



**SOUTHWEST RESEARCH AND INFORMATION CENTER**

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April 23, 2018

Ricardo Maestas  
New Mexico Environment Department (NMED)  
2095 Rodeo Park Drive, Building 1  
Santa Fe, NM 87505

RE: WIPP Class 3 Draft Permit Modification to Change the Panel Closure Design

Dear Ricardo,

Southwest Research and Information Center (SRIC) provides the following comments on the package of Class 3 Draft Permit Modification to Change the Panel Closure Design, which was noticed for public comment on February 22, 2018, according to the NMED Fact Sheet. As NMED is well aware, SRIC is a non-profit organization based in Albuquerque, New Mexico that focuses on public education and involvement and public health and environmental justice. SRIC has been involved in WIPP permitting activities for more than 20 years, including being a party in the original permit proceeding, the permit renewal, dozens of permit modification requests, as well as numerous other activities related to public health and the environment.

SRIC understands and supports the need for elimination of waste disposal in Panel 9 and to close off panels 3 through 6 because of underground contamination and inadequate ground control. However, SRIC opposes many of the changes included in the Permittees' Modification Request and the Draft Permit Modification.

Request for Public Hearing and Negotiations

For the reasons that follow, SRIC opposes the Draft Modification and requests a public hearing. Further, and prior to any notice of public hearing, pursuant to 20.4.1.901. A.4 NMAC and NMED practice regarding past class 3 modifications and the permit renewal hearing, SRIC requests that NMED, the Permittees, SRIC, and other parties conduct negotiations to attempt to resolve issues. SRIC believes that the Permittees, NMED, and any other parties could agree with some of the concerns and objections raised in the following comments and that a Revised Draft Modification could be developed prior to the public hearing that would contain many provisions for which there is general agreement. Such a Revised Draft Modification could simplify the hearing and reduce the resources required of NMED, SRIC, the Permittees, and any other parties.



## 1. Need for adequate, comprehensive WIPP Panel Closure

As NMED and the Permittees are aware, Panel Closure is required by the WIPP Permit and included in the 1998 Environmental Protection Agency (EPA) Certification for WIPP in order to prevent or contain releases of radioactive and hazardous wastes. The Permittees' November 10, 2016 Response to the Technical Incompleteness Determination and Revised Class 3 Permit Modification Request (hereafter "TID" or "Modification Request"); and resulting NMED Draft Permit Modification provide an inadequate explanation of what is required for an adequate, consistent Panel Closure that protects worker and public health and the environment. Also, the NMED Fact Sheet does not meet the permitting regulations, which provide: "The fact sheet shall briefly set forth the principal facts and the significant factual legal, methodological and policy questions considered in preparing the draft permit." 20.4.1.901.D.(1) NMAC. Among other deficiencies, the Fact Sheet does not even state that it addresses policy questions.

A. The need for an adequate Panel Closure System to comply with NMED and EPA regulations. On October 8, 2014, the Environmental Protection Agency (EPA) issued its Final Rule on Panel Closure Redesign (*79 Federal Register* 60750-60756). The current Administrative Record (AR) is inadequate as it omits the Final Rule. The Final Rule must be included in the AR. However, numerous documents related to that Rule are in the AR, including AR 110928.5, 111226.5, 120422.5, 120503.6, 120602.5, 120612.5, 120612.6, 120614.5, 120701.5, 120913.5, 120940.5, 120951, 121025.5, 121028.5, 121042, 121102.6, 121200.5, 121200.6, 121200.7, 121205.5, 131108, 131109, 131116.5, and 131205.5. There is no basis to exclude the Final Rule from this proceeding, except apparently because the Permittees do not want to discuss its implications beyond asserting: "The installation of RCRA closures will not preclude the subsequent installation of long-term closures required by the EPA." TID at 5. By inappropriately excluding the Final Rule from the AR, the relationship and requirements of the Final Rule compared with the Draft Modification and whether there can be two different Panel Closures or how they must be the same or consistent is not adequately discussed, including in the Fact Sheet.

The EPA Final Rule approves the:

"planned change request to implement the Run-of-Mine Panel Closure System (ROMPCS) at the Waste Isolation Pilot Plant (WIPP) and amends the WIPP Compliance Criteria to allow an EPA-approved panel closure other than the currently-required Option D design." *79 Federal Register* 60750, c. 2.

The Draft Modification includes Run-of-Mine salt only as part of the closure of Panel 10, which is not consistent with what was proposed and approved by EPA, nor consistent with what was required in the Panel 6 initial closure.

The WIPP Permit repeatedly recognizes WIPP's mission to dispose of TRU and TRU mixed waste and provisions that relate to handling and containing both radioactive and hazardous wastes. Indeed, the WIPP Permit has always recognized that Panel Closure takes longer than at other hazardous waste facilities because of the radioactive wastes that must be contained:

"Extension for Closure Time

As indicated by the closure schedule presented in Figure G-3, the activities necessary to perform facility closure of the WIPP facility will require more than

180 days to complete because of additional stringent requirements for managing radioactive materials.” Permit Attachment G-1d(3) .

SRIC objects to having different closure systems that provide different, and inadequate, levels of protection for human health and the environment. Certainly, neither the Permittees nor NMED have adequately explained why they are ignoring the requirements of the Final Rule and how they will reconcile having two different closures or how the one consistent panel closure will be approved and implemented by both NMED and EPA. The Permittees and NMED have not explained how the Panel Closure requested and allowed by the Draft Modification would adequately contain both radioactive and hazardous contaminants.

B. Performance of bulkheads in comparison with explosion-isolation wall(s) and in comparison with bulkheads and run-of-mine salt.

In Panels 1, 2, and 5, the 12-foot explosion-isolation wall has been emplaced, will remain in place, and has always been part of the WIPP Panel Closure. SRIC opposes changing the definition in Part 1.5.15 because those existing walls also fulfill the purpose of the proposed steel bulkheads “to close panels by blocking ventilation to the intake and exhaust access drifts of the panel and preventing personnel access.” Draft Attachment G1-2b(1). Neither the Permittees nor NMED have provided any evidence that those walls do not fulfill that purpose, nor have they provided any evidence that the walls do not increase protection of human health and the environment compared with steel bulkheads only.

In Panel 6, the initial closure was two barriers – the substantial barrier and bulkhead barrier – that include using chain link, brattice cloth, run-of-mine salt, and steel bulkhead. But for other closures, except Panel 10, the permittees and Draft Modification have only a steel bulkhead that is less robust, and less protective of worker and public health and safety. There is no adequate discussion of these varying designs other than that the permittees current proposal is deemed “compliant” and less expensive.

Additionally, the Panel 6 initial closure presumed that the permanent closure would consist of 100-foot of mined salt, with bulkheads on the inbye and outbye sides of the salt. AR 150545, page 36 of 37. That Panel 6 initial closure was consistent with the Panel Closure that was already approved by the EPA Final Rule. The difference of the Panel 6 closure and that in the Draft Modification is not discussed in the Fact Sheet. To reiterate, there is no adequate discussion in the Modification Request or the Draft Modification and Fact Sheet as to why a Panel Closure should be adopted that is less protective of human health and the environment.

SRIC disagrees that the proposed Panel Closure is adequate. SRIC continues to agree with the principle that has always been in the Permit:

“Although the permit application proposed several panel closure design options, depending on the gas generated by wastes and the age of the mined openings, the NMED and EPA determined that only the most robust design option (D) would be approved.” Permit Attachment G-1e(1). Emphasis added.

The actual history of WIPP, including releases from and extensive contamination of, the underground, mean that relaxing that principle is inappropriate and would not adequately protect



human health and the environment. There are clearly options other than the only two discussed in the Modification Request – the current design and the proposed one.

At a minimum, there should be a comparative analysis of the relative protectiveness of the various designs already in use – explosion-isolation wall, bulkheads, run-of-mine salt, singly and in various combinations.

Bulkheads only were shown to be inadequate to contain hazardous chemical and radiological contaminants during the February 2014 release where a presumed small, but undetermined, amount of radioactive and hazardous constituent contamination spread through bulkheads and through more than 8,000 linear feet of the underground mine, as well as up the exhaust shaft and into the surface environment. The contamination in the Panel 9 area is a clear demonstration that the bulkhead (and ventilation system) did not serve to contain contamination, nor direct it all through the ventilation path to the exhaust shaft.

SRIC made a similar request for a comparative analysis in its comments on May 20, 2013. AR 130533. Instead of those necessary analyses, the Permittees have compared only the original Panel Closure system to the proposed one. Modification Request at 8-11. That is not an adequate comparison, nor is it an adequate explanation of the need for the specific Panel Closure proposed. The AR provides no evidence that NMED has done the requested comparative analysis.

C. Panel Closure does not include any analysis of WIPP expansions and their impacts. The Modification Request and Draft Permit presume that Panel Closure is adequate for the wastes in current WIPP mission. However, the permittees have various expansion plans that are not discussed that include significant increases in the amount of radioactive waste in the underground and potentially very substantial increases in the amounts of volatile organic compounds (VOCs) or other hazardous contaminants.

The Department of Energy (DOE) efforts to expand WIPP include:

- High-Level Tank Waste. The permittees proposal for bringing high-level tank waste resulted in the Excluded Waste Permit Section 2.3.3.8 in 2004. Nevertheless, the *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*, DOE/EIS-0391, November 2012, continues to include WIPP as a reasonable alternative disposal site. Further, DOE's current Notice of Preferred Alternative states:

“DOE's preferred alternative is to retrieve, treat, package, and characterize and certify the wastes for disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, a geologic repository for the disposal of mixed TRU waste generated by atomic energy defense activities.”

<https://www.energy.gov/sites/prod/files/EIS-0391-FEIS-NoticeofPreferredAlternative-2013.pdf>

- Greater-Than-Class C Commercial Waste. *Final Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste*, DOE/EIS-0375 states that WIPP is the preferred geologic disposal alternative and that the “WIPP Vicinity” is a reasonable alternative for Intermediate-Depth Borehole disposal, Enhanced Near-Surface Trench disposal, and Above-Ground Vault disposal. [https://www.energy.gov/sites/prod/files/2017/02/f34/EIS-0375-FEIS\\_NOA-DOE-2016.pdf](https://www.energy.gov/sites/prod/files/2017/02/f34/EIS-0375-FEIS_NOA-DOE-2016.pdf)
- West Valley Commercial Waste. *Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center*, (DOE/EIS-0226), states that WIPP is the preferred alternative for disposal of its commercial TRU waste. Because of SRIC’s objections to the FEIS, DOE has deferred a TRU waste disposal decision, but has not changed that alternative. <https://www.gpo.gov/fdsys/pkg/FR-2005-06-16/pdf/05-11882.pdf>
- Surplus Weapons Plutonium. The National Academy of Sciences currently has a panel examining DOE’s proposal to bring 34 metric tons or more of surplus weapons plutonium to WIPP. <http://dels.nas.edu/Study-In-Progress/Disposal-Surplus-Plutonium/DELS-NRSB-17-03?bname=nrsb>

The Modification Request includes no discussion of how the proposed Panel Closure would prevent releases of those additional wastes, including their VOC and other hazardous contaminants. Thus, there is no basis to conclude that the Panel Closure is adequate for those wastes. Some of those wastes could be emplaced in the HWDUs. The Draft Modification should explicitly prohibit any such wastes from coming to WIPP.

Thus, SRIC opposes the WIPP Panel Closure because it is not the most robust and does not adequately protect worker and public health and the environment. A Revised Draft Modification should be developed through negotiations.

## 2. No explicit prohibition on waste emplacement in Panel 9.

The TID Response and Modification Request state that waste emplacement would not occur in Panel 9. TID Response at 8, Modification Request at 2. The Fact Sheet does mention such a prohibition. The Draft Modification does not include such a prohibition. On the contrary, Part 4.5.2.1. that includes Panel 9 as a Hazardous Waste Disposal Unit (HWDU) is unchanged. Attachment A2-1 states: “The Permittees may also request in the future a Permit to allow disposal of containers of TRU mixed waste in the areas designated as Panels 9 and 10 in Figure A2-1.” That provision remains unchanged. A new provision, which SRIC opposes, on page G-1 states: “**In addition, this Closure Plan includes Panels 9 and 10 which are the main north-south entries in the underground, a portion of which may be used for waste disposal.**” In contrast, the new provision on page G-5, Attachment G-1c, states: “**Note that panels 9 and 10 are not authorized for waste emplacement.**”

SRIC objects to use of Panel 9 for waste emplacement. The Permit Modification must remove all references to Panel 9 as an HWDU and prohibit any use of Panel 9 for waste emplacement.



The proposed Panel Closure also prevents development of the previously proposed Panels 9A and 10A to the south of existing Panels 4 and 5. That fact should also be explicitly included.

3. No basis provided for using Panel 10 for waste emplacement after Panel 8 is filled.

Not included in the Modification Request, the Draft Modification or the Fact Sheet is an explanation of how WIPP would operate after Panel 8 is filled, including whether Panel 10 would be used for waste emplacement. However, Part 4.5.2.1. that includes Panel 10 as a Hazardous Waste Disposal Unit (HWDU) is unchanged. Attachment A2-1 states: "The Permittees may also request in the future a Permit to allow disposal of containers of TRU mixed waste in the areas designated as Panels 9 and 10 in Figure A2-1." That provision remains unchanged. A new provision, which SRIC opposes, on page G-1 states: "In addition, this Closure Plan includes Panels 9 and 10 which are the main north-south entries in the underground, a portion of which may be used for waste disposal." In contrast, the new provision on page G-5, Attachment G-1c, states: "Note that panels 9 and 10 are not authorized for waste emplacement."

Thus, it is not clear whether waste emplacement would be allowed in Panel 10. There is no adequate basis provided to allow waste emplacement in Panel 10. That panel was contaminated by the February 14, 2014 release. That panel would have much less capacity than any of the Panels 1-8, although the Permittees have again not proposed any capacity limit for Panel 10.

SRIC objects to allowing waste emplacement in Panel 10. The Permit Modification must remove all references to Panel 10 as an HWDU and prohibit any use of Panel 10 for waste emplacement.

SRIC has pointed out in numerous submissions to NMED that the Permittees have managed the facility since it opened in 1999 in a way as to not provide enough actual capacity for 6.2 million cubic feet (175,564 cubic meters) of defense transuranic waste. See, December 5, 2011 Comments on WIPP Class 2 Permit Modification – Shielded Containers; AR 130533; and subsequent comments. That maximum capacity is set by the WIPP Land Withdrawal Act. (LWA, PL 102-579, Section 7(a)(3)). However, that limit is not a mandate to emplace that amount of waste, rather it is an absolute ceiling on the volume of waste.

In addition, and the Permit Table 4.1.1 shows that the Permittees have never filled any panel to its permitted capacity. Thus, the need to use either Panel 9 or 10 has not been established, and the Permit should prohibit use of those panels.

4. Adding an inadequate release location and inadequate VOC Public Health Closure Standards.

The Draft Modification includes a new provision and new Table 6.10.1. The new location is "the location of the nearest permanent downwind resident." SRIC opposes that compliance point because it is not protective of human health and the environment. Much of the proposed Panel Closure will be done during WIPP operations when there are hundreds of workers and, at some times, numerous members of the public at the site. It is unacceptable to allow a Panel Closure that is not protective of human health and the environment at a lesser distance than a "permanent resident" – a vague and unenforceable term. The provision and Table 6.10.1 should be stricken. SRIC opposes the Table 6.10.1 that includes values that are not protective of human health and the environment now or in the future. SRIC also notes that synergistic effects of exposure to multiple compounds simultaneously are not known. The synergistic effects of various VOCs

with radionuclides is a further reason for the need for conservatism in risk levels and robust panel closures.

5. Inadequate, inappropriate deletion of Ongoing Disposal Room VOC Monitoring in Panels 3 through 8.

The Draft Modification includes the deletion of Permit Section 4.4.3 and Attachment N-3a(3) that require ongoing Disposal Room VOC Monitoring in Panels 3 through 8, unless an explosion-isolation wall is installed in the panel. SRIC opposes those deletions. SRIC believes that the single bulkhead does not adequately protect worker and human health and the environment, so ongoing VOC monitoring is required. There currently is no evidence that VOC migration will be eliminated by the single bulkhead. If in the future there is such evidence, the Permittees can then propose deleting the requirement.

6. Elimination of “start clean–stay clean.”

The Permittees’ Permit Application and the original WIPP Permit have always included the “start-clean, stay-clean” operating philosophy. Attachment B and G1. The Permit stated that operational philosophy “will provide for minimum need for decontamination” and “will minimize the need for decontamination of the WHB during decommissioning and closure.” The Modification Request and the Draft Modification would eliminate those provisions. The Permittees’ explain the deletion as “corrections.” Modification Request at 17.

SRIC objects to those deletions. There could be significant human health and environmental consequences of WIPP operating under a different – and undescribed – philosophy. Presumably, activities in the underground and in the Waste Handling Building are no longer intended to minimize the need for decontamination. Does that mean that worker exposures are no longer intended to be avoided or minimized? Does that mean that significantly more contamination in the underground and WHB are acceptable? While SRIC presumes that the Permittees (and NMED) do not intend that such human health and environmental consequences are acceptable, the Modification Request and Draft Modification do not answer those questions or provide an understanding of how the facility is to be operated.

SRIC certainly agrees that the Permittees have failed to operate WIPP consistent with that philosophy even before the events of February 2014. But to eliminate that philosophy from the Permit – and provide no replacement provision – is unacceptable.

The Permittees owe NMED and the public a clear explanation of what the operating philosophy is, if it is no longer “start clean–stay clean.”

7. Additional Comments on specific provisions of the Draft Modification

SRIC opposes provisions of the Draft Modification that are contrary to the comments in #1 through #6 above, including the entire new Attachment G-1.

SRIC opposes the new provision on page G-3, Attachment G-1a(1): **DOE-established radiological protection limits** because it is too vague. The existing free release provision is specific and enforceable: “< 20 dpm/100 cm<sup>2</sup> for alpha radioactivity and < 200 dpm/100 cm<sup>2</sup> for



beta-gamma radioactivity.” SRIC also opposes the deletion of those free release requirements on page G-15.

SRIC opposes the deletion on page G-4, Attachment G-1a(2): “and to withstand any flammable gas deflagration that may occur prior to final facility closure.” The Panel Closure should prevent migration of hazardous waste constituents in the air pathway from any deflagration or other release.

SRIC opposes the five deletions on page G-8 of the word “all.” There is no adequate basis for eliminating those words, which have been in the Permit since it was originally issued in 1999.

SRIC opposes the new language on page G-9: “**Alternatively, panels may be closed simultaneously by placing panel closures in the north-south mains.**” The term “north-south mains” is not defined in the Permit and is not specific enough. Of course as described above, SRIC also opposes the inadequate Panel Closure included in the Draft Permit.

SRIC opposes the new language on page G-9, Attachment G-1e(1), that refers to Permit Section 6.10.1. See #4 above.

SRIC opposes the new language on page G-9, Attachment G-1e(1): “**thermal runaway involving nitrate salt bearing waste**” because it is not adequately defined. The Permittees’ analysis in the Modification Request is not stringent enough, as a more severe release could occur.

SRIC opposes the changed language on page G-9, Attachment G-1e(1) related to deleting “most severe” and “expected.” Much Panel Closure will occur during the operational phase so Panel Closure must protect workers and members of the public on-site. Moreover, actual ground control problems, including roof falls, demonstrate that the Permittees do not adequately understand and predict when “expected” events will occur.

SRIC opposes the new language on page G-10, Attachment G-1e(1): The **closure** performance standard for air emissions from the WIPP facility is “**one excess cancer death in one million and a hazard index (HI) of 1 for a member of the public living outside the WIPP Site Boundary as specified in Part 6, Section 6.10.1.**” See #4 above.

SRIC opposes the new language on page G-11, Attachment G-1e(2) that deletes the VOC sampling requirement for decontamination determinations. Such a deletion is inappropriate and reduces protection for workers and human health and the environment. Moreover, it is inconsistent with many of provisions of the Draft Permit that do include radioactive constituent requirements.

SRIC opposes the changed language on page G-13 to delete “will” and change to “may” regarding how mixed and radioactive waste are classified. There is no basis for the change, since throughout the Permit, mixed and radioactive waste are classified and managed as TRU mixed waste.



SRIC opposes the changed language on page G-14 that eliminates the need for soil surveys when an event occurs. The new language is not protective of human health and the environment and likely would not have required soil surveys after the February 14, 2014 radiation release.

SRIC opposes the addition and deletion on page H-2 regarding replacing the provisions of Attachment D with standard operating procedures. There is no basis to for the change, which reduces protection for workers and public health and the environment.

Draft Modification Attachment D has 48 pages, but each page says page \_ of 46.

No credence should be given to the Permittees' stated cost savings in the Modification Request because such cost estimates have proven unreliable. The shutdown of waste emplacement operations for three years following the February 2014 events has dramatically increased the cost of the WIPP facility. Further, proposed expansions of the facility, along with extending its lifetime, would increase the costs of the facility by billions of dollars.

Thank you very much for your careful consideration of, and your response to, these and all other comments and for beginning the negotiation and public hearing process at an appropriate time.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Hancock". The signature is fluid and cursive, with a large initial "D" and "H".

Don Hancock

cc: John Kieling