance criteria. DOE may be able to show that this waste will have a TRU designation in the future. Thus, EPA allowed these wastes to be included in the performance assessment inventory for recertification. By doing so, DOE is demonstrating that with or without the Hanford Tank wastes, WIPP continues to comply with EPA's disposal regulations. The Agency believes that this is a conservative approach to the performance assessment of the WIPP repository because a broad inventory of waste is being considered. Inclusion in the performance assessment of the facility *does not* imply or otherwise provide for EPA's approval of such waste for disposal at WIPP.

EPA will not allow high-level waste or spent nuclear fuel to be shipped to WIPP. All wastes must meet the WIPP waste acceptance criteria and all requirements of EPA's waste characterization program, and EPA must officially notify DOE before they are allowed to ship waste to WIPP.

Public commenters stated that EPA must conduct a rulemaking regarding

how the Agency will make determinations about what waste is high-level waste. EPA does not make waste determinations. DOE is responsible for making waste determinations, classifications, or reclassifications. In recognition of the public's concern about the possible future designation of the Hanford Tank wastes as TRU waste, DOE has proposed a process for developing or changing determinations for wastes such as the Hanford Tank wastes. In a February 2006 letter to EPA, DOE proposed a process (Air Docket A-98-49, Item II-B2-57) for the evaluation of tank waste that includes multiple opportunities for public input prior to the request to EPA for disposal at WIPP. The Agency considers it appropriate for DOE to conduct a public process that will determine the designation or classification of waste prior to requesting EPA's approval for disposal at WIPP.

The Agency currently has a process in place to ensure that waste disposed of at WIPP is TRU waste, as outlined in the requirements listed at 40 CFR 194.8, 194.22, and 194.24. The first step in this process is DOE's official request to dispose of TRU waste at WIPP from one of the waste generator sites. Once EPA receives all required information and documentation, the Agency then inspects waste characterization activities at a waste generator site to ensure that the site has the technical ability to adequately characterize and track TRU waste. Confirmation of waste designation is then completed through the waste characterization process at the site. EPA believes that it currently has an adequate process in place for evaluating any DOE requests for approval of waste for disposal at WIPP. The Agency does not believe that it is necessary to conduct a rulemaking for certain waste streams.

Waste that is not designated as TRU waste will not be considered for disposal at WIPP by EPA. The Agency agrees with commenters that the LWA does not provide for waste determinations to be made during recertification. Prior to disposal at WIPP, EPA will ensure that all wastes meet the legal and technical requirements for disposal. It is important to remember that just because waste is included in the WIPP waste inventory, it does not mean that DOE will necessarily seek to ship it to WIPP or that EPA will approve it for disposal at WIPP. Before any waste is approved to be shipped or disposed of at WIPP, EPA ensures that the waste meets the waste acceptance criteria for WIPP and that DOE can characterize and track the

waste. For more information on tank wastes and EPA's determination of compliance with § 194.24, please refer to CRA CARD 24.

#### 5. Future State Assumptions (§ 194.25)

Section 194.25 stipulates that performance assessments and compliance assessments "shall assume that characteristics of the future remain what they are at the time the compliance application is prepared, provided that such characteristics are not related to hydrogeologic, geologic or climatic conditions." Section 194.25 also requires DOE to provide documentation of the effects of potential changes of hydrogeologic, geological, and climatic conditions on the disposal system over the regulatory time frame. Section 194.25 focuses the PA and compliance assessments on the more predictable significant features of disposal system performance, instead of allowing unbounded speculation on all developments over the 10,000-year regulatory time frame.

For the CRA, DOE updated its assessment of the features, events and processes (FEPs) and subsequent scenarios that are used in performance and compliance assessments. As a result of this assessment, DOE eliminated sixteen FEPs using the Future State assumption (40 CFR 194.25 (a)), which assumes that these activities will not change in the future.

EPA assessed whether all FEPs and appropriate future state assumptions were identified and developed by DOE. EPA evaluated DOE's criteria to eliminate (screen out) inapplicable or irrelevant FEPs and associated assumptions. EPA also analyzed whether there were potential variations in DOE's assumed characteristics and determined whether the future state assumptions were in compliance with § 194.25(a).

EPA concludes that DOE adequately addressed the impacts of potential hydrogeologic, geologic and climate changes to the disposal system. The CRA includes all relevant elements of the performance assessment and compliance assessments and is consistent with the requirements of § 194.25. For more information regarding EPA's evaluation of compliance with this section, see CRA CARDS 25 and 32, and the corresponding TSD for FEPs (Air Docket A-98-49, Item II-B1-11).

#### 6. Expert Judgment (§ 194.26)

The requirements of § 194.26 apply to expert judgment elicitation, which is a process for obtaining data directly from experts in response to a technical

problem. Expert judgment may be used to support a compliance application, provided that it does not substitute for information that could reasonably be obtained through data collection or experimentation. EPA prohibits expert judgment from being used in place of experimental data, unless DOE can justify why the necessary experiments cannot be conducted. The 2004 CRA did not identify any expert judgement activities that were conducted since the 1998 certification decision. Therefore, EPA determines that DOE remains in compliance with the requirements of § 194.26. (For more information regarding EPA's evaluation of compliance with § 194.26, see CRA CARD 26.)

#### 7. Peer Review (§ 194.27)

Section 194.27 of the WIPP Compliance Criteria requires DOE to conduct peer review evaluations related to conceptual models, waste characterization analyses, and a comparative study of engineered barriers. A peer review involves an independent group of experts who are convened to determine whether technical work was performed appropriately and in keeping with the intended purpose. The required peer reviews must be performed in accordance with the Nuclear Regulatory Commission's NUREG-1297, "Peer Review for High-Level Nuclear Waste Repositories," which establishes guidelines for the conduct of a peer review exercise. DOE performed two conceptual model peer reviews between the submission of the CCA and CRA: the Salado Flow Conceptual Model Peer Review in March 2003 (see CRA Chapter 9, Section 9.3.1.3.4) and the Spalling Model Peer Review in September 2003 (see CRA Chapter 9, Section 9.3.1.3.5). EPA reviewed each of the conceptual model peer reviews as they were performed and all documents related to each peer review. EPA's review verified that the process DOE used to perform these peer reviews was compatible with NUREG-1297 requirements. Therefore, EPA determines that DOE remains in compliance with the requirements of § 194.27. (For more information regarding EPA's evaluation of compliance with § 194.27, see CRA CARD 27.)

#### E. Assurance Requirements (§§ 194.41-194.46)

The assurance requirements were included in the disposal regulations to compensate in a qualitative manner for the inherent uncertainties in projecting the behavior of natural and engineered components of the repository for many

thousands of years (50 FR 38072). The assurance requirements included in the WIPP Compliance Criteria are active institutional controls (§ 194.41), monitoring (§ 194.42), passive institutional controls (§ 194.43), engineered barriers (§ 194.44), presence of resources (§ 194.45), and removal of waste (§ 194.46).

The CRA did not reflect any significant changes to demonstrating compliance with the assurance requirements. DOE appropriately updated the information for the assurance requirements in Chapter 7 of the CRA and accurately reflected EPA decisions since the 1998 certification decision, such as reduction in the safety factor for the magnesium oxide engineered barrier (194.44). EPA's specific evaluation of compliance with the assurance requirements can be found in CRA CARDS 41-46.

#### F. Individual and Groundwater Protection Requirements (§§ 194.51 Through 194.55)

Sections 194.51 through 194.55 of the compliance criteria implement the individual protection requirements of 40 CFR 191.15 and the ground-water protection requirements of Subpart C of 40 CFR Part 191 at WIPP. Assessment of the likelihood that the WIPP will meet the individual dose limits and radionuclide concentration limits for ground water is conducted through a process known as compliance assessment. Compliance assessment uses methods similar to those of the PA (for the containment requirements) but is required to address only undisturbed performance of the disposal system. That is, compliance assessment does not include human intrusion scenarios (*i.e.*, drilling or mining for resources). Compliance assessment can be considered a "subset" of performance assessment, since it considers only natural (undisturbed) conditions and past or near-future human activities (such as existing boreholes), but does not include the long-term future human activities that are addressed in the PA.

Sections 194.51 through 194.55 describe specific requirements for compliance with 40 CFR 191 requirements at WIPP. Section 194.51 states that the protected individual must be located at the location expected to receive the highest dose from any radioactive release. All potential exposure pathways are to be considered and compliance assessments (CAs) must assume that individuals consume 2 liters of water per day according to 40 CFR 194.52. 40 CFR 194.53 requires that all underground sources of drinking water be considered and that

connections to surface water be factored in any CA. In 40 CFR 194.54 potential processes and events are to be considered and selected in any CA and that existing boreholes or other drilling activities be considered. 40 CFR 194.55 also requires that the impact of uncertainty on any CA analysis and that committed effective dose to individuals be calculated. Radionuclide concentrations in underground sources of drinking water (USDWs) and dose equivalent received from USDWs must also be calculated.

In the CRA, DOE reevaluated each of the individual and ground water requirements. DOE updated parameters related to the individual and groundwater requirements for the undisturbed scenario, for example, changes in population and water use (water use increased from 282 gallons per person per day in the CCA to 305 in the CRA). In addition to updating information for the compliance assessment, as a result of water wells that have been drilled since the original CCA, DOE was able to confirm original water source assumptions (CRA Chapter 8.2). DOE did not conduct new detailed bounding dose calculations for the CRA because the releases predicted by the CRA performance assessment for the undisturbed scenario were lower than those used in the original CCA (CRA Chapter 8.0).

EPA reviewed DOE's CRA approach to compliance with 40 CFR 194.51 to 40 CFR 194.55. EPA verified that DOE's approach to addressing the individual and groundwater requirements was the same as the original CCA (CRA CARDS 51/52, 53, 54, 55 for details). EPA agrees with DOE's conclusion that the CRA PA results are lower than the original CCA and that the recalculation of doses was not necessary for the CRA (CRA Chapter 8.1.2.2). Because DOE was required to correct, update, and rerun the CRA PA, called the PABC, EPA reevaluated the impact of these new results on compliance with 40 CFR 194.51 to 40 CFR 194.55. EPA found the results of the PABC to be much like the CRA PA results—showing fewer releases for the undisturbed scenario than the original CCA. EPA finds DOE in continued compliance with 40 CFR 194.51–194.55 requirements.

## VI. How has the public been involved in EPA's WIPP recertification activities?

### A. Public Information

Since the 1998 certification decision, EPA has kept the public informed of our continuing compliance activities at WIPP and our preparations for recertification. EPA's main focus has

been on distributing information via the EPA Web site, and WIPP-NEWS e-mail messages. In addition, EPA has published periodic WIPP Bulletins and kept the WIPP Information line up-to-date.

Throughout the recertification process, the Agency posted any new information or updates on its Web page. Many of our recertification documents (including DOE-submitted recertification materials, correspondence, **Federal Register** notices, outreach materials, hearings transcripts, as well as technical support documents) are available for review or download (in Adobe .pdf format) from the EPA Web site at <http://www.epa.gov/radiation/wipp>.

Since February 2004, EPA has sent out numerous announcements regarding the recertification schedule, availability of documents on the EPA WIPP Web site, and upcoming inspections at waste generator sites, as well as details for the Agency's July 2004 and June 2005 stakeholder meetings in New Mexico.

### B. Stakeholder Meetings

As discussed in the WIPP LWA, the recertification process is not a rulemaking, therefore public hearings were not required. However, EPA held a series of public meetings in New Mexico in both July 2004 and June 2005 to provide information about the recertification process. In an effort to make these meetings as informative as possible to all attending parties, EPA listened to stakeholder input and concerns and tailored the meetings around the public as much as possible.

The first meetings were held from July 26–29, 2004, in Carlsbad, Albuquerque, and Santa Fe, New Mexico. The main purpose of these meetings was to discuss EPA's recertification process and timeline, as well as DOE's application and important changes at WIPP since its opening. The meetings featured presentations and poster sessions on specific WIPP technical issues and facilitated discussions. In response to stakeholder suggestions, DOE staff was also on hand to provide information and answer any stakeholder questions. Participants were encouraged to provide comments to EPA for our consideration during review of DOE's WIPP application.

The second public session was held on June 7, 2005, in Albuquerque, New Mexico. The main purpose of this meeting was to update the public on EPA's recertification schedule and provide more in-depth, technical information related to stakeholder questions and comments raised at the first series of meetings.

Summaries of EPA's stakeholder meetings are posted on the EPA Web site and in the dockets. Many of the issues raised by the public are identified in the meeting summaries and have been addressed by EPA in the Compliance Application Review Documents (CARDs) under the relevant section.

### C. Public Comments on Recertification

EPA posted the recertification application on its Web site immediately following receipt. EPA announced receipt of the recertification application in the **Federal Register** on May 24, 2004. The notice also officially opened the public comment period on the recertification application.

For recertification, EPA sought public comments and input related to the changes in DOE's application that may have a potential impact on WIPP's ability to remain in compliance with EPA's disposal regulations.

The comment period on the recertification application closed 560 days after it opened, on December 5, 2005. This was 45 days after EPA's announcement in the **Federal Register** that the recertification application was complete.

EPA received four sets of written public comments during the public comment period. EPA considered significant comments from the written submissions and the stakeholder meetings in its evaluation of continuing compliance. EPA addresses these comments in CARDs that are relevant to each topic.

In addition to comments on specific sections of 40 CFR Part 194, EPA received comments on general issues. Some people commented on the content of the CRA throughout the recertification process. With EPA submitting numerous requests for additional information to DOE, commenters believed that the CRA was "grossly flawed and incomplete," and thus, there was not adequate information for the public to review for comment in the allotted timeframe. Certain commenters also suggested that EPA and DOE should discuss the initial recertification process to ensure that the next application would be more timely and adequate.

EPA provided guidance to DOE on its expectations for the first recertification application (see correspondence in Air Docket A-98-49, Category II-B3). Upon submission of the CRA by DOE, the Agency found it necessary to request a considerable amount of supplemental information. Following receipt of the additional information, EPA promptly made the completeness determination.

Once the recertification application was deemed complete, EPA conducted its technical evaluation and issued the recertification decision within the six-month timeframe specified by the WIPP LWA.

EPA believes that future recertification processes should not be as lengthy. The Agency intends to meet with DOE to discuss and work on improving future recertification applications and processes.

#### VII. Where can I get more information about EPA's WIPP-related activities?

##### A. Supporting Documents for Recertification

The Compliance Application Review Documents, or CARDS, contain the detailed technical rationale for EPA's recertification decision. The CARDS discuss DOE's compliance with each of the individual requirements of the WIPP Compliance Criteria. The document discusses background information related to each section of the compliance criteria, restates the specific requirement, reviews the original 1998 certification decision, summarizes changes in the CRA, and describes EPA's compliance review and decision—most notably, any changes that have occurred since the original certification. The CARDS also list additional EPA technical support documents and any other references used by EPA in rendering its decision on compliance. All technical support documents and references are available in Air Docket A-98-49, with the exception of generally available references and those documents already maintained by DOE or its contractors in locations accessible to the public. For more detailed information on EPA's recertification decision, there are a number of technical support documents available. These are found in Air Docket A-98-49, Category II-B1.

##### B. WIPP Web Site, Listserv, Information Line, and Mailing List

For more general information and updates on EPA's WIPP activities, please visit our WIPP Internet homepage at <http://www.epa.gov/radiation/wipp>. A number of documents (including DOE-submitted recertification materials, letters, **Federal Register** notices, outreach materials, hearings transcripts, as well as technical support documents) are available for review or download (in Adobe .pdf format). The Agency's WIPP-NEWS service, which automatically e-mails subscribers with up-to-date WIPP announcements and information, is also available online. Any individuals wishing to subscribe to

the listserv can join by visiting [https://lists.epa.gov/read/all\\_forums/subscribe?name=wipp-news](https://lists.epa.gov/read/all_forums/subscribe?name=wipp-news) or by following the instructions listed on our WIPP Web site. Interested citizens may also contact EPA's toll-free WIPP Information Line at 1-800-331-WIPP. The information line offers a recorded message regarding current EPA WIPP activities, upcoming meetings, and publications. Callers are also offered the option of joining EPA's WIPP mailing list. Periodic mailings, including a WIPP Bulletin and fact sheets related to specific EPA activities, are sent to members of the mailing list (currently over 2,000 members).

##### C. Dockets

In accordance with 40 CFR 194.67, EPA maintains public dockets (FDMS Docket ID No. EPA-HQ-OAR-2004-0025 and Air Docket A-98-49) that contain all the information used to support the Agency's decision on recertification. The Agency established and maintains the formal rulemaking docket in Washington, DC, as well as informational dockets in three locations in the State of New Mexico (Carlsbad, Albuquerque, and Santa Fe). The docket consists of all relevant, significant information received to date from outside parties and all significant information considered by EPA in reaching a recertification decision regarding whether the WIPP facility continues to comply with the disposal regulations. EPA placed copies of the CRA in Category II-B2 of Air Docket A-98-49. The Agency placed supplementary information received from DOE in response to EPA requests in Category II-B2.

As part of the eRulemaking Initiative under the President's Management Agenda, the Federal Docket Management System (FDMS) was established in November 2005. FDMS was created to better serve the public by providing a single point of access to all federal rulemaking activities.

The final recertification decision and supporting documentation can be found in hard-copy form primarily in the following categories of Docket A-98-49: Category II-B1 (technical support documents, reports, etc.), Category II-B2 (DOE submissions and responses to EPA requests), Category II-B3 (EPA correspondence to DOE, public comments) and Category II-B4 (final recertification **Federal Register** notice, CARDS). Interested parties may also search online in FDMS Docket ID No. EPA-HQ-OAR-2004-0025 for any of these documents by title or key word(s). For more information related to EPA's public dockets (including locations and

hours of operation), please refer to Section 1.A.1 of this document.

#### VIII. What happens next for WIPP? What is EPA's role in future WIPP activities?

EPA's regulatory role at WIPP does not end with its first recertification decision. The Agency's future WIPP activities will include additional recertifications every five years, review of DOE reports on conditions and activities at WIPP, assessment of waste characterization and QA programs at waste generator sites, announced and unannounced inspections of WIPP and other facilities, and if necessary, modification, revocation, or suspension of the certification.

Although not required by the Administrative Procedures Act (APA), the WIPP LWA, or the WIPP Compliance Criteria, EPA intends to continue docketing all inspection or audit reports and annual reports by DOE on conditions and activities at the WIPP.

Future recertification processes will be similar to the process completed by EPA for this first recertification, as described in today's action. For example, EPA will publish a **Federal Register** notice announcing its receipt of the next compliance application and our intent to conduct such an evaluation. The application for recertification will be placed in the docket, and at least a 30-day period will be provided for submission of public comments. Following the completeness determination, EPA's decision on whether to recertify the WIPP facility will again be announced in a **Federal Register** notice (§ 194.64).

Dated: March 29, 2006.

**Elizabeth Cotsworth,**

*Director, Office of Radiation and Indoor Air.*  
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#### DEPARTMENT OF COMMERCE

##### National Oceanic and Atmospheric Administration

##### 50 CFR Part 679

[Docket No. 060216045-6045-01; I.D. 040406B]

##### Fisheries of the Exclusive Economic Zone Off Alaska; Groundfish by Vessels Using Non-Pelagic Trawl Gear in the Red King Crab Savings Subarea

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and