



**SOUTHWEST RESEARCH AND INFORMATION CENTER**

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August 8, 2016

Ricardo Maestas  
New Mexico Environment Department (NMED)  
2905 Rodeo Park Drive, Building 1  
Santa Fe, NM 87505

RE: WIPP Class 2 Permit Modification Request Two-Item package

Dear Ricardo,

Southwest Research and Information Center (SRIC) provides the following comments on the Class 2 permit modification request package that was submitted by the permittees on June 3, 2016, according to their public notice.

SRIC appreciates that the permittees provided a draft of the proposed request and that representatives of the permittees as well as NMED met with SRIC and other citizen group representatives on March 7, 2016. SRIC continues to believe that such pre-submittal meetings are useful and supports continuing that “standard” practice in the future.

Nevertheless, SRIC remains concerned that neither DOE nor NMED have held any pre-submittal type meetings during the past two years to discuss what permit modifications are necessary to protect human health and the environment in order for WIPP to re-open. As a result, the WIPP permit is not adequate to protect human health and the environment, as required by the New Mexico Hazardous Waste Act (HWA) and the Resource Conservation and Recovery Act (RCRA). WIPP cannot be allowed to re-open until substantial revisions are made in the Permit, which can best be done through informal meetings and then class 3 permit modification procedures.

The WIPP underground is a significantly contaminated facility, including the Panel 7 hazardous waste disposal unit, that cannot meet the “start clean, stay clean” DOE operating philosophy and the WIPP Permit requirements. In addition, the permittees admit that there are 683 containers in the WIPP underground with Hazardous Waste Numbers D001 and D002 that are not allowed by the permit. Permittees’ July 29, 2016 Written Notice to John Kieling and Kathryn Roberts - [http://www.wipp.energy.gov/library/Information\\_Repository\\_A/Responses\\_to\\_Administrative\\_Order/Attachment\\_Final\\_Report\\_Regarding\\_Application\\_of\\_D001\\_and\\_D002\\_HWN\\_with\\_Attachments.pdf](http://www.wipp.energy.gov/library/Information_Repository_A/Responses_to_Administrative_Order/Attachment_Final_Report_Regarding_Application_of_D001_and_D002_HWN_with_Attachments.pdf)

That same Notice also states that there were 148 Uniform Waste Manifests that were inaccurate and had to be corrected.

Nuclear Waste Partnership (NWP)'s inadequate performance

NWP became the Management and Operating Contractor and a permittee on October 1, 2012. In the more than 46 months since then, the facility has operated for about 16 months. Because of the inadequate performance of NWP, the facility has not been receiving or disposing of waste for the past 30 months and will not do so for some months into the future. Based on that record, the ability of NWP to safely operate the facility is in serious doubt. For the large majority of its time as operating contractor, and perhaps for the entire timeframe, NWP has been in violation of multiple permit provisions. Thus, the capability of NWP to comply with permit requirements is seriously in question. NMED must consider the permittees' compliance history, including violations of the Hazardous Waste Act or any permit condition, and may deny any permit modification based on that history. 74-4-4.2.D(6) NMSA. Given NWP's inadequate safety performance and lack of compliance with permit provisions, NMED must assure that the permit is more stringent rather than reducing the stringency of the permit, which, in essence, rewards the permittees for violations. Given that adequate ventilation is necessary for any underground mine, especially in the significantly contaminated WIPP underground, reducing ventilation requirements in active rooms would result in less protection of public health and the environment. Thus, that Item 2 request must be denied.

Those facts demonstrate the Permittees' extremely poor compliance history and their gravely inadequate safety performance. Those facts and the many proposed changes in the facility and waste analysis procedures must be described in the Permit, which must be modified to describe how those and other changes will assure that WIPP operates in a manner that is protective of public health and the environment. Among many other requirements, the permittees do not meet the fundamental requirement of Permit Section 2.1:

The Permittees shall design, construct, maintain, and operate WIPP to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of transuranic (TRU) mixed waste or mixed waste constituents to air, soil, groundwater, or surface water which could threaten human health or the environment, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.31).

The fact that there are 683 containers with prohibited items and that there were 148 incorrect Uniform Waste Manifests also demonstrates that there are many deficiencies in the Permit. Permit section 2.3 General Waste Analysis and the related Attachments are clearly inadequate since there was a failure to correctly characterize hundreds of containers and identify the prohibited items before waste was shipped to, and emplaced, at WIPP. Permit section 2.7 General Inspection Requirements and related Attachments are clearly inadequate in that inspections did not identify malfunctioning and deteriorating equipment prior to the February 5, 2014 fire and February 14, 2014 radiation release. Permit section 2.8 Personnel Training and the related Attachments are clearly inadequate since multiple personnel failed to carry out their responsibilities, including in waste characterization, sampling and analysis, quality assurance, waste acceptance, and audit and surveillance. Permit section 2.9 General Requirements for handling ignitable, corrosive, reactive, or incompatible wastes is clearly inadequate in that 683 containers with such items were allowed to be characterized, shipped to, and emplaced at WIPP.

If the permittees or NMED believe that none of those Permit provisions are inadequate, they should so state and identify the basis for such determination. NMED should have made such a determination in its five-year review, required by Permit section 1.3.3.

SRIC's conclusion is that until there is a revised permit to address those and other deficiencies, WIPP should not be allowed to re-open. NMED should notice the permittees that they are not allowed to re-open the facility until a significantly revised permit is provided for public comment and is approved by NMED.

#### Denial of permit modification request Item 2

Pursuant to 20 NMAC 4.1.900 (incorporating 40 CFR 270.42(b)(6)(i)(B)) and its historic practices, NMED may deny class 2 modification requests. SRIC strongly believes that Item 2 must be denied because reducing ventilation requirements in an active room would reduce protection of human health and the environment.

#### \* Item 2 - Active Room Ventilation Flow Rate

The request would effectively eliminate the requirement of Permit section 4.5.3.2:

The Permittees shall maintain a minimum active room ventilation rate of 35,000 standard ft<sup>3</sup>/min (scfm) in each active room when waste disposal is taking place and workers are present in the room, as specified in Permit Attachment A2, Section A2-2a(3), "Subsurface Structures (Underground Ventilation System Description)," and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.601(c)).

On page 6 of the request, the permittees state: "It has been determined that it is not possible to achieve 35,000 scfm (42,000 acfm) in an active waste disposal room while operating in filtration mode with 60,000 scfm (72,000 acfm)." Thus, they propose to modify the requirement to allow "other measures."

It is unsafe to allow waste handling in a significantly contaminated underground mine without adequate ventilation. Until there is adequate ventilation throughout the underground, including active rooms, waste handling should not be allowed.

The permittees' further justification is that "[t]his modification is providing an equivalent level of protection for VOCs that result from a roof fall event in an adjacent filled room." P. 4. The hypothetical roof fall scenario is not a sufficient basis for the request. The February 14, 2014 event shows that a release **in an active room** from a chemical reaction is possible under the existing permit requirements. Thus, the permittees (and NMED) must evaluate the effects of a similar (or larger) incident in an active room as well as in the adjacent room to determine what ventilation rates are required. Such an analysis has not been included in the modification request, so the permittees have not provided an adequate basis to support the proposed change, and the request must be denied.

The permittees' assert: "The roof collapse scenario that was analyzed by Sandia National Laboratories assumed 21 drums could be breached; therefore, this assessment bounds the one

drum thermal runaway event.” That assertion has, in fact, not been demonstrated with actual analysis, including drums containing prohibited items or prohibited Hazardous Waste Numbers. Since hundreds of prohibited containers are emplaced, the permittees (and NMED) must consider that additional containers could be emplaced at WIPP and analyze the effects of chemical reaction releases. Moreover, the Sandia analysis cannot be relied upon because it is from 1980 and has not been revised to reflect actual conditions in the WIPP underground or with the range of wastes that are emplaced at WIPP, including in shielded containers.

The permittees also state: “[t]his modification also allows the Permittees to continue waste disposal operations during off-normal conditions, and maintenance activities.” P. 6. Thus, the permittees seek to elevate waste emplacement to be an equivalent value as having adequate ventilation. The purpose of the existing Permit requirement for 35,000 scfm is to prevent waste handling operations when that level of ventilation is not present. The purpose and effect is to protect workers, as well as public health and the environment. Thus, waste handling is allowed when that ventilation rate (and other requirements) are met, but is otherwise prohibited until that ventilation flow is achieved. That priority for safety over waste handling is necessary and proper under the HWA and its regulations. The purpose of the modification request is to allow waste handling, despite not meeting the ventilation requirement, effectively saying that waste emplacement is an equivalent or higher value than safe ventilation levels. NMED must reject such equivalency. The permittees have provided no legal or regulatory rationale for such a waste handling value, nor should any such standard be allowed.

By the permittees own plans and policies, meeting the 35,000 scfm requirement is necessary and achievable. The WIPP Recovery Plan of September 30, 2014 (<http://wipp.energy.gov/Special/WIPP%20Recovery%20Plan.pdf>) states that at least 180,000 scfm is “required for commencement of waste emplacement operations.” P. 19. With that level of ventilation, 35,000 scfm can be maintained in the active room. That Recovery Plan has not been revised, is still posted as the recovery plan in effect for WIPP, so NMED and the public should be able to rely on that Plan. The modification request does not mention that 180,000 scfm requirement, nor explain why it should not and cannot be implemented. Thus, the request does not adequately explain why the request is needed.

20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(iii)) requires that the request explain why the modification is needed. But since there is no need to not meet the ventilation flow requirement, the request must be denied. The purported need is actually one of convenience for the permittees – so that they can conduct waste handling when they consider it proper, rather than having to meet specific, enforceable permit requirements.

The permittees also propose to modify Permit section 4.6.3.3 Remedial Action by adding an additional sentence: “Alternatively, prior to reaching these action levels, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing and abandoning the active room only after approval by the Secretary.”

The remedial action section relates to requirements regarding room concentration limits for ten volatile organic compounds (VOC) in closed and active rooms in an open panel, as provided in

Table 4.4.1 and the corresponding 50% and 95% action levels for those VOCs specified in Table 4.6.3.2.

Permit section 4.6.3.3 first provides that when the “50% Action Level” is reached in a closed room, sampling frequency increases to once a week until the concentration falls below those levels or until the closure of room 1 of the panel. The proposed additional language would allow the permittees to not increase the sampling frequency, for which no basis has been provided. Nor would less frequent sampling be protective of public health and the environment.

Permit section 4.6.3.3 then requires that if the concentrations reach the “95% Action Level” that a second sample must be taken. The proposed additional language would allow the permittees to not take a second sample, for which no basis has been provided and which is not protective of public health and the environment.

Permit section 4.6.3.3 then specifies that if the second sample confirms the concentrations:  
the active open room will be abandoned, ventilation barriers will be installed as specified in Permit Section 4.5.3.3, waste emplacement will proceed in the next open room, and monitoring of the subject closed room will continue at a frequency of once per week until commencement of panel closure.

The proposed additional language would allow the permittees to continue to conduct waste handling in the open room, despite reaching the “95% Action Level.” Such action is not protective of public health and the environment and again makes waste handling equivalent to worker and public health and safety. SRIC does not believe that there is any adequate basis for allowing continued waste handling in a room with such concentrations, particularly since workers in active rooms in panel 7 are now exposed to chronic exposures of americium-241 and plutonium-239 in the contaminated rooms in addition to the VOC exposures. The effects of such cumulative exposures were not considered in establishing the limits in Tables 4.4.1 and 4.6.3.2. Thus, the Action Levels have not been shown to be protective in the existing circumstances.

Moreover, the permittees can and should take actions to prevent concentrations from ever reaching the “95% Action Level.” If the permittees have ignored rising VOC concentrations in an open or closed room, they are not operating WIPP in a prudent, safe manner. Or if the permittees have made attempts to reduce the concentration levels and have failed, then they are demonstrating that their “alternative” measures are ineffective, so the ventilation barriers are the required action, as specified in the Permit.

The permittees describe two “factors” as to why the change is needed – exert control over employees and remediation by requiring personal protective equipment (PPE) or additional monitoring. P. 7. Those “factors” do not explain why the modification is needed, instead they describe the convenience of the permittees – not protection of public health and the environment. The permittees can and must always exert control over employees and can require PPE or conduct additional monitoring. Thus, in addition to not being protective of public health and the environment, the request must be denied because no need has been shown.

### Changes to permit modification request Item 1

The permittees propose many changes to the Contingency Plan. SRIC does not object to many of the proposed changes, but does support changes so that the Plan is consistent with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Subpart D) and so that it more adequately reflects the significant underground contamination at WIPP.

The regulations 20.4.1.500 NMAC (incorporating 40 FR 264.52(e)) require that the Contingency Plan “must include a list of all emergency equipment at the facility....” Contrary to that requirement, the request states that it “remove[s] certain emergency equipment that is ... only required for radiological emergency response....” P. 4. Radiological emergency response equipment is required at WIPP, and it must be included in the list of all emergency equipment. Thus, Radiation Monitoring Equipment, Decon Shower Equipment, HEPA vacuums, and Paint or Fixative must remain listed, not eliminated in proposed Table D-2. Pages 24 and B-81.

Proposed Figure D-4 (p. B-99) does not reflect the significant underground contamination and must be changed. Because of the nature of the contamination, NMED should reject the proposed figure and require the permittees to submit a new figure.

All of drift E-300 north of S-2180 to the exhaust shaft is a highly contaminated drift that is designated as an Airborne Radiation Area. See Attachment 1. People underground should not be in the drift without PPE and respirators. That drift should not be designated “secondary escapeway.” Instead, it should be designated as “extreme emergency escapeway” that is designated for use only when drifts E-140, W-30, and W-170 cannot be used for evacuation.

Drift W-170 between S-2180 and S-1950 also is highly contaminated and is designated as an Airborne Radiation Area. See Attachment 1. People underground should not be in the drift without PPE and respirators. That drift should not be designated “secondary escapeway.” Instead, it should be designated as “extreme emergency escapeway” that is designated for use only when drifts E-140 and W-30 cannot be used. SRIC also notes that drift W-170 could be the closest evacuation route for workers in Panel 7, which raises concerns about the safety of waste handling in that panel and whether all workers in that panel should always be in PPE and respirators.

Further, drift S-2180 is highly contaminated and is designated as an Airborne Radiation Area. See Attachment 1. People underground should not be in the drift without PPE and respirators. That drift should not be designated “secondary escapeway.” Instead, it should be designated as “extreme emergency escapeway” that is designated for use only when S-2520 cannot be used. SRIC does not support any waste emplacement in drift S-2180 because of the high contamination levels. The fact that workers in Panel 7 have no adequate secondary escapeway raises significant concerns as to whether Panel 7 should be used for further waste emplacement.

SRIC also does not understand why a “primary escapeway” is shown in Panel 6 and drift S-3650 and “secondary escapeway” is shown in drifts S-3080 and S-3110. All of those areas are contaminated and are designated as Contaminated Areas requiring PPE. See Attachment 1. While

ground control and monitoring activities may be required in those areas, similar measures are required in panels 2, 3, and 4 where no escapeways are shown. SRIC generally believes that no one should be in the contaminated areas except with proper training, monitoring equipment, and PPE. Thus, all of those contaminated areas should be designated in ways that recognize the significant contamination.

Proposed Figure D-4 (p. B-99) also indicates that the primary escapeways lead to the Waste Shaft and Salt Handling Shaft as the two required egress shafts. However, when the Supplemental Ventilation System is operational, the Salt Handling Shaft cannot be used for egress. Thus, the proposed figure does not adequately represent the permittees' proposed operations and cannot be approved. The lack of a second adequate egress shaft is a serious problem that the permittees must resolve. The problem is further exacerbated by the upcoming major renovation of the Waste Shaft in 2017, meaning that it will not be operational as the primary egress for months. The lack of adequate egress is another indication of the lack of readiness of WIPP for waste handling.

In summary, Item 2 must be denied because of the permittees' compliance history, the lack of need, and incomplete and inadequate information. Thus, that request is not protective of public health and the environment. Approval of Item 1 requires changes to meet the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Subpart D) and to more adequately reflect the existing reality of significant underground contamination at WIPP.

Thank you very much for your careful consideration of, and your response to, these and all other comments.

Sincerely,

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

Don Hancock

cc: John Kieling

