



November 12, 2015

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Re: Class 2 WIPP Permit Modification Request - Revise Volatile Organic Compound Monitoring Procedures, September 2015

Dear Ricardo,

Thank you for this opportunity to submit comments on this Class 2 WIPP Permit Modification Request - Revise Volatile Organic Compound Monitoring Procedures, dated September, 2015.

Through comprehensive research, public education and effective citizen action, **Nuclear Watch New Mexico** seeks to promote safety and environmental protection at regional nuclear facilities; mission diversification away from nuclear weapons programs; greater accountability and cleanup in the nation-wide nuclear weapons complex; and consistent U.S. leadership toward a world free of nuclear weapons.

General Comments

First, Nuclear Watch NM requests that the big picture be addressed. This Permit Modification Request (PMR) cannot stand by itself. It is the result of the events of February 2014. There must be a discussion about range of upcoming PMRs due to the February 2014 release. Many of the requests in this PMR are because WIPP cannot currently comply with the existing Permit and this PMR must so state that information.

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There should be a new 'While WIPP is not Emplacing Waste' section in the permit. This section could include current operations that are outside the existing Permit. This proposed section could also include all the Modifications made to the Permit solely because of the February 2014 events. All of these operations must be restored to pre-2014 specifications after WIPP reopens.

For instance, the PMR states –

Unlike underground waste workers who are required by the Permit to be protected using the DRVMP only when waste emplacement is underway, non-waste surface workers must be protected at all times. Currently, the monitoring locations used to ensure this protection are underground and are in areas that are radiologically contaminated. One station, Station VOC-A, is situated in the exhaust air from the entire disposal area. Because of this, Station VOC-A will be subjected to ongoing risk of radiological contamination arising from activities in Panel 7. (Pg. 5)

- Nuclear Watch NM appreciates the difficulties in monitoring VOCs in a contaminated facility, but once WIPP reopens, VOC monitoring should return to normal.

There are major problems with three of the proposed permit modifications –

- Topic 2 - Change the repository VOC monitoring locations
 - Topic 5 - Revise the method of determining compliance with the surface non-waste worker environmental performance standard for air emissions
 - Topic 6 - Remove the minimum running annual average (RAA) mine ventilation exhaust rate
 - Each of these (2, 5, &6) 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 issued in 1999. Thus, each of these proposed modifications should be denied.
- In addition, if the permittees want to pursue Topics 5 and/or 6 remain, these must be considered as Class 3 permit modifications.
 - There are currently too many unknowns concerning the future of the ventilation system at WIPP to remove the minimum running annual average (RAA) mine ventilation exhaust rate.

Specific Comments

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

- We agree 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 sampling equipment might be radiologically contaminated. That contamination merits increased surface and underground monitoring, not the elimination of the underground monitoring. This proposed change is totally 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 and the public.
- Eliminating underground VOC monitoring would significantly reduce protection of human health and the environment, so the modification should be denied.

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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.

- Let's be clear, 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 and also has assumptions regarding dispersion in the atmosphere. So, DOE proposes to replace the original assumption of the amount of risk with a new assumption of where the risk is.
- Think of how informative it would be to have samples taken at **BOTH** locations at the same time. Then no assumptions are needed. Maybe eventually some real-life 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 at the surface.
- Why not monitor inside the buildings? Take the samples where the people are, in addition to the Waste Handling Building.
- We appreciate the difficulties in monitoring VOCs in a contaminated facility, but once WIPP reopens, VOC monitoring should return to normal.

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

- Please state the industry standard QA/QC requirements and how WIPP will follow these standards.

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. (Pg. 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. (Pg. 10)

- Once again, just because the VOCs change is no reason to try to make the changes go away.

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 change in determining compliance with air emissions for ten volatile organic compounds. The proposal would eliminate calculated “concentrations of concern” for carcinogenic volatile organic compounds (VOCs), which reduces protection of public health and the environment. The proposal is extremely complex, so it should be considered as a class 3 modification request. For example, more than a page of the request is four technical formulas. The request also includes significant changes in the remedial actions required.
- Again, these are significant changes which should be considered as a class 3 modification request.

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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.

- The VOCs must be sampled in the underground.
- It's a pilot plant – do the sampling.
- All assumptions need to be reexamined.
- What tests have been done to validate the models?

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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.

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

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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.

- What does the proposed sampling location have to do with DOE's “operational philosophy to maintain personnel radiological exposures to as low a reasonably

achievable”? While for more than 15 years, the permit has required actual measurements of the air being breathed in the underground, that requirement would be eliminated.

- Does this imply that the request will be better protection for the surface worker?

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

- The reason to eliminate the 260,000 cubic feet per minute (cfm) permit requirement is because it can no longer be met because WIPP’s ventilation is limited to 60,000 cfm in filtration mode. That is not a reason to eliminate a provision of the permit that protects human health and the environment, as well as underground workers.
- Any request to change the RAA should be in a comprehensive class 3 permit modification that describes the new ventilation system and demonstrates that it would be at least as protective of public health and the environment during waste handling operations as the existing permit requirements.
- There are currently too many unknowns concerning the future of the ventilation system at WIPP to remove the minimum running annual average (RAA) mine ventilation exhaust rate. For instance, the Defense Nuclear Facilities Safety Board has observed –
 - “Of note, once the SVS [supplemental ventilation system] system becomes operable, emergency underground egress through the salt shaft will no longer be possible as the SVS exhausts out this shaft.”
 - http://www.dnfsb.gov/sites/default/files/Board%20Activities/Reports/Site%20Rep%20Monthly%20Reports/Waste%20Isolation%20Pilot%20Plant/2015/mr_20150930_122.pdf

Sincerely,

Jay Coghlan
Executive Director

Scott Kovac
Operations Director