6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 194

[EPA–HQ–OAR–2024–0309, FRL 12855-01-OAR]

Approval of Replacement Waste Panels 11 and 12 at the Waste Isolation Pilot Plant

AGENCY: Environmental Protection Agency.

ACTION: Notification of Approval

SUMMARY: The U.S. Environmental Protection Agency (EPA, or the Agency) has approved the U.S. Department of Energy's (DOE, or the Department) planned change request to dispose of defense transuranic (TRU) waste in replacement panels 11 and 12 in the Waste Isolation Pilot Plant (WIPP). This decision is based on a thorough review of information submitted by DOE, independent technical analyses, and public comments. EPA found that DOE demonstrated that the use of two replacement waste panels to replace lost waste disposal volume in panels 1, 7, and 9, would provide a reasonable expectation of the WIPP remaining in compliance with the 10,000-year release limits set by the ''Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes" at 40 CFR part 191.

DATES: This decision is effective immediately.

ADDRESSES: 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. EPA has established a docket

for this action under docket ID No. [EPA–HQ–OAR–2024-0309]. Publicly available docket materials related to this action (e.g., EPA review documents) are available either electronically through www.regulations.gov, on the Agency's WIPP Web site (http://www.epa.gov/radiation/wipp) or in hard copy at the Air and Radiation Docket in EPA Docket Center, (EPA/DC) EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004. 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 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.

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SUPPLEMENTARY INFORMATION:

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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:

APPA	Additional Panels Performance Assessment
CBFO	U.S. Department of Energy Carlsbad Field Office
CCA	Compliance Certification Application
CFR	Code of Federal Regulations
CRA	Compliance Recertification Application
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
LWA	Land Withdrawal Act
NMED	New Mexico Environment Department
PA	Performance Assessment
PCR	Planned Change Request
Pu	Plutonium
RPPCR	Replacement Panels Planned Change Request
TRU	Transuranic
VOR	Volume of Record
WIPP	Waste Isolation Pilot Plant

I. What is the WIPP?

The Waste Isolation Pilot Plant (WIPP) is a transuranic (TRU) radioactive waste disposal system developed by the U.S. Department of Energy (DOE) that is located near Carlsbad in southeastern New Mexico. TRU radioactive waste is emplaced about 650 meters (2,150 feet) underground in an ancient layer of salt that will eventually “creep,” encapsulate, and isolate the waste from the surrounding environment. The 1992 WIPP Land Withdrawal Act (Pub. L. 102-579) (LWA) limits radioactive waste disposal in the WIPP to TRU radioactive wastes generated by defense-related activities. The WIPP LWA provides EPA with authority to oversee and certify the long-term performance of the WIPP. The WIPP must meet EPA's generic radioactive waste disposal standards at 40 CFR part 191, subparts B and C. These standards limit releases of radioactive materials from disposal systems for radioactive waste and require implementation of measures to provide confidence for compliance with the radionuclide release limits. Additionally, the regulations limit radiation doses to members of the public and protect groundwater resources by establishing maximum concentrations for radionuclides in groundwater.

In 1996, the Agency issued the WIPP Compliance Certification Criteria, which are located at 40 CFR part 194, as mandated by the WIPP LWA, section 8(c). DOE submitted the initial WIPP Compliance Certification Application (CCA) in 1996. The Agency then issued a conditional certification decision on May 18, 1998, determining that the WIPP met the standards for radioactive waste disposal, but identified four conditions as part of the approval (63 FR 27354). Since the 1998 certification decision, EPA has conducted ongoing independent technical reviews, recertifications, and inspections of all WIPP activities related to compliance with the Agency's disposal regulations. The WIPP has been recertified four times since the initial certification in 1998, with the most recent recertification decision occurring in 2022.

As part of the original design of the WIPP repository in the initial CCA, the underground waste disposal region at the WIPP is divided into ten panels. A panel is a group of rooms mined into the salt, connected by tunnels called drifts. EPA's initial certification of the WIPP and its most recent recertification of the WIPP in 2022 were both based on a planned footprint of ten waste panels (87 FR 26126, May 3, 2022).

II. Contents of the Planned Change Request

On March 14, 2024, EPA received a planned change request (PCR) from DOE per 40 CFR 194.4(b)(3) seeking the Agency's approval to add two replacement waste panels west of the current repository. These two panels, 11 and 12, will be constructed to recover waste disposal volume lost in panels 7 and 9 due to a 2014 radiological release that contaminated the south end of the repository. Additionally, panel 1 was not completely filled due to ground control issues arising from being kept open so long before waste was emplaced. DOE calculated that 1.7 panels of waste volume will be needed to replace this lost volume, rounded up to two panels for construction. DOE also stated that with the addition of the two replacement panels, the WIPP will not exceed the LWA waste disposal volume limit. DOE recently recalculated the volume of waste already emplaced at WIPP by subtracting waste packages and void space from the total volume of waste. With this updated waste volume calculation, referred to as the Volume of Record (VOR), DOE would need to mine additional waste panels to fully accommodate the total authorized waste volume in the LWA. In the March 2024 PCR, DOE used the VOR approach in its analyses to support the new panels. It did not use the VOR approach in the 2019 Compliance Recertification Application (CRA-2019) but DOE notified EPA of its intent to begin using the VOR approach in 2018 and EPA subsequently concluded that the VOR approach should have no effect on DOE's compliance with EPA's regulations in WIPP Performance Assessment (PA) and the only consequence is to increase the total repository

volume required for waste disposal at the WIPP beyond the original ten waste panels. EPA's technical review on the VOR can be accessed under docket ID EPA-HQ-OAR-2001-0012-0772.

The PCR, which DOE refers to as the Replacement Panels Planned Change Request or RPPCR, contains a PA that DOE conducted to support a demonstration that the repository will continue to meet the numeric release limits in EPA's disposal regulations for the WIPP. As part of the performance assessment, DOE calculated releases based on a repository design of 19 panels, which DOE anticipates will be the ultimate WIPP repository configuration at the time of closure. However, with this PCR, DOE is only seeking EPA's approval of two replacement panels and provided documentation to address the two replacement panels within the context of the 19-panel design. This notice only addresses the Agency's approval of panels 11 and 12. DOE would need to submit a separate planned change request for any additional panels beyond replacement panels 11 and 12.

The Agency evaluated DOE's 19-Panel RPPCR PA and supplementary information submitted by DOE in response to information requests from EPA (see Section III for greater detail). After reviewing DOE's responses, EPA requested a PA using a 12-panel configuration to supplement the information already provided (docket ID EPA-HQ-OAR-2024-0309-0053). On February 20, 2025, DOE submitted the requested 12-panel analysis (docket ID EPA-HQ-OAR-2024-0309-0049), which includes the original ten panels and the two proposed replacement panels, to EPA, labeling it a sensitivity study.

III. What did EPA review?

A. EPA Review Process

As a part of ongoing operations at the WIPP, DOE makes periodic changes to aspects of the design and operation of the facility. Under 40 CFR 194.4(b)(3), DOE must report any planned

changes in activities or conditions that differ significantly from the most recent compliance application. A PA to evaluate the impacts on long-term performance of the repository may be included with these PCRs. PCRs and accompanying documentation are reviewed by EPA to confirm the WIPP is expected to continue to perform as predicted and that the basis for the most recent compliance certification remains valid. EPA assesses whether the planned change will invalidate the terms of the certification or determination in evaluating whether approval should be given. 61 FR 5224, 5233, Feb. 9, 1996.

The goal of the Agency's technical review of the RPPCR 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. EPA conducted an extended review of the RPPCR because, if approved, it would increase the repository footprint and it presented new issues in EPA's experience of reviewing DOE planned changes. In addition, stakeholders demonstrated intense interest in DOE's activities related to the replacement panels. The process EPA applied to support review for DOE's PCR entailed (1) a review of all materials submitted by DOE, (2) requests for additional information from DOE, (3) solicitation of public comment, and (4) independent performance of additional confirmatory calculations by the Agency. This process is fully documented in EPA's review document, "EPA Review of DOE Replacement Panels Planned Change Request, Part 1: Review of DOE 12-Panel Sensitivity Study" (docket ID EPA-HQ-OAR-2024-0309-0059) and discussed in the following sections.

B. Additional Panels Performance Assessment (APPA) Peer Review

In 2021, DOE carried out a peer review to assess changes in the conceptual WIPP performance model, focusing on new off-axis waste panels added to the existing WIPP repository footprint. The current WIPP repository consists of ten panels. Four panels are situated on each side of the main north-south access drifts, with Panels 1-4 located on the east side and Panels 5-8 on the

west side. The main access drifts are further divided into Panel 9, positioned between Panels 3-4 and Panels 5-6, and Panel 10, located between Panels 1-2 and Panels 7-8.

The new "off-axis" waste panels, including Replacement Panels 11 and 12, and projected for any additional potential future panels, will be connected to the existing repository via east-west main drifts that link to the north end of the current north-south main access drifts (see docket ID EPA-HQ-OAR-2024-0309-0007 for diagrams of the waste panels). With the addition of these panels, the WIPP repository waste area will no longer maintain a geometrically symmetrical layout.

To address this change in the future WIPP PAs, DOE selected and developed three conceptual model changes: Disposal System Geometry, Repository Fluid Flow, and Direct Brine Release, which were subsequently evaluated through an independent peer review process. The peer panel concluded that the APPA model was reasonable and aligned with previous PA approaches, as long as it was assumed there would be no significant variations in the waste inventory or material properties of the halite in the off-axis panels.

EPA observed the peer review and published its evaluation in 2023 under docket ID EPA-HQ-OAR-2001-0012-0774. EPA deemed the peer panel's conclusion reasonable and suitable for the off-axis repository extension, finding that the application of the methodology to potential new panels positioned outside the main axis or central alignment of the existing repository serves as an illustrative example. Consequently, the Agency considers the methodology accepted by the peer panel appropriate for use in the 12-panel PA for this PCR, specifically regarding the off-axis repository extension involving panels 11 and 12.

C. 19 Panel PA

As mentioned previously, the Agency evaluated DOE's 19-Panel RPPCR PA and prepared comments and questions for further clarity. Seven sets of questions were sent to DOE, and these can be found in the public docket corresponding to the RPPCR. EPA received eight sets of responses from DOE. Based on the Agency's review, including these responses, EPA concluded that the 19-Panel PA provided by DOE lacked sufficient information specific to the two replacement panels to support a decision on the Department's RPPCR and therefore the Agency requested a 12-panel analysis (docket ID EPA-HQ-OAR-2024-0309-0053).

EPA's review of the 19-panel RPPCR PA will be documented separately, primarily to provide feedback to DOE on changes needed in future PAs to accommodate potential increases in the size of the WIPP repository. EPA is not currently making a determination on the overall adequacy of a 19-panel repository, nor is it approving DOE's 19-panel RPPCR PA or its comparison with disposal standards.

D. 12 Panel PA

At EPA's request, DOE performed a 12-panel sensitivity study to demonstrate the long-term performance of a 12-panel repository, which is the anticipated configuration for this PCR. DOE conducted the sensitivity study, CRA19_12P, using the waste inventory from DOE's most recent compliance application, the 2019 Compliance Recertification Application (CRA-2019), while considering the effects of a larger repository waste disposal volume and footprint. In contrast to the 19-Panel RPPCR PA, DOE did not use the VOR approach described in Section II for the CRA19_12P analysis because it was based on the CRA-2019 inventory. The 19-Panel RPPCR PA used waste inventory estimates derived subsequent to CRA-2019.

EPA evaluated updates made by DOE to the CRA-2019 PA database for the CRA19_12P sensitivity study and observed that most of DOE's updates were associated with the increased

repository footprint and volume, but updates were also made in the computer codes used to perform the study. As with the result of the CRA-2019 PA, the total mean normalized releases from the 12-panel sensitivity study (CRA19_12P) were below EPA release limits.

EPA agrees with DOE's conclusion that the differences between the results for the CRA-2019 PA and the CRA19_12P sensitivity study are minor. This is because the two calculations use similar input parameters. Also, the increases in drilling penetrations from the larger repository footprint are offset by decreases in waste concentration from the larger repository volume.

EPA conducted its own sensitivity study, similar to its CRA19_COMB analysis performed to support its 2022 recertification decision, focusing on outstanding concerns from CRA-2019, such as drilling rates, borehole plugging frequency, actinide solubility, and colloids (87 FR 26126). EPA identified several concerns with the CRA19_12P analysis, all of which were addressed in the Agency's own sensitivity analysis. A detailed discussion of these issues and the sensitivity calculations is available in the Agency's review report of DOE's 12-Panel Sensitivity Study (docket ID EPA-HQ-OAR-2024-0309-0059). EPA's calculations considered: 1) an inconsistency in the CRA19_12P analysis, where an increase in repository volume was noted, yet the reduced iron surface area concentration—affected by the repository volume in the WIPP PA—was overlooked; 2) updates to borehole drilling rates and plugging frequencies that had received EPA authorization but were excluded from the CRA19_12P study; and 3) EPA's historical geochemical concerns regarding actinide solubilities, colloid properties, and oxidation state assumptions used in DOE's CRA-2019 PA, which carried over into the CRA19_12P study. The mean normalized releases calculated by EPA for its sensitivity analysis, including the upper 95 percent confidence limit, remained below the regulatory thresholds under 40 CFR 191.13. With the information submitted by DOE and EPA's own calculations, the Agency concludes that

there is a reasonable expectation that the 12-panel WIPP disposal system will comply with the regulatory standards.

IV. Public comments and responses

EPA held an informal, virtual public meeting on Thursday, December 7th, 2023, to provide information and provide an early preview of the PCR prior to DOE's formal submission. EPA and DOE used this opportunity to gather preliminary questions/comments/feedback from the public.

On July 16, 2024, EPA published a notice in the Federal Register seeking public comment on the PCR. EPA then held a series of stakeholder meetings in New Mexico (Carlsbad and Santa Fe) during the week of August 26, 2024, to meet with the public and discuss DOE's PCR. The purpose of these meetings was to gather comments from members of the public on the PCR and to provide a facilitated forum for clarifying questions. Staff from DOE and the New Mexico Environment Department (NMED) were also in attendance. Material presented at these meetings and video recordings have been uploaded to EPA WIPP website.[1]

EPA's initial review of the PCR was based on the 19-panel RPPCR PA submitted by DOE in February 2024. This PA was discussed at the public meetings in New Mexico in August 2024, and most of the written public comments were also based on this PA. After the Agency requested the 12-panel PA calculations on November 26, 2024, the public comment period was extended to June 2, 2025, to capture additional public comments on the updated PA. As mentioned in Section III, while EPA has reviewed all of the public comments on the RPPCR, only those relevant to the later 12-panel PA were considered within the scope of this PCR decision. Comments that pertain solely to the 19-panel RPPCR PA will be considered outside the scope of

[1] https://www.epa.gov/radiation/wipp-news

this decision but will be retained by EPA and addressed in a subsequent report relevant to future actions taken by DOE.

The Agency received 33 written comments via the public docket, and one comment received outside of the docket that the Agency committed to addressing. The comments submitted to the docket were a mix of unique comments as well as written versions of verbal comments delivered at the public meetings. All verbal comments were captured by written comments. EPA has reviewed all comments and prepared a separate response to comments document, which is available in the public docket (docket ID EPA-HQ-OAR-2024-0309-0058). More detailed responses can be found in that document. Several of the more prominent issues raised are summarized below.

A. Question of PCR Significance and Whether the Decision Requires a Rulemaking

Many commenters expressed the view that EPA's review process for the RPPCR must take place through a notice-and-comment rulemaking because the addition of two replacement panels, coupled with other changes to repository operations and the performance assessment, "depart significantly from the previous compliance application." In addition to individual comment submittals and statements at public meetings, a number of interested organizations jointly sent letters directly to EPA outlining the reasons for this position. The relevant provision is located in 40 CFR 194.65(a):

> If the Administrator determines that any changes in activities or conditions pertaining to the disposal system depart significantly from the most recent compliance application, the Agency will publish a Notice of Proposed Rulemaking in the Federal Register

announcing the Administrator's proposed decision on modification or revocation, and soliciting comments on the proposal.

The Agency disagrees that a rulemaking is necessary for this decision. The Administrator has discretion in reaching a determination regarding whether the changes described in the RPPCR "depart significantly from the previous compliance application." After careful consideration, the Agency declines to determine that the RPPCR represents a significant departure from the previous compliance application (the 2019 Compliance Recertification Application or CRA-2019), for the following reasons:

- The two replacement panels are primarily intended to replace disposal capacity lost to the 2014 radiation release incident, which prevented the full use of Panel 7 and the planned use of Panel 9, as well as capacity in Panel 1 that was not utilized in the early phase of emplacement as a result of ground control issues stemming from scheduling of shipments, and therefore the new configuration represents a disposal capacity comparable to that analyzed for the CRA-2019;
- The two replacement panels are of a similar size and design to the existing eight panels described in the CRA-2019;
- A 1987 Time-Domain Electromagnetic (TDEM) geophysical survey of the WIPP site provided estimates of the depths of brine reservoirs that may be present beneath the ten original WIPP waste panels. DOE reexamined the existing TDEM data and found that it also adequately covers the area of replacement Panels 11 and 12. Therefore, no new data needs to be collected for these two replacement panels. DOE modeled the probability that a borehole may encounter a pressurized brine pocket in the RPPCR as being the same as in

CRA-2019. Upon reviewing these data, EPA accepted DOE's conclusion that the current site characterization data already covers the repository footprint, including panels 1-10 and 11-12, and agreed with DOE not to change the probability of encountering a pressurized brine pocket in the RPPCR;

- The types of waste that will be emplaced in the replacement panels are expected to be similar to those analyzed for the CRA-2019. A stated public concern is the amount of surplus plutonium waste that gets disposed in the two replacement panels. While a limited amount of down-blended surplus plutonium is being emplaced in the repository, much of the surplus plutonium designated for the "dilute and dispose" method, as well as plutonium waste from potential new pit production, would need to go in any additional future panels beyond the two panels currently being requested by DOE;
- DOE's performance assessment for the 12-panel repository, confirmed by EPA's independent sensitivity study, shows limited change in releases and release paths from those described in the CRA-2019 and the total mean release is under EPA regulatory limits;
- The New Mexico Environment Department approved the two replacement panels in the site permit after an extensive review process that included public comment.

Further, EPA has provided significant opportunity for public review and comment, comparable to a rulemaking process. All submittals by DOE, including responses to questions from EPA, have been posted in the regulatory docket and on EPA's WIPP website. The comment period was kept open more than 9 months to ensure the public's ability to review all the relevant documentation, and a response to comments document has been prepared to show how comments were considered, as would be done for rulemaking.

B. The Inclusion of Surplus Pu

A number of commenters expressed concern for or opposition to DOE/NNSA proposal to include surplus Pu waste streams in the inventory for the new panels. They raised objections, questioning whether surplus Pu would be eligible for disposal at WIPP under the LWA and whether criticality or other issues had been properly addressed.

As noted in Section IV.A, the inventory and proportion of plutonium wastes in the 12-panel repository is expected to be more aligned with the previous CRA-2019, incorporating only limited amounts of surplus plutonium. The majority of surplus plutonium, along with any pit production wastes, would be destined for future waste panels for which DOE would have to submit a separate PCR. The WIPP Land Withdrawal Act (LWA) allows for disposal of 6.2 million cubic feet of defense related TRU waste, which is defined in Section 2.(18) of the statute. DOE establishes specific waste acceptance criteria (WAC) for the facility. Wastes that do not meet the WAC are not allowed to be disposed of at WIPP. The surplus Pu intended for disposal in the replacement waste panels has been determined by DOE to be defense transuranic waste. EPA has conducted multiple inspections of the down-blended waste characterization process and will continue to do so. EPA has found DOE's waste characterization system of controls for the down-blended plutonium to be adequate. Similar forms of Pu in smaller amounts have already been emplaced at WIPP in the existing waste panels.

C. Legacy Wastes

Several commenters mentioned the concept of legacy TRU wastes, and that WIPP was only approved and authorized for the disposal of legacy TRU wastes. Some commentators define legacy TRU as wastes produced during the Manhattan project and through the end of the Cold War, while other have defined legacy TRU as wastes before the opening of WIPP in 1999. All of

the commenters on legacy TRU want EPA to establish a definition of legacy TRU. Several commenters also requested that EPA include provisions in its PCR approval for the prioritized emplacement of legacy TRU wastes before newer generated wastes are disposed of.

The WIPP LWA and EPA's regulations do not explicitly use or define "legacy TRU waste." Depending on the progress and status of waste cleanup and waste generating activities, different waste generator sites (e.g., National Labs) use and define the term "legacy TRU waste" in slightly different ways. A recent report called "Legacy TRU Waste Disposal Plan" from DOE's Carlsbad Field Office, dated November 2024 (https://wipp.energy.gov/Legacy-TRU-Waste-Disposal-Plan.asp), submitted pursuant to a State of New Mexico permit condition, provides more detail and documents activities and plans to continue to prioritize the disposal of legacy wastes at WIPP. In a May 21, 2025, letter commenting on this draft submittal, the State of New Mexico requested that DOE exclude the surplus plutonium waste stream from consideration as legacy waste.[2]

D. Site Characterization Data

One commenter mentioned that there is inadequate site characterization data for the proposed panels 11 and 12, and that DOE needs to do more site characterization to identify potential unknown brine pockets.

As noted in Section IV.A, DOE determined that the original time domain electromagnetic induction method (TDEM) survey that supported the WIPP Compliance Certification Application and the original repository footprint of Panels 1 through 10 also covered the area over which the two replacement panels 11 and 12 are located. The TDEM survey was used to determine the probability of encountering brine in the underlying Castile Formation, which is then used to

[2] https://hwbdocs.env.nm.gov/Waste%20Isolation%20Pilot%20Plant/250514.pdf

develop a parameter (PBRINE) in WIPP PA. EPA closely scrutinized the data and derivation of this parameter and found it suitable for the original repository footprint. For the RPPCR, DOE utilized the existing TDEM data covering the area of the replacement panels and prior established methods to demonstrate that extending the PBRINE parameter used in PAs from previous CRAs to the expanded 12 panel repository footprint was conservative. EPA found this approach reasonable for the RPPCR.

E. Panels 13-19 and related issues

A number of commenters mention the inclusion of panels 13-19 in the initial 19-panel RPPCR PA, which are not being requested at this time. There are also a number of comments that address issues pertaining solely to the 19-panel PA or to panels-13-19 and not panels 11-12.

With this PCR, DOE is only seeking EPA approval of the two replacement panels. During EPA's review, the Agency identified that the panels 13-19 were not directly pertinent to the decision on the requested panels 11 and 12. EPA requested the separate 12-panel PA to clarify the impacts of the two proposed replacement panels, and that analysis is the basis for its approval of the RPPCR. EPA will address potential future panels beyond panels 11-12 when and if DOE submits an additional PCR. The Agency will produce a separate report on its review of the 19-panel PA later in 2025.

F. Fracking and Earthquakes

Many stakeholders and members of the public have shared concerns regarding risks to the WIPP from hydraulic fracturing ("fracking") and earthquakes. Earthquakes, including those related to oil and gas operations, have been monitored for decades in the Permian Basin region, and the risks to the WIPP have been evaluated and reevaluated many times (see EPA's Technical Support Document Review of Features, Events and Processes (FEPs) in the CRA-2019

docket, docket ID EPA-HQ-OAR-2019-0534-0054). Data continues to be collected, and the available information indicates that earthquakes, whether human-caused or natural, are not capable of generating enough shaking to impact operations at the WIPP, nor to damage facilities or the radioactive waste buried there, even far into the foreseeable future. EPA, DOE, and regulators in New Mexico and Texas are aware of and have investigated this and related issues.

Additionally, when the land for the WIPP was set aside by Congress by the LWA, surface drilling activities for resources and mining for potash were prohibited inside the 4 x 4-mile square, and will not be allowed into the foreseeable future, even after WIPP is closed. This prohibition and the designated space serves as an institutional control to protect the repository and is one element of many in the safety design of the WIPP. There are no known, active faults that reach at the ground surface within nearly 100 miles of the WIPP site, and the northern part of the Delaware Basin where WIPP is located also has few mapped faults in the deeper "basement" rocks. The general lack of clear patterns in the seismicity also suggests relatively few faults.

V. Determination

After conducting a thorough review of information submitted by DOE, independent technical analyses, and public comments, including DOE's supporting documentation regarding its 12-panel sensitivity study, EPA generally agrees with DOE's approach and interpretation of the PA results. While EPA had concerns about several of DOE's input parameters, these were alleviated by the results of EPA's independent sensitivity analysis, which showed that the total mean normalized releases remain below EPA's regulatory limits. As a result, the Agency concluded that there is a reasonable expectation that the 12-panel disposal system represented in DOE's Planned Change Request will comply with the standards and requirements in 40 CFR parts 191

and 194. Thus, EPA approved DOE's Planned Change Request to use replacement Panels 11 and 12 at the WIPP repository for the disposal of defense TRU radioactive waste.

Abigale Tardif,

Principal Deputy Assistant Administrator, Office of Air and Radiation

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