



May 20, 2013

Ms Trais Kliphuis  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505,

Dear Ms. Trais Kliphuis,

We respectfully submit these comments for the WIPP Class 3 Permit Modification Request, dated March 4, 2013.

**Nuclear Watch New Mexico** seeks to promote safety and environmental protection at 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.

We oppose the Class 3 Permit Modification Request, dated March 4, 2013, given that its proposed changes would reduce protections for workers and the public and could increase the amount of waste at WIPP. We ask NMED to:

- 1) Not approve a panel closure system that is less robust than the currently required system;
- 2) Delay consideration of new panels which are not needed for at least seven years and could lead WIPP to exceed its designated waste limit, and
- 3) Deny requested changes in VOC monitoring that reduce the levels of protection of workers and the public.

### **Repository Reconfiguration**

The new panels, named 9A and 10A, would be the same size as the eight already permitted panels and would have the same limits on the amount of waste in each panel. In the modification request, DOE has provided no comparison of the capacity of the previously proposed panels 9 and 10 with the new panels. Apparently, the new panels would hold more waste than the originally proposed panels 9 and 10 and therefore effectively increase the amount of waste that could be shipped and disposed at WIPP. Further, DOE currently estimates that panel 9 would not be needed until September 2020 and panel 10 would not be needed until May 2024, so it is premature to make any decision now about the new panels until additional information is provided.

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Because of DOE shipping and disposal practices over the past 14 years, only 82% of available contact-handled waste capacity was used in panels 1-5. Less than one percent of the remote-handled waste limit was emplaced in those panels, so WIPP has actual space for less than half of the legal RH capacity. Thus, the new panels could allow more waste than the existing design.

No cost saving was given. Is there a change in cost for the Repository Reconfiguration idea?

We disagree with the stated need for Repository Reconfiguration. The given reason for not using the south access drifts is, "*... if these areas were enlarged for disposal of CH and RH TRU waste, the response to the removal of pillar volume and increasing the roof span would likely induce increased convergence rates and higher fracturing, leading to increased maintenance. Because this maintenance would be in areas being actively filled with waste, maintenance activities would interfere with waste disposal operations.*" (Repository Reconfiguration Pg. 4)

It may be true that enlarging the drifts would induce increased convergence rates, but anything ever dug at WIPP induced increased convergence rates. Convergence rates have been well studied at WIPP. "Approximately 500 readings are collected and assessed regularly from convergence point arrays throughout the WIPP underground." (Geotechnical Analysis Report for July 2009 - June 2010," DOE/WIPP-11-3177, Volumes 1, Pg. 71) It is likely that the exact convergence rate can be estimated, but the public is supposed to accept the fact that convergence will "likely" happen in such a large amount that would require Repository Reconfiguration. This is not likely.

The excavation of proposed locations of Panels 9 & 10 would likely induce increased convergence rates and higher fracturing, leading to increased maintenance of the south access drifts. The excavation of Panels 7 & 8 will likely induce increased convergence rates and higher fracturing, leading to increased maintenance of the south access drifts. The excavation of Panels 6 likely induced increased convergence rates and higher fracturing, leading to increased maintenance of Panel 6 itself. Did this stop actively filling Panel 6 with waste? No, and none of these came close to a need for Repository Reconfiguration.

Convergence rates generally decrease over time. However, "Convergence rates continue to vary seasonally, typically increasing during the warmer and more humid summer months and decreasing during the cooler and drier winter months." (Geotechnical Analysis Report for July 2009 - June 2010," DOE/WIPP-11-3177, Volumes 1, Pg. 71) Have increased convergence rates ever cause increased maintenance activities that interfered with waste disposal operations?

Convergence is measured frequently. Surprises are probably few.

"These measurements are made, at a minimum, every two months throughout the WIPP underground, except when convergence points are not accessible.

Convergence rates and extensometer displacement rates indicate how an excavation is performing; rates that decrease or are relatively constant typify stable excavations, whereas increasing rates may indicate some type of developing instability or may be the response to nearby mining.” (Geotechnical Analysis Report for July 2009 - June 2010,” DOE/WIPP-11-3177, Volumes 1, Pg. 67)

If convergence seems like a problem anywhere, it can be, and is routinely, dealt with in other ways. “Localized increases occur with seasonal creep trends, the presence of continuous anhydrite stringers, and coincident with adjacent mining activities. These increases are addressed, where necessary, with additional ground support selected for conditions prevailing at the specific location of installation.” (Geotechnical Analysis Report for July 2009 - June 2010,” DOE/WIPP-11-3177, Volumes 1, Pg. 76)

Mining in WIPP is all very routine. Changing access drifts can happen while allowing access.

“If the planned life of some of the openings needs to be extended, changing the geometry of the access drifts (removing unstable roof beam or rib spalls, or milling the floor for added clearance), or additional ground control (roof removal, installing bolts, mesh, or straps) may be necessary. The ground conditions in the waste disposal area and associated waste transport routes continue to slowly deteriorate; however, routine ground control installations and maintenance continue to allow safe access in the underground facility.” (Geotechnical Analysis Report for July 2009 - June 2010,” DOE/WIPP-11-3177, Volumes 1, Pg. 76)

Experts at WIPP are well aware how to deal with the convergence rates and these ever-changing rates are not a reason to relocate Panels 9 & 10.

How many fractures are there in the salt in WIPP? Fractures generally increase over time. It is unclear that nearby excavation increases fractures in existing roofs.

“Fracture development in the roof is primarily caused by the concentration of compressive stresses in the roof beam and is influenced by the size and shape of the excavation and the stratigraphy in the immediate vicinity of the opening. In a thick roof beam, pillar deformations induce lateral compressive stresses into the immediate roof and floor. With time, the buildup of stress causes differential movement along stratigraphic boundaries. This differential movement is identified as offsets in observation holes and by the bends in failed rock bolts. Large strains associated with lateral movements can induce fracturing in the roof, which is frequently seen near the ribs; however, this process may take a long time (years) to develop.” (Geotechnical Analysis Report for July 2009 - June 2010,” DOE/WIPP-11-3177, Volumes 1, Pg. 78)

Fractures happen. But they happen slow enough to map annually.

“Routine mapping documents the progression of fractures in the roof exposed on the excavation surfaces of the drifts and rooms in the underground repository.

The fracture surveys are generally performed on an annual basis, and the fracture maps are updated. The fracture maps facilitate the analysis of strain in the immediate roof-beam, because they document the development and propagation of fractures through time. The supporting data document contains fracture maps for Panels 5 and 6. During this reporting period, fractures were mapped in Panels 5 and 6.

Experts at WIPP are well aware how to deal with the fractures in WIPP and these slowly changing fractures are not a reason to relocate Panels 9 & 10.

### **Panel Closure Redesign**

DOE plans to use bulkheads and 100-feet of salt to close each waste-filled panel, even though it admits that approach would allow VOCs to be released for at least 20 years because of an estimated 18-inch gap between the salt and the roof. The existing standards require solid walls that cover the drift and would allow lesser VOC emissions. For panels 1, 2, and 5, a 12-foot thick explosion/isolation wall has been required and installed. DOE should demonstrate that using bulkheads allows no more VOC releases than explosion/isolation walls and the new PCS should include the measures that most limit VOC emissions.

### **Revise Volatile Organic Compound Target Analyte List**

DOE plans to change many requirements of the existing underground VOC monitoring system, including eliminating all monitoring of some VOCs, eliminating all monitoring for emissions from closed rooms in an active panel, reducing the frequency of monitoring of all VOCs, and reporting information on VOCs only once a year. Such reduced monitoring would be in addition to the recently approved modification that eliminates sampling and analysis of VOCs at the generator sites before containers can be shipped to WIPP. Furthermore, DOE proposes continuing to use a cancer risk standard of one excess death in 100,000, rather than the more protective standard of one death in a million.

For these reasons and others, we request a hearing.

These comments and questions respectfully submitted,

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