

August 6, 1998

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Mr. Steve Zappe
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, NM 87502



SUBJECT: Review of RCRA/HSWA permit for the
Waste Isolation Pilot Plant (WIPP), Carlsbad, NM

Dear Mr. Zappe:

The following represents my comments on the ground water monitoring portion of the draft Resource Conservation and Recovery Act/Hazardous and Solid Waste Amendments (RCRA/HSWA) permit for the Waste Isolation Pilot Plant (WIPP):

1. What is the purpose of the single well in the Dewey Lake Formation? Regulations at 40 CFR § 264.97 require a sufficient number of wells to determine the background ground water quality and the quality of water passing the point of compliance. A single well cannot accomplish this.
2. Regarding the six wells in the Culebra Member of the Rustler Formation, the location of the wells depicted on Figure L-8 appears to be on the order of a mile apart. Obviously, significant releases could occur to the ground water without ever being detected based on this sampling design. I do not believe this meets the requirement of 40 CFR § 264.97 to require a sufficient number of wells to determine the background ground water quality and the quality of water passing the point of compliance.
3. The point of compliance itself is an issue, as the regulations at 40 CFR § 264.95 define the point of compliance as the down gradient *limit of the waste management area*. Given that the rooms are only 300 feet long, it is difficult to envision the current monitoring well locations as being placed at the point of compliance. While it is understandable to have concerns about creating pathways for migration in the area of these rooms, it does not appear reasonable to accept such large distances as these. Also, it must be kept in mind that all of the proposed monitoring is in formations above the Salado, and therefore there will be no penetrations near the actual rooms.
4. I note that the fact sheet states the formations being monitored *are above* the Salado Formation (in which the waste is deposited). Although unusual, it is possible for ground

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water to move upward due to hydrostatic pressure differentials (i.e., the water at lower depths is under sufficient pressure to migrate upwards to a lower pressure zone). Has this situation has been demonstrated to be present at the WIPP? If it has, I would recommend that some provision be made for monitoring the hydrostatic pressures in the over- and underlying formations so that the continuance of these conditions can be confirmed. I would recommend a minimum of two piezometers in the deeper zone be utilized, one in the northern and one in the southern areas. If these hydrostatic conditions do not exist, the wrong ground water zones are being monitored. The underlying zones should be monitored in that case.

5. Clearly, due to the distance of the monitoring wells from the regulated unit, as well as the distances separating the monitoring wells themselves, the proposed ground water monitoring system is inadequate to: 1) comply with the regulations previously cited; and 2) accurately detect a release from the unit. It appears this system was designed with two thoughts in mind. First, it is unlikely a release from the WIPP will occur. Secondly, a rudimentary system could be installed to placate WIPP detractors. While I have no opinion whether a release will occur, I do believe that NMED has a legal and moral obligation to either: 1) make a technical determination no release is likely to occur and, therefore, not require any ground water monitoring system be included (and of course, to accept the public criticism that would accompany this decision); or, 2) assume a release may occur and include much more stringent monitoring requirements capable of detecting such a release. This would include requiring more monitoring wells, and locating them at the down gradient boundary of the waste management units (i.e., rooms).

If no monitoring is technically justified, the permittee should not be required to expend the money necessary to accomplish this task for the next 30 years. If monitoring is required, an adequate monitoring system should be required.

6. Of more concern, NMED's acceptance of a monitoring system such as is proposed at the WIPP will establish a precedent for allowing a very poor monitoring well system to suffice to meet the regulatory requirements of the State's federally authorized RCRA/HSWA program. It can easily be envisioned that other companies will propose such well spacings and placements at their facilities. It would be difficult to defend the proposed monitoring system as adequate for the WIPP (because it is a unique Subpart X Geologic Repository), and not allow the same system at other facilities, because the principles of ground water hydrology and contaminant fate and transport are the same at any site. To require vastly different ground water monitoring systems at different facilities (beyond what can be technically justified by site specific conditions) would be difficult to defend in any future disputes.

Therefore, unless NMED wishes to argue that monitoring wells located a mile apart and a mile from the unit can reasonably detect any releases from the unit, NMED should either rescind or modify the ground water monitoring requirements for this facility.

Thank you for the opportunity to comment on this permit, and for your consideration of my opinions.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael D. Overbay". The signature is fluid and cursive, with the first name "Michael" and last name "Overbay" clearly distinguishable.

Michael D. Overbay
Environmental Geologist