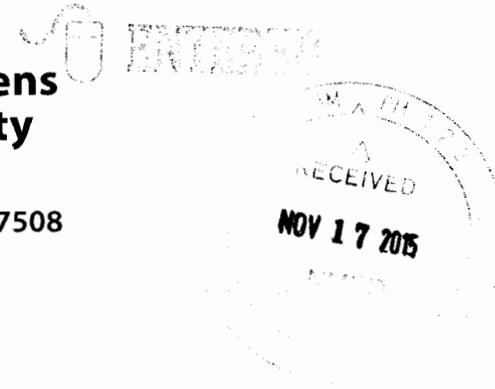




Concerned Citizens for Nuclear Safety

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November 11, 2015

Mr. Ricardo Maestas
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive, Building 1
Santa Fe, New Mexico 87505
Phone: (505) 476-6050

Via e-mail to Ricardo.Maestas@state.nm.us

Re: Six Proposed Class 2 WIPP Permit Modification Requests about
Revision to Volatile Organic Compound Monitoring Procedures, September 2015

Dear Mr. Maestas:

Please find below the comments of Concerned Citizens for Nuclear Safety (CCNS) about the six proposed Class 2 Waste Isolation Pilot Plant (WIPP) Permit Modification Requests (PMRs) - Revise Volatile Organic Compound Monitoring Procedures, dated September 8, 2015. CCNS asserts that Topics 5 and 6 are Class 3 PMRs and require heightened public review, comment and opportunity for a public hearing.

At the end of our comments we raise concerns about the "degraded" condition of and leaking fire suppression equipment at WIPP, as reported by the Defense Nuclear Facilities Safety Board (DNFSB) in recent monthly reports. CCNS requests that the New Mexico Environment Department (NMED) use its regulatory power to **stop** all recovery operations at WIPP until the fire suppression equipment is operational. It does not make sense for operations to continue without operating fire suppression equipment. Given the recent truck fire and release of radioactive and hazardous materials from exploding drum(s) in the underground, it is obvious that all fire suppression equipment be in tip-top condition.

General Comments

First, the PMRs do not address the big picture at WIPP following the February 2014 truck fire and radiation and hazardous materials releases from exploding waste container(s) shipped from Los Alamos National Laboratory, which contaminated portions of the facility. The six PMRs cannot stand by themselves. The Permittees (Department of Energy (DOE) and Nuclear Waste Partnership (NWP)) must provide the public with information about the range of upcoming PMRs to address the February 2014 releases in order for us to provide informed comments about these proposed PMRs. Because WIPP cannot currently comply with its existing New Mexico Environment Department (NMED) hazardous waste permit, the Permittees have put forward this set of PMRs to revise the volatile organic compound (VOC)



monitoring procedures. The PMRs must so state that Permittees are not in compliance with their permit.

Second, CCNS urges NMED to add a new “While WIPP is Not Emplacing Waste” section in the permit. This section would include current operations that are outside the existing permit. The proposed section would also gather all the modifications made to the permit solely because of the February 2014 releases and contamination events. It would provide an easily referenced place for all modifications that would need to be restored/changed/deleted prior to a WIPP reopening.

For example, if the permit were modified to change the VOC monitoring location, as proposed by the Permittees, then the change would be placed in this new section.

CCNS understands the difficulties in monitoring VOCs in a contaminated facility, but once WIPP reopens, VOC monitoring should return to the current permit conditions.

Finally, there are major problems with three of the proposed PMRs. They are Topics 2 (change the repository VOC monitoring locations), 5 (revise the method of determining compliance with the surface non-waste worker environmental performance standard for air emissions) and 6 (remove the minimum running annual average (RAA) mine ventilation exhaust rate). Each one would significantly reduce the protection of human health and the environment as compared with the requirements that have been in place since the permit was first issued in 1999.

CCNS requests that NMED deny the Permittees’ PMRs 2, 5 and 6 and invite them to resubmit them as Class 3 PMRs.

Specific Comments

Topic 1 - Add trichloroethylene (TCE) to the VOC target analyte list for VOC monitoring

- CCNS agrees that TCE should be included in the VOC target analyte list.

Topic 2 - Change the repository VOC monitoring locations

- This modification should be denied.
- This request would eliminate the two underground VOC monitoring stations. The primary reason given to change the monitoring locations to the surface is because of the difficulty of VOC monitoring in the radiologically contaminated underground, including because the sampling equipment might be radiologically contaminated. That contamination merits **increased** surface and underground monitoring, **not** the elimination of the underground monitoring. Eliminating underground monitoring would not protect workers, the environment and human health as required by the hazardous waste permit.
- The Permittees monitor other contaminated facilities across its nuclear weapons enterprise and have proposed methods to address the “baseline” contamination.
- The proposed change is contrary to 15 years of WIPP permit requirements, which provide for two underground sampling locations. That monitoring resulted in detection of VOC exposures in the underground in 2009 and increased protection for workers, human health and the environment.

Topic 2 proposes to change the procedure for monitoring by changing the RVMP monitoring locations from the underground to the surface. Moving the repository VOC monitoring locations to the surface will continue to protect the non-waste surface worker and provide an equivalent RVMP. The Permittees are requesting the use of VOC sampling locations on the surface since the logistics of accessing the current underground locations are complicated due to radioactive contamination. These logistic complications are addressed by monitoring on the surface as described in Section 3 of this PMR. p. 3.

- Further, the location on the surface that is assumed to have the highest concentration of VOCs is based on a computer model, and therefore is assumed. Thus the air dispersion is also assumed. DOE proposes to replace the original assumption of the amount of risk with a new assumption of the location of the risk. This is unacceptable.
- Samples must be taken at **both** surface and underground locations simultaneously. The actual sampling results must be used to calculate risk. After the collection of actual data, a correlation could be made that when there are “x” VOCs in the underground, and the wind is blowing so fast in a certain direction, there are “x” VOCs on the surface.
- Permittees must explain why they are not monitoring inside the buildings. Given the contamination in the underground, it is necessary to take samples where the people are, including in the Waste Handling Building.

Topic 3 – Change the type of sampling equipment for VOC monitoring

- The Permittees must state the industry standard QA/QC requirements and describe how WIPP will follow these standards.
- The public cannot provide informed public comments about the PMRs until that information is made available.

Topic 4 - Change the sampling durations for VOC monitoring

Topic 4 proposes to change the procedure for sampling by changing the sampling duration for the RVMP. The Permittees are proposing to increase the sampling duration from 6-hour time-integrated samples to 24-hour time-integrated samples. Experience has shown that during a typical work day at the WIPP facility, VOC concentrations are affected by ventilation changes in the repository throughout the day. Twenty-four hour samples are less likely to be affected by these changes than shorter-duration samples. p. 3

- The concentration of VOCs when workers are present is important information to know. It is data that should **not** be diluted by adding meaningless data from when there are no operations.

Method TO-15 refers to time-integrated samples as having 1 to 24 hour durations. Generally, samples to identify occupational exposures have a duration on the order of a work shift, typically six to eight hours. Samples for determining chronic effects to public receptors are longer in duration, typically 24 hours in duration, to average out the variability that may occur during the sampling period. Experience has shown that during a typical work day at the WIPP facility, VOC concentrations are affected by ventilation changes in the repository throughout the day. Twenty-four hour samples are less likely to be affected by these changes than shorter-duration samples. The 24-hour samples may remove some of the variability that is observed in the VOC results. p. 10.

- Once again, just because the VOC concentrations change due to ventilation changes throughout the day is no reason to try to hide those variations by diluting them.

Topic 5 - Revise the method of determining compliance with the surface non-waste worker environmental performance standard for air emissions

- The proposed modification is for a major permit change for determining compliance with air emissions for 10 volatile organic compounds. The proposal would eliminate calculated “concentrations of concern” for carcinogenic VOCs, which reduces protection of workers, human health and the environment.
- The proposal is extremely complex and is a Class 3 PMR. NMED should deny the request and invite the Permittees to resubmit it as a class 3 modification request.
- The request also includes significant changes in the remedial actions required.

Topic 5 proposes to change the procedure for reporting VOC concentrations for the RVMP by determining compliance with the non-waste surface worker environmental performance standard for air emissions using a direct calculation of risk instead of the indirect method in the Permit. The determination of risk in the Permit uses concentrations of concern to relate underground VOC concentrations to non-waste surface worker risk. Concentrations of concern were determined by the NMED by back-calculating the underground concentration associated with a specific risk at the surface. This indirect method has assumptions regarding dispersion in the atmosphere and dilution in the underground ventilation air stream. The proposed method measures the VOC concentrations on the surface, near the point of exposure, after dispersion and dilution have occurred, and, therefore, are not assumed. p. 4.

- The 10 VOCs must be sampled in the underground as currently required in the permit.
- WIPP is a pilot plant. NMED should require the Permittees to do the necessary sampling and reporting.
- All assumptions need to be reexamined through the Class 3 PMR process.
- The Permittees must describe what tests they have been done to validate the models.

The proposed method uses U.S. Environmental Protection Agency (EPA) risk methodology and recommended risk factors to calculate risk. The EPA methodology is the same that was used by the NMED in establishing the concentrations of concern, however, the Permittees are updating information that was provided in the original Permit Application to satisfy the requirements of 20.4.1.900 NMAC (incorporating 40 CFR 270.23 (c) and (e)). This information is being updated based on changes to human health risk factors recommended by the EPA. The Permittees are proposing to revise procedures that are used to determine if the risk to the non-waste surface worker exceeds the risk limits established by the Permit. The Permittees are not proposing risk limits that are different than those established by the Permit. The proposed process for calculating risk incorporates risk from both the non-carcinogenic and carcinogenic effects for each compound. This process makes the risk determination more realistic than the current practice of using COCs for determining risk. p. 4.

- Further, there are multiple changes in this topic, including changing the location, changing EPA risk factors by eliminating COCs, and making things more “realistic.”

The Permittees are proposing these changes at this time to coincide with recovery activities. When recovery is complete, the Permittees intend to continue surface monitoring to protect the non-waste surface worker and limit personnel access to radiologically contaminated areas in the underground. This is consistent with DOE operational philosophy to maintain personnel radiological exposures to as low a reasonably achievable. p. 5.

- The Permittees must explain what the proposed sampling location has to do with DOE's "operational philosophy to maintain personnel radiological exposures to as low a reasonably achievable."
- For more than 15 years the permit has required actual measurements of the air being breathed in the underground, and now the Permittees are proposing to eliminate that requirement that obviously protects workers, human health and the environment.

Topic 6 - Remove the minimum running annual average (RAA) mine ventilation exhaust rate

- Permittees propose to eliminate the 260,000 cubic feet per minute (cfm) permit requirement because it can no longer meet it as a result of the underground contamination and as a result, WIPP's ventilation is now limited to 60,000 cfm in filtration mode. The Permittees' goal should be to restore the 260,000 cfm in order to protect workers, human health and the environment.
- CCNS asserts that this is a Class 3 PMR. NMED should deny the request and invite the Permittees to resubmit it that describes the new ventilation system and demonstrates that it would be at least as protective of human health and the environment during waste handling operations as the existing permit requirements.

Beyond the PMRs, there are other outstanding fire prevention, safety and security issues at WIPP. CCNS requests that NMED review **and take regulatory action** about the concerns raised recently by the Defense Nuclear Facilities Safety Board (DNFSB) about leaks and other degraded conditions in key fire suppression equipment. **CCNS questions why WIPP recovery operations are even taking place when key fire suppression equipment is not in operating condition. Given that there were two fires/explosions in February 2014, NMED must use its regulatory power to stop all recovery operations until fire suppression equipment is fully operational.** Two recent DNFSB monthly reports reveal - and there are probably more examples, which NMED should explore:

Fire Protection Status Review

In its July 2015 monthly report, the DNFSB raised outstanding concerns about "surface fire protection systems and equipment maintenance, such as leaks in fire water pump packing and in buried fire looping piping, ... [and] underground material conditions."

http://www.dnfsb.gov/sites/default/files/Board%20Activities/Reports/Site%20Rep%20Monthly%20Reports/Waste%20Isolation%20Pilot%20Plant/2015/mr_20150731_122.pdf

Potentially Inadequate Safety Analysis (PISA)

In its September 2015 most recent monthly report, the DNFSB raised concerns about the Waste Handling Building (WHB) Fire Suppression System (FSS) "operating in a degraded mode. This resulted in a PISA declaration, followed by a positive Unreviewed Safety Question (USQ) on September 18."

http://www.dnfsb.gov/sites/default/files/Board%20Activities/Reports/Site%20Rep%20Monthly%20Reports/Waste%20Isolation%20Pilot%20Plant/2015/mr_20150930_122.pdf

Please advise at your earliest convenience about what NMED is going to do about the faulty fire suppression equipment.

Thank you for your careful consideration of our comments. Please contact me with any comments, questions or concerns at jarends@nuclearactive.org.

Sincerely,

A handwritten signature in black ink that reads "Joni Arends". The signature is written in a cursive, flowing style.

Joni Arends, Executive Director