



**Department of Energy**  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
October 7, 2002

Mr. Frank Marcinowski  
Office of Radiation and Indoor Air  
U.S. Environmental Protection Agency  
401 M. Street, S.W.  
Washington D.C., 20460

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Dear Mr. Marcinowski:

The Carlsbad Field Office (CBFO) of the Department of Energy (DOE) requests your approval of a proposed change to the EPA 40 CFR Part 194 Certification of the Waste Isolation Pilot Plant (WIPP) with regard to the design of the Panel Closures. Specifically, CBFO requests that the Environmental Protection Agency (EPA) modify Condition 1 of the WIPP Certification decision by agreeing that the New Mexico Environment Department (NMED) is responsible for final review and approval of the design and construction of the panel closure system at WIPP. At the same time, the CBFO recognizes that EPA's review and approval of the impact analyses relating to the 194 Certification Final Rule on Panel Closures is still required, and that EPA must be satisfied that any design change will not adversely affect the long-term performance of the repository.

As you know, the purpose of the panel closure system in the WIPP facility is to control volatile organic compound (VOC) emissions during the operating life of the facility. The panel closure must also protect the health and safety of workers as required by the Mine Safety and Health Administration and by the DOE. There are no long-term design requirements or performance specifications for these closures, beyond the necessity to demonstrate that any design change does not have an adverse affect on long-term performance. The analyses that accompany this letter demonstrate that the long-term performance of the repository is not sensitive to the closure design, within a broad range of likely closure permeability values.

The CBFO believes it is therefore reasonable that the NMED be responsible for final review and approval of panel closure design and construction. The CBFO requests that the EPA modify Condition 1 of the Final Rule to recognize this responsibility. We suggest that such a change might include the following:

- That the Department will implement a panel closure system as approved by the NMED
- That the Department will demonstrate, by an appropriate impact assessment, that the panel closure system proposed to NMED does not adversely affect the long-term performance of the repository

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The currently approved panel closure design ("Option D") specified in Condition 1 involves installation of a concrete block "explosion wall", removal of the DRZ along a section of the panel access drift, and emplacement of a concrete monolith composed of Salado Mass Concrete (SMC) in that section of access drift. After three years of experience with WIPP as an operational facility, we have re-evaluated a number of its engineering and construction aspects. This effort included detailed planning to install Option D closures in Panel 1 and a parallel analysis of alternative closure designs. As a result of this re-evaluation, we believe a redesign of the panel closure system is warranted. The redesigned panel closure (called the WIPP panel closure (WPC)) will be much simpler and significantly less expensive to build, will reduce the risk of accidents and industrial injury to construction workers, will provide for re-use of mined salt, and will reduce the potential for disruption of waste emplacement activities. All of these benefits will accrue without influencing the short- or long-term performance of the repository.

The proposed change in Condition 1 requires that the EPA be fully cognizant of the CBFO's Permit modification request to the NMED for panel closures. To this end, the details of the redesign and its performance are included in the attachments to the enclosed Notification of Proposed Change. Attachment A of the Notification, *Design Report for a Revised Panel Closure System at the Waste Isolation Pilot Plant*, provides a description of the proposed design and demonstrates its adequacy to meet and exceed requirements of the Resource Conservation and Recovery Act (RCRA) during the operational period. This design report has been certified by a Professional Engineer registered in New Mexico. Attachment A is being transmitted to the NMED as part of a Permit Modification Request to change the Closure Plan contained in the Hazardous Waste Facility Permit (HWFP).

Attachment B, *Effective Permeability of the Redesigned Panel Closure System*, provides estimates of the permeability of the WPC as a function of time. Specifically, it demonstrates that the new closures will have a permeability between  $10^{-15}$  m<sup>2</sup> and  $10^{-19}$  m<sup>2</sup> throughout the regulatory period. This range is significant because it is consistent with the range of panel closure permeability evaluated in Attachment C.

Attachment C, *Panel Closure Impact Assessment Documentation*, evaluates the impacts of panel closures on the long-term performance of the repository. This analysis report is prepared pursuant to 40 CFR Part 191, Subparts B and C, and 40 CFR Part 194. The report demonstrates that impacts to the predicted long-term performance of the repository associated with the installation of the WPC are negligible compared to the currently prescribed Option D design.


The HWFP issued by the NMED specifies panel closure requirements that comply with the requirements of the New Mexico hazardous waste regulations during the operational period of the repository. The analyses in Attachments B and C demonstrate that the long-term performance of the repository is not sensitive to the closure design, within a broad range of closure permeability. Because the panel

closure specifications cover only the operational period and because long-term performance is insensitive to this design, CBFO believes that the NMED, which regulates hazardous waste disposal in New Mexico, should have responsibility for final approval of the panel closure system design. CBFO therefore requests that EPA modify Condition 1 of the WIPP Certification decision to acknowledge that the NMED is responsible for regulating the design and construction of the panel closure system at WIPP, provided that the Department demonstrates that there are no long-term impacts on performance.

The EPA will continue to be involved as regards the long-term performance of panel closures even if Condition 1 is modified. The CBFO must demonstrate to the EPA that any future panel closure redesign will have a long-term permeability within a range that is acceptable to the EPA, e.g., the range evaluated in Attachments B and C to this Notification. If this is not the case, a full performance assessment would be required for a new range of closure permeabilities.

We appreciate your timely consideration of this request. Should you require further information, please contact Mr. Daryl Mercer at (505) 234-7452.

Sincerely,

  
Dr. Inés R. Triay  
Manager

Enclosure

cc: w/enclosure

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Mr. Frank Marcinowski

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October 7, 2002

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