6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 194

[EPA-HQ-OAR-2013-0684; FRL-9903-38-OAR]

Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations; Panel Closure Redesign

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: With this notice, the U.S. Environmental Protection Agency (EPA, or the Agency) proposes to approve the U.S. Department of Energy's (DOE, or the Department) planned change request to implement the Run-of-Mine Panel Closure System (ROMPCS) at the Waste Isolation Pilot Plant (WIPP) and to amend the WIPP Compliance Criteria to allow an EPA-approved panel closure other than the currently-required Option D design. Technical analyses demonstrate that, with the modified panel closure design, WIPP remains in compliance with the release limits set by the "Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic (TRU) Radioactive Waste." The proposed changes do not lessen the requirements for complying with the Compliance Criteria, nor do these changes impact the technical approach that the EPA will employ when considering any future planned changes to the panel closure system. Compliance with environmental or public health regulations other than the EPA's disposal regulations and WIPP Compliance Criteria is not addressed by today's action. Today's notice marks the beginning of a 60-day public comment period on this proposed action.

DATES: Comments must be received on or before 60 days after date of publication in the *Federal Register*.

ADDRESSES: Submit your comments, identified by Docket ID No. **EPA-HQ-OAR-2013-0684**, by one of the following methods—

- www.regulations.gov: Follow the on-line instructions for submitting comments.
- Email: to a-and-r-docket@epa.gov; Docket ID No. **EPA-HQ-OAR-2013-0684.**
- Fax: (202) 566-1741.
- Mail: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 6102T, 1200 Pennsylvania Ave., NW, Washington, DC 20460.

Instructions: Direct your comments to Attn: Docket ID No. **EPA-HQ-OAR-2013-0684.** The Agency's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to the EPA without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact

you for clarification, the Agency may not be able to consider your comment. Electronic files should avoid the use of special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at http://www.epa.gov/epahome/dockets.htm.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. The EPA has established a docket for this action under Docket ID No. **[EPA-HQ-OAR-2013-0684; FRL-9903-38-OAR]**. Publicly available docket materials related to this action (e.g., the Technical Support document [TSD]) are available either electronically through www.regulations.gov, on the Agency's WIPP website (http://www.epa.gov/radiation/wipp) or in hard copy at the Air and Radiation Docket in the EPA Docket Center, (EPA/DC) EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC 20004. 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. In accordance with the 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.

FOR FURTHER INFORMATION CONTACT: Ray Lee or Jonathan Walsh, Radiation Protection Division, Mail Code 6608J, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC, 20460; telephone number: 202-343-9463 or 202-343-

9238; fax number: 202-343-2305; e-mail address: lee.raymond@epa.gov or walsh.jonathan@epa.gov.

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations:

Several acronyms and terms used to describe components of the WIPP disposal system and performance assessment computer models are included in this preamble. To ease the reading of this preamble and for reference purposes, the following terms are defined here:

BRAGFLO	Computer model used to simulate brine and gas flow
CBFO	Carlsbad Field Office
CCA	Compliance Certification Application
CCDF	Complementary Cumulative Distribution Function
CFR	Code of Federal Regulations
DBR	Direct Brine Release
DOE	U.S. Department of Energy
DRZ	Disturbed Rock Zone
EPA	U.S. Environmental Protection Agency
FEPs	Features, Events and Processes
LWA	Land Withdrawal Act
MSHA	Mine Safety and Health Administration
NMED	New Mexico Environment Department
OPC	Ordinary Portland Cement

PA	Performance Assessment
PABC	Performance Assessment Baseline Calculation
PAVT	Performance Assessment Verification Test
PCS	Panel Closure System
PCS-2012	Panel Closure System 2012 Performance Assessment
PCR	Planned Change Request
PC3R	Panel Closure Redesign and Repository Reconfiguration Performance Assessment
PMR	Permit Modification Request
RCRA	Resource Conservation and Recovery Act
ROM	Run-of-Mine
ROMPC, or	
ROMPCS	Run-of-Mine Salt Panel Closure System
SMC	Salado Mass Concrete
SNL	Sandia National Laboratories
TRU	Transuranic
TSD	Technical Support Document
VOC	Volatile Organic Compound
WIPP	Waste Isolation Pilot Plant

Table of Contents

F. National Technology Transfer & Advancement Act of 1995

G. Executive Order 13045: Children's Health Protection

H. Executive Order 13132: Federalism

I. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

J. Executive Order 13211: Energy Effects

I. General Information

A. What should I consider as I prepare my Comments for the EPA?

1. *Submitting Confidential Business Information (CBI):*

Do not submit this information to the EPA through www.regulations.gov or e-mail. Clearly mark all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to the EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments:*

When submitting comments, remember to—

- Identify the rulemaking by docket number, subject heading, ***Federal Register*** date and page

number.

- Follow directions—the EPA may ask you to respond to specific questions or organize comments by referencing the chapter number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow it to be reproduced.
- Illustrate your concerns with specific examples and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

II. What is the WIPP?

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

Congress authorized the development and construction of the 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."[1] Waste which may be emplaced in the WIPP is limited to TRU radioactive waste

[1] Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Pub. L. 96-164, section 213.

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 nano-curies per gram of waste.[2] 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, soil and organic or inorganic sludges. Some TRU waste is mixed with hazardous chemicals. The waste proposed for disposal at the WIPP is currently located at federal facilities across the United States, including locations in California, Idaho, Illinois, New Mexico, Nevada, Ohio, South Carolina, Tennessee and Washington.

The WIPP Land Withdrawal Act (LWA), initially passed by Congress in 1992 and amended in 1996, provides the EPA authority to oversee and regulate the WIPP. The WIPP LWA delegated to the EPA three main tasks, to be completed sequentially, for reaching an initial compliance certification decision. First, the Agency was required to finalize general regulations which apply to all sites—except Yucca Mountain—for the disposal of highly radioactive waste.[3] These disposal regulations, located at Subparts B and C of 40 CFR part 191, were originally published in the Federal Register in 1985 and amended in 1993.[4] Second, the 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

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

[3] WIPP LWA, section 8(b).

[4] 50 FR 38066-38089 (September 19, 1985) and 58 FR 66398-66416 (December 20, 1993).

Criteria, which are found at 40 CFR part 194.[5] The EPA made changes to the Compliance Criteria via rulemaking in July 2004 (69 FR 42571-42583). These 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, and offer more direct public input into the Agency's decisions about what waste can be disposed of at the WIPP. Third, the EPA was to review the information submitted by the DOE and publish a certification decision.[6] The Agency issued its certification decision on May 18, 1998, as required by Section 8 of the WIPP LWA (63 FR 27354-27406) determining that the WIPP met the standards for radioactive waste disposal. The complete record and basis for the EPA's 1998 certification decision can be found in Air Docket A-93-02. Condition 1, concerning the panel closure system, was appended to 40 CFR part 194 as part of the certification decision.

Section 8(f) of the WIPP LWA requires that within five years of initial receipt of waste at the WIPP, and every five years thereafter, the DOE is to submit to the EPA and the State of New Mexico documentation of continued compliance with the part 191 radioactive waste disposal regulations. The Agency recertified the WIPP facility for the first time on March 29, 2006 (71 FR 18010-18021) and again on November 18, 2010 (75 FR 70584-70595).

The Department submitted the design of the WIPP repository in Chapter 3 of the 1996 Compliance Certification Application (CCA). The EPA's certification is based upon this design. The underground waste disposal region at WIPP is divided into panels. A panel is a group of rooms mined into the salt, connected by tunnels called drifts. When all of the rooms of a panel are filled with waste, the DOE intends to seal the drifts with engineered structures called panel

[5] 61 FR 5224-5245 (February 9, 1996).

[6] WIPP LWA, section 8(d).

closures. The EPA certified the WIPP based on a panel closure design that sealed the drift using a concrete block wall and a poured concrete monolith. The DOE proposes to change this design and close the drift using two steel bulkheads and mined salt. Both panel closure designs are discussed in detail in Section IV of this document.

III. What is the Purpose of Today's Proposed Action?

This action is being taken in response to the DOE's September 2011 Planned Change Request (PCR) to alter the design of the panel closures used at the WIPP. The WIPP underground waste disposal area is divided into ten groups of rooms, or panels. A waste panel is a group of mined rooms connected by drifts that provide both access and ventilation to the rooms. Following completion of waste disposal activities in each panel, the DOE intends to seal these drifts with engineered structures called panel closures. 40 CFR part 194, Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR part 191 Disposal Regulations, did not originally require panel closures for the purpose of long-term compliance with release limits for radionuclides. Panel closures have, however, always been included in the design of the repository, and therefore incorporated into modeling of the WIPP system as a feature of the repository.

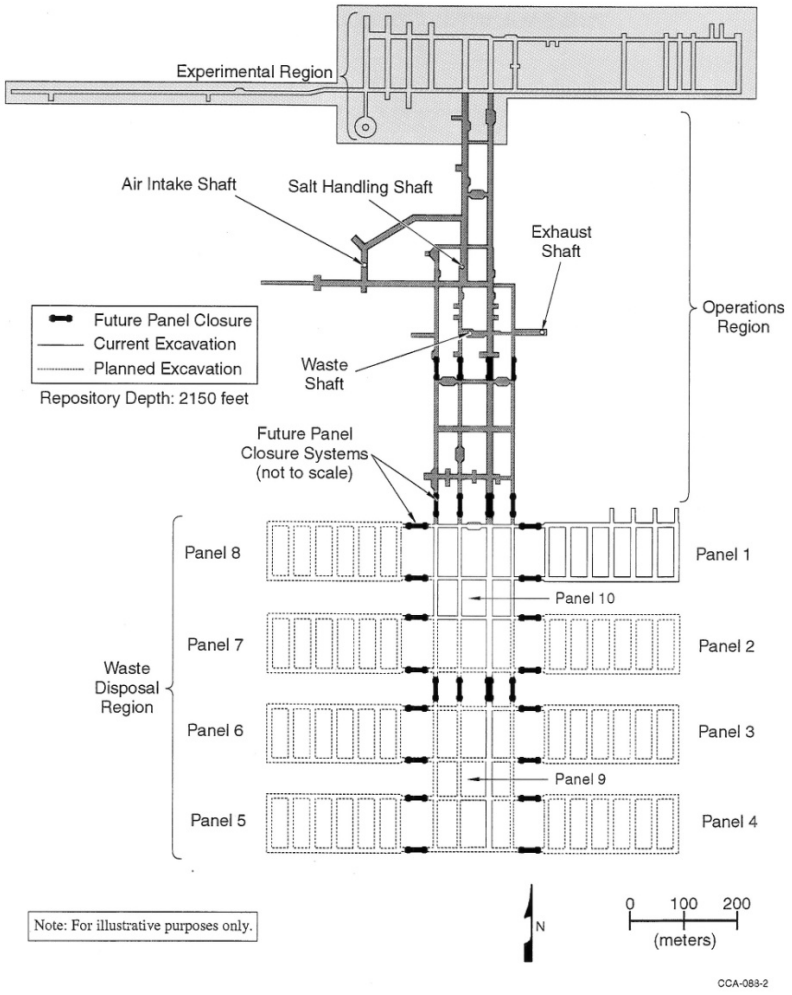

Figure 3-2. Plan View of WIPP Underground Facility and Panel Closure Systems

Although the Agency determined that the DOE met all of the applicable requirements of the WIPP Compliance Criteria in its compliance certification decision (63 FR 27354-27406; May 18, 1998), the EPA amended the WIPP Compliance Criteria, 40 CFR part 194, and appended four explicit conditions to its certification of compliance to ensure that the measures actually implemented at the WIPP (and thus the circumstances expected to exist there) were consistent with the DOE's Compliance Certification Application (CCA) and with the basis for the EPA's

compliance certification. Condition 1 of the certification applies to the panel closure system[7]. In the CCA, the Department presented four options for the design of the panel closure system, but did not specify which would be constructed at the WIPP facility. The Agency based its certification decision on the DOE's use of the most robust design, referred to in the CCA as "Option D".

At the time of the 1998 certification decision, there were indications that the DOE would seek to change the design of the panel closure system selected by the EPA. As stated in the original certification:

> "Nothing in this condition precludes DOE from reassessing the engineering of the panel seals at any time. Should DOE determine at any time that improvements in materials or construction techniques warrant changes to the panel seal design, DOE must inform EPA. If EPA concurs, and determines that such changes constitute a significant departure from the design on which certification is based, the Agency is authorized under §194.65 to initiate a rulemaking to appropriately modify the certification." (63 FR 27354, 27362; May 18, 1998.)

In 2002, the Agency approved the DOE's request to install only the explosion wall, and to extend the panel closure installation schedule until a new design is approved. In January 2007, the DOE requested that installation of the explosion walls also be delayed until a new design could be approved, and proposed to monitor gas generation in Panels 3 and 4 of the repository. The EPA approved this request in February 2007. Today's action represents the first time that the Agency has considered an alteration to the panel closure design itself.

[7] 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 (§§194.22 and 194.24), and Condition 4 of the certification applies to passive institutional controls (PICs), 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).

The Department submitted a PCR to the EPA on September 28, 2011. Citing experience and data gained since the CCA, the DOE's PCR states that the Option D panel closure would be extremely difficult and costly to install, and that the highly engineered design is unnecessary for either worker safety or environmental protection during the operational period. The DOE instead proposed a new panel closure design, the Run-of-Mine Salt Panel Closure System (ROMPCS), which consists of mined salt emplaced between steel bulkheads.

The EPA has completed its technical review of the DOE's PCR and supporting documentation. The goal of the Agency's technical review process was to determine whether, with the new design, the WIPP adequately demonstrates compliance with the requirements of 40 CFR part 194 and the release limits of 40 CFR part 191 Subparts B and C. The process the EPA applied to support this proposed action entailed (1) a review of all materials submitted by the DOE, (2) requests for additional information including a full performance assessment, and (3) the independent performance of additional confirmatory calculations by the Agency. This process is fully documented in the EPA's TSD, "Review of the DOE's Planned Change Request to Modify the WIPP Panel Closure System," (EPA-HQ-OAR-2013-0684-0002) and discussed in the following sections. Based on this process, the Agency concludes that the WIPP will remain in compliance with its release limits with the ROMPCS design. The Agency therefore proposes to approve the DOE's PCR to implement the redesigned panel closure at the WIPP, and to modify 40 CFR part 194 Appendix A, Condition 1 to allow a panel closure design other than Option D. Section IV, below, discusses the Agency's consideration of the proposed panel closure modification. Section V describes the Agency's approach to modifying Condition 1.

IV. How is the EPA Responding to the DOE's Planned Change Request?

A. What are the EPA's Requirements for the Panel Closure Design?

During the operational period of the repository, the panel closure system was intended to prevent access to closed waste panels, to mitigate the release of volatile organic compounds (VOCs) and to protect site workers from a hypothetical methane or hydrogen explosion inside a filled waste panel. These functions are addressed by the New Mexico Environment Department (NMED), and DOE has submitted a separate Resource Conservation and Recovery Act (RCRA) Permit Modification Request (PMR) stating that the new panel closure design will adequately protect workers and the public during the operational period of the WIPP.

The EPA's Compliance Criteria at 40 CFR part 194 originally did not require a panel closure of any kind to be installed in the repository for the purpose of long-term compliance with release limits for radionuclides. The purpose of 40 CFR part 194 is to demonstrate compliance with the disposal regulations at 40 CFR part 191 for containment of radionuclides. The containment requirements at 40 CFR part 191.13 specify that releases of radionuclides to the accessible environment must be unlikely to exceed specific release limits for 10,000 years after disposal, based on the amount of waste in the repository at the time of closure (§194.31). Assessment of the likelihood that the WIPP will not exceed release limits is accomplished through a process called performance assessment, or PA. The WIPP PA process culminates in a series of computer simulations that model the physical attributes of the disposal system (e.g., 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 development of conceptual models that represent physical attributes of the repository based on features, events and processes (FEPs) 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). Numerous

simulations are performed using sampled values for material properties and processes whose values are uncertain. The results of the simulations are intended to calculate possible releases of radioactive materials from the disposal system to the accessible environment over the 10,000-year regulatory period, and are used to demonstrate compliance with the containment requirements in 40 CFR part 191.13. Because the radionuclide release limits are based on the amount of waste in the repository at the time of closure, 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).

At the time of the CCA, given limited information on how the different panel closure designs could influence performance, the Agency contended that the panel closures constructed in the repository should have physical properties similar to those that had been used to represent them in the compliant performance assessment. As stated in the WIPP certification:

> "EPA 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 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 requires DOE to implement the Option D panel closure system at WIPP, with Salado mass concrete replacing fresh water concrete." (63 FR 27355)

Because the Agency based its certification of the WIPP's compliance with the disposal regulations on the accurate representation of the repository in performance assessment, Condition 1 was appended to 40 CFR Part 194 during the certification of the WIPP. No other

design feature of the repository is required by the Compliance Criteria in a similarly explicit way.

B. What Changes are Proposed to the Panel Closure Design?

The Option D panel closure design consists of a 12-foot thick “explosion-isolation wall” constructed of solid concrete blocks filling the drift on the waste disposal side, a short section of open drift called an “isolation zone” and a monolithic concrete barrier on the side of the open drift. Fractured rock in the immediate vicinity of the drift - called the disturbed rock zone, or DRZ - would be removed, and the resulting void space filled by the concrete monolith. In its current PCR, the DOE states that “large scale testing has demonstrated that using SMC [Salado Mass Concrete] cannot meet the design and performance requirements for the panel closures as specified in the CCA.” Even if the Option D monolith could be constructed as planned, the Agency acknowledges that it would be installed at significant cost to the Department, that additional occupational hazards would be incurred by moving and pouring large amounts of concrete in the underground and that disposal operations would be significantly disrupted.

The DOE’s new panel closure design, the ROMPCS, consists primarily of run-of-mine (ROM) salt — impure halite that has been mined in the course of normal repository operations and not subjected to additional processing or grading. The ROMPCS design consists of two standard steel ventilation bulkheads with a minimum of 100 feet of run-of-mine (ROM) salt between them, filling the drift from floor to ceiling. In Panels 1, 2 and 5, where explosion walls have already been constructed, salt will be placed directly against the explosion wall and a standard steel ventilation bulkhead placed on the outer end of the panel closure. The DOE has stated that the ROMPCS will provide adequate protection during the operational period. Upon initial emplacement, the run-of-mine salt will exhibit the properties of a loosely consolidated or

unconsolidated material. Over time, as the open areas of the repository close due to salt creep, the panel closures will consolidate and eventually heal to a state resembling intact salt.

The EPA's technical review process is summarized below in Section C. Based on the results of performance assessment, the Agency concludes that the WIPP will continue to comply with the EPA's disposal standards with the ROMPCS. Therefore, the Agency proposes to approve the DOE's PCR and allow the implementation of the ROMPCS design at the WIPP.

C. How has the EPA Reached its Decision?

As in the past, the Agency's consideration of the panel closure system focused on its inclusion and accurate representation in repository performance assessment, so that the EPA can ultimately certify the WIPP's ability to meet long-term performance standards.

In support of its panel closure PCR, the DOE initially submitted a performance assessment calculation called the Panel Closure Redesign and Repository Reconfiguration (PC3R) PA, which incorporated multiple planned changes. The Agency determined that to approve the PCR, it was necessary to isolate the impacts, if any, of the change in panel closure design. In response, the DOE prepared the PCS-2012 PA, with the explicit goal of changing only those aspects of the current baseline PA that are directly related to the change in the panel closure design. Thus, results of the PCS-2012 PA may be directly compared to results of the current Performance Assessment Baseline Calculation (PABC-09) to see the impact of changes in the panel closure on modeled releases from the facility.

The majority of the technical effort expended by the Agency was spent determining how the changes in the panel closures should be represented in the performance assessment models. This review process involved interactions with the DOE and DOE contractor staff and is documented in the Agency's TSD, "Review of DOE's Planned Change Request to Modify the

WIPP Panel Closure System." (EPA-HQ-OAR-2013-0684-0002) The process began by identifying the universe of changes which might have taken place within the performance assessment. The conclusion of the features, events and processes (FEPs) review found that the required changes to the models were limited to the properties of the panel closure and of the disturbed rock zone immediately surrounding it. In performance assessment, these materials are represented in the BRAGFLO computer model, which simulates the flow of brine and gas in the repository over the 10,000-year period of performance. Some modeling changes, such as differences between the physical dimensions of the panel closure designs, were relatively simple for the DOE to implement. The most significant change between panel closure designs, and the greatest modeling challenge, was the dynamic nature of the ROMPCS's material properties. The Option D design called for the excavation of the DRZ, and the installation of a rigid concrete monolith which would effectively prevent further fracturing. Thus, the properties of the panel closure and surrounding DRZ were not expected to change significantly over time, and were represented in PA by constant values. The ROMPCS will be emplaced in a loose form, surrounded by a fractured DRZ. As the panel closure system consolidates due to repository creep closure, it will decrease in porosity, and its permeability to fluids will decrease. Based on measurements taken in the underground, laboratory data and geomechanical modeling, it is expected that this consolidation process will be complete approximately 200 years after the closure of the repository.

The DOE represents the ROMPCS using three time periods. Two time periods of one hundred years each are used to represent the gradual reconsolidation of the panel closure system. A third time period, extending from 200 years after closure to the end of the 10,000-year performance period, represents the final healed state of the PCS. The consolidation of the

ROMPC is modeled by sampling its porosity from a range of possible values for each time period. The permeability of the panel closure to fluids during each time period is then calculated using a correlation between the porosity and permeability of salt, developed by the DOE using existing experimental data. The DRZ surrounding the panel closure is modeled so that it is more permeable to fluids during the first 200 years after closure, and less permeable when the system has reached a steady state. Parameter values representing other material properties of the ROM salt were directly adopted from parameters that were developed during the CCA to describe the crushed salt component of the shaft seals. The parameters used to represent the changes in performance assessment were finalized by the DOE in a memorandum dated May 3, 2012.

After the EPA's concurrence with the representation of the panel closure, the DOE executed the PCS-2012 PA calculation. Results of the PCS-2012 PA are discussed in detail in TSD Section 4.5. Compared to the PABC-2009 baseline, calculated mean total releases from the PCS-2012 PA did not appreciably increase at a probability of 0.1, and increased at a probability of 0.001, from 1.1 to 1.51 EPA units. (See TSD, EPA-HQ-OAR-2013-0684-0002, Table 3.7.) Thus, the mean total release, as well as the 90^{th} percentile and upper 95 % confidence limit of the mean, fell significantly below the Agency's regulatory limits of 1 EPA unit for a probability of 0.1, and 10 EPA units for a probability of 0.001.

Modeled releases from the repository principally result from the penetration of the repository waste by a hypothetical oil or gas borehole. Specific release mechanisms include cuttings and cavings releases, direct brine releases (DBRs), spallings releases and releases up a borehole to the Culebra dolomite. The increase in calculated releases in the PCS-2012 PA is primarily due to increases in direct brine releases, resulting from changes in pressure and brine saturation in the waste panels (See TSD, EPA-HQ-OAR-2013-0684-0002, Section 3.5).

Compared to the Option D PCS design, the ROMPCS is expected to be more permeable to fluids upon installation, and less permeable after it has consolidated. The initial conditions of the WIPP model make a significant amount of brine available in the repository at the time of closure. The higher initial permeability of the ROMPCS allows early-time brine inflows into the waste panels, resulting in generally higher brine saturations and higher rates of gas generation in the modeled waste panel. When the permeability of the panel closures decreases after 200 years, both brine and gas can be retained in the panel, increasing the brine saturations and gas pressures encountered by borehole penetrations of the repository. Those increases in turn result in increases in mean DBR and spallings releases. Cuttings and cavings are important contributors to total releases, but are not affected by waste panel pressure and brine saturation. Releases through the Culebra are essentially unchanged from those calculated using the Option D design.

The EPA considers this analysis important to its understanding of the disposal system. The Agency concludes that the changes to the panel closure system do not have a significant impact on the long-term performance of the disposal system.

V. How is the EPA Revising Appendix A, Condition 1?

A. What are the Current Requirements of Appendix A, Condition 1?

The Option D panel closure is currently required by 40 CFR part 194, Appendix A, Condition 1.

As described in Section III, the EPA certified the WIPP's performance based on the properties of the Option D panel closure. It is the only engineered aspect of the repository design that is explicitly required by rule.

B. What Changes are Proposed for Appendix A, Condition 1?

As described above in Section IV, the EPA is proposing to accept a redesigned panel closure. Acceptance of the PCR requires modification of Condition 1. The Agency does not believe that the design must be specified by the condition, because there is no evidence to suggest that the panel closure has a disproportionate ability to impact long-term performance when compared to other design features of the repository. This change does not grant the DOE the ability to alter the panel closure design at will. As with any engineered component of the disposal system, a departure from the current, approved design must be submitted to the Agency as a planned change request as required by §194.4(b)(3)(i). The EPA would expect any such request to be supported by complete technical documentation, including information concerning "the geology, hydrology, hydrogeology, and geochemistry of the WIPP disposal system" and "WIPP materials of construction, standards applied to design and construction," as required by §194.14, Content of certification applications. The Agency would use this information to determine whether or not the WIPP remains in compliance with the disposal standards. As with any other planned change, based on the potential impact to the WIPP's compliance, the EPA will determine whether the change "departs significantly from the most recent compliance application," and must be addressed by rule in accordance with §194.65.

C. What Did the EPA Consider When Making its Decision?

In 1998, the EPA certified the WIPP conditionally based on the Option D panel closure design. At that time, the DOE had not specified which design it planned to implement, and limited performance assessment results were available to indicate the impact of the panel closure design on repository performance. In contrast, the Department has now proposed a single panel closure design to be installed in all waste panels. Due to the evolution of the WIPP PA since the

CCA, the DOE and the EPA have gained a greater understanding of panel closures' influence on PA results.

The Agency initially chose the Option D panel closure partly to match the physical properties of the panel closure to the modeled parameters of the generic panel closure represented in the CCA. This representation of the panel closure was refined in the 2002 Technical Baseline Migration PA to reflect the dimensions of the Option D design and include impacts of a rigid structure on the surrounding DRZ. These changes did not result in a significant impact on predicted releases, and were included in PAs which supported both WIPP recertifications. The changes made in the PCS-2012 PA altered the panel closure properties substantially, without significantly affecting the WIPP's ability to comply with the release limits. The DOE's sensitivity analysis indicates that several sampled parameters related to the panel closures contributed to the overall results, but their contributions were dwarfed by the effect of other parameters, such as the waste shear strength and actinide solubility. Additionally, the Agency carried out confirmatory studies as part of its technical review which analyzed how different representations of the DRZ surrounding the panel closure could potentially influence modeled results.

The conclusion that the Agency draws from all of these studies is that although the panel closures can influence modeled results to a degree, there is no evidence that modifications to the panel closure or its representation in PA could jeopardize the WIPP's ability to comply with the disposal requirements. Because panel closures do not exercise a disproportionate impact on the WIPP's ability to isolate radionuclides from the accessible environment, the EPA does not believe that it is necessary for the specific design of the panel closure to remain as a condition of certification. Rather, panel closures can be treated in a similar manner as any other engineered

feature of the repository. As described in Section IV, the DOE must still submit a PCR if it wishes to alter the design from the approved ROMPCS.

VI. How Has the EPA Involved the Public?

In order to guide its technical process, the EPA held informal public meetings in Carlsbad, New Mexico, on December 5, 2012, and Santa Fe, New Mexico, on December 6, 2012. The purpose of these meetings was to provide the public with background on the DOE's panel closure system planned change request, and to give the public the opportunity to raise any technical issues that the Agency should consider in its decision. At both meetings, many comments were in favor of approving the panel closure planned change request based on its scientific and economic merits. Specifically, commenters expressed confidence in the ability of salt creep to compress the ROMPCS and form an adequate panel closure, and emphasized the greater operational safety when installing the revised design. In Santa Fe, one commenter expressed the view that the lack of a cost analysis for building the Option D panel closures, and the failure to explicitly consider other designs are deficiencies in the PCR. Other commenters asked questions regarding the likelihood of gas generation and explosions in the closed panels. No technical comments were submitted.

Additional public meetings will be held in Carlsbad and Albuquerque in December 2013. Details and summaries of these meetings will be published on the EPA's WIPP website at http://www.epa.gov/radiation/wipp.

VII. Administrative Requirements

A. Executive Order 12866

Under Executive Order 12866, (58 FR 51735; October 4, 1993), the Agency must determine whether the regulatory action is "significant" and therefore subject to OMB review

and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may: (1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency; (3) materially alter the budgetary impact of entitlements, grants, user fees or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities or the principles set forth in the Executive Order. Pursuant to the terms of Executive Order 12866, it has been determined that this rule is not a "significant regulatory action."

B. Regulatory Flexibility Act

The Regulatory Flexibility Act ("RFA") generally requires any federal agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless they certify that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises and small governmental jurisdictions. This proposed rule will not have a significant impact on a substantial number of small entities because it sets forth requirements which apply only to federal agencies. Therefore, this action will not have a significant economic impact on a substantial number of small entities.

C. Paperwork Reduction Act

This proposed action does not impose an information collection burden under the provisions of the Paper Reduction Act, 44 U.S.C. 3501 *et seq.* The Compliance Criteria in 40

CFR part 194 requirements are applicable only to the DOE and the EPA and do not establish any form of collection of information from the public.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 ("UMRA"), Public Law 104–4, establishes requirements for federal agencies to assess the effects of their regulatory actions on state, local and tribal governments and the private sector. Pursuant to Title II of the UMRA, we have determined that this regulatory action is not subject to the requirements of sections 202 and 205, because this action does not contain any "federal mandates" for state, local or tribal governments or for the private sector. This rule applies only to federal agencies.

E. Executive Order 12898

Pursuant to Executive Order 12898 (59 FR 7629; February 16, 1994), entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," the Agency has considered environmental justice related issues with regard to the potential impacts of this action on the environmental and health conditions in low-income, minority and Native-American communities. We have complied with this mandate. However, the requirements specifically set forth by the Congress in the Waste Isolation Pilot Plant Land Withdrawal Act (Pub. L. 102–579), which prescribes the EPA's role at the WIPP, did not provide authority for the Agency to examine impacts in the communities in which wastes are produced, stored and transported, and Congress did not delegate to the EPA the authority to consider the issue of alternative locations for the WIPP. During the development of the existing provisions in 40 CFR part 194, the EPA involved minority and low income populations early in the rulemaking process. In 1993, the EPA representatives met with New Mexico residents and government officials to identify the key issues that concern them, the types of information they

wanted from the Agency and the best ways to communicate with different sectors of the New Mexico public. The feedback provided by this group of citizens formed the basis for the EPA's WIPP communications and consultation plan. To help citizens (including a significant Hispanic population in Carlsbad and the nearby Mescalero Indian Reservation) stay abreast of the EPA's WIPP-related activities, the Agency developed many informational products and services. The EPA translated several documents regarding WIPP into Spanish, including educational materials and fact sheets describing the EPA's WIPP oversight role and the radioactive waste disposal standards. The Agency established a toll-free WIPP Information Line, recorded in both English and Spanish, providing the latest information on upcoming public meetings, publications and other WIPP-related activities. The EPA also developed a mailing list, which includes many low-income, minority and Native-American groups, to systematically provide interested parties with copies of EPA's public information documents and other materials. Even after the final rule, in 1998, the EPA has continued to implement outreach services to all WIPP communities based on the needs determined during the certification. The Agency has established a WIPP-NEWS e-mail listserv to facilitate communications with interested stakeholders not only in New Mexico and surrounding areas, but nationally and internationally as well. The EPA's WIPP website is also continuously updated with relevant news and updates on current and future WIPP activities.

F. National Technology Transfer & Advancement Act of 1995

Section 12 of the National Technology Transfer & Advancement Act of 1995 is intended to avoid "re-inventing the wheel." It aims to reduce costs to the private and public sectors by requiring federal agencies to draw upon any existing, suitable technical standards used in commerce or industry. To comply with the Act, the EPA must consider and use "voluntary consensus standards," if available and applicable, when implementing policies and programs,

unless doing so would be “inconsistent with applicable law or otherwise impractical.” We have determined that this regulatory action is not subject to the requirements of National Technology Transfer & Advancement Act of 1995 as this rulemaking is not setting any technical standards.

G. Executive Order 13045: Children’s Health Protection

This rule is not subject to Executive Order 13045, entitled “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885; April 23, 1997) because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children.

H. Executive Order 13132: Federalism

Executive Order 13132, entitled “Federalism” (64 FR 43255; August 10, 1999), requires the EPA to develop an accountable process to ensure “meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” This proposed rule does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This proposed action revises a specific condition of the Compliance Criteria in 40 CFR part 194. These criteria are applicable only to the DOE (operator) and the EPA (regulator) of the WIPP disposal facility. Thus, Executive Order 13132 does not apply to this rule. In the spirit of Executive Order 13132, and consistent with the Agency’s policy to promote communications between the EPA and state and

local governments, the EPA specifically solicits comment on this proposed rule from state and local officials.

I. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249; November 9, 2000), requires the EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." This proposed rule does not have tribal implications, as specified in Executive Order 13175. This proposed action revises a condition of the Compliance Criteria in 40 CFR part 194. The Compliance Criteria are applicable only to Federal agencies. Thus, Executive Order 13175 does not apply to this rule. In the spirit of Executive Order 13175, and consistent with the EPA policy to promote consultation and coordination with Indian Tribal Governments, the Agency specifically solicits comment on this proposed rule from Tribal officials.

J. Executive Order 13211: Energy Effects

This proposed rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355; May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

Dated: November 18, 2013.

Janet G. McCabe

Acting Assistant Administrator, Office of Air and Radiation

For the reasons set out in the preamble, 40 CFR part 194 is proposed to be amended as follows:

PART 194—CRITERIA FOR THE CERTIFICATION AND RECERTIFICATION OF THE WASTE ISOLATION PILOT PLANT'S COMPLIANCE WITH THE 40 CFR PART 191 DISPOSAL REGULATIONS

1. The authority citation for part 194 continues to read as follows:

> **Authority:** Pub. L. 102–579, 106 Stat. 4777, as amended by Public Law 104–201, 110 Stat. 2422; Reorganization Plan No.3 of 1970, 35 FR 15623, Oct. 6, 1970, 5 U.S.C. app. 1; Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011–2296 and 10101–10270.

2. Amend Appendix A to Part 194 by revising Condition 1: § 194.14(b) to read as follows:

Appendix A to Part 194—Certification of the Waste Isolation Pilot Plant's Compliance With the 40 CFR Part 191 Disposal Regulations and the 40 CFR Part 194 Compliance Criteria

* * * * *

Condition 1: § 194.14(b), Disposal system design, panel closure system. The Department shall close filled waste panels in a manner that has been specifically approved by the Agency. Any modification to the approved panel closure design must be submitted by the DOE as a planned change request pursuant to §194.4(b)(3)(i), and include supporting information required by §194.14, *Content of compliance certification application.* The Administrator or Administrator's authorized representative will determine whether the planned change differs significantly from the design included in the most recent compliance certification, and whether the planned change would require modification of the compliance criteria. The EPA's approval of a panel closure change request requires that performance assessment calculations adequately represent the waste panel closure design, and that those calculations demonstrate the WIPP's compliance with the

release standards set by 40 CFR part 191, Subpart B in accordance with § 194.34, *Results of performance assessments*.

* * * * *

[FR Doc. 2013-28240 Filed 12/02/2013 at 8:45 am; Publication Date: 12/03/2013]