

Public Service Company  
of New Mexico  
Alvarado Square MS 0408  
Albuquerque, NM 87158

October 31, 1997

Certified Mail,  
Return Receipt Requested

Robert S. Dinwiddie, Ph.D., Manager  
RCRA Permits Management Program  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
2044 Galisteo Street  
Santa Fe, New Mexico 87505

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NOV 17 1997



**Re: Proposed Renewal of Post-Closure Care Permit; Person Generating Station; EPA ID No. NMT360010342**

Dear Dr. Dinwiddie:

I am writing on behalf of Public Service Company of New Mexico ("PNM") in response to your letter of August 8, 1997 in this matter. In our letter of September 9, 1996, we outlined modifications that we proposed to be part of our permit renewal application. In a meeting with representatives of the New Mexico Environment Department ("NMED") on November 12, 1996, we discussed at length these proposed modifications. We appreciate the guidance you have provided to date concerning proposed corrective action activities at the site that may be acceptable to the Hazardous and Radioactive Materials Bureau ("HRMB"). We also understand that you can only provide a final determination concerning every element of our proposed approach upon receipt of our application for permit renewal. We have found these pre-application dialogues to be productive, and we believe we have reached a consensus with NMED on many issues.

We recognize that the Resource Conservation and Recovery Act ("RCRA") and implementing state law are unyielding in their requirements that the environment and public health must be protected. PNM continues to be committed to achieving these objectives through our RCRA post-closure care permit. However, we also believe applicable regulations provide some flexibility by allowing a number of alternate approaches to achieving these objectives. The purpose of this letter is to summarize our thinking as to the most effective approach to meeting our post-closure care responsibilities, including any necessary corrective action requirements, at the Person Generating Station site. Our application for permit renewal, which we plan to file in January 1998, will follow the approach outlined in this letter. We want to continue our pre-application dialogue with HRMB so that any significant questions can be answered in advance, and review of the application can be facilitated.

## I. Overview

PNM proposes to continue a phased approach to corrective action at the site. Our phased approach to corrective action has been to:

- Remove potential contaminant sources,
- Interrupt potentially complete exposure pathways to site-related contamination,
- Aggressively remediate site media characterized by elevated concentrations of target contaminants, and
- Continue to closely monitor site media characterized by lower concentrations of target contaminants.

Although these corrective actions are ongoing, the permit renewal application provides an opportunity to specify the details of the approaches and ensure a common understanding by all concerned. PNM believes all corrective action program requirements should be addressed in the RCRA permit, rather than in a number of separate documents, so that the permit clearly defines endpoints for remediation activities and eventually post-closure care responsibilities.

PNM will not propose any alternate groundwater concentration limits during this permit renewal process. Rather, PNM is prepared to identify certain promulgated water quality standards as the targeted final groundwater concentration limits (i.e., final endpoints) for all elements of the corrective action program and, eventually, compliance monitoring and post-closure care responsibilities. These promulgated standards will be equivalent to the stricter of Maximum Contaminant Levels ("MCLs") under the Safe Drinking Water Act or the New Mexico Water Quality Control Commission ("WQCC") groundwater protection standards. PNM will also identify corrective action levels for each target contaminant in our application for permit renewal. EPA has used the concept of action levels as a "trigger mechanism" for conducting additional corrective action activities in the context of site characterization. EPA recommends identifying the health-or environmental-based concentrations that may prompt additional investigation. EPA suggests that the concept should also apply as a trigger mechanism for remediation. See EPA's discussion of action levels in its recently proposed strategy for implementing corrective actions at RCRA facilities (61 Fed. Reg. 19432, 19446 [1996]). PNM believes corrective action levels can serve as a trigger mechanism for determining when certain corrective action activities can either be initiated in the deeper sediments or halted in the shallow groundwater at the site.

Specifically, for the Person Generating Station site, these corrective action levels will define the point at which natural attenuation mechanisms need to be supplemented by engineered remediation techniques. The corrective action levels to be included in our permit

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application will define the point within the corrective action program at which hazardous constituents in groundwater, which are being treated in place without engineered removal (i.e., via destructive and/or non-destructive natural attenuation processes), may need to be supplemented with engineered techniques (e.g., pump and treat in the deeper sediments). Since these corrective action levels are not intended to be final groundwater concentration limits, their use would not trigger the need to seek a variance or alternate abatement standard under WQCC regulations or an alternate concentration limit ("ACL") under RCRA. These corrective action levels will be incorporated into the permit application to ensure that PNM is implementing the most cost-effective solution at the site, while continuing to ensure protection of public health and the environment. A more detailed description of our proposed approach to remediating vadose zone soils, the shallow aquifer, and the deeper sediments is described below.

## **II. Remediation of Soils in the Vadose Zone.**

The current permit does not contain any requirement for a soil corrective action program. In order to clarify expectations and document completed actions, PNM proposes that the permit should clearly define the soil corrective action program implemented at the site. Because PNM believes that soil media have already been reliably decontaminated by the soil vapor extraction ("SVE") system, PNM will propose the specific sampling necessary to support a conclusion that no further remedial action is necessary and that post-closure care responsibilities associated with soils at the site can be terminated. The results of this sampling effort are intended to be self-implementing; that is, once the analyses of soil contamination are obtained and verified to be below established acceptable levels, PNM will be able to immediately request post-closure certification for the soil unit, by letter, without further extensive permit modification. Thus, by incorporating this sampling plan into the renewed post-closure care permit, PNM believes that NMED will be able to address the request for post-closure certification for soils as a Class 1 rather than Class 3 permit modification.

PNM continues to believe that SVE soil gas data provide a more accurate indication of soil contamination than an analysis of soil borings. As described in more detail in our September 9, 1996 letter, analysis of soil gas from the SVE vent well has the following advantages relative to analysis of soil borings: (1) it is a more accurate indicator of average contaminant concentrations; (2) it should provide a more conservative (i.e., higher) estimate of *in situ* contaminant concentrations; and (3) it does not require disruption of the soil cover system.

Nevertheless, PNM will respond to HRMB's request for a program of soil borings and/or soil vapor survey (i.e., collection of soil gas data from multi-level soil gas sampling probes) to confirm PNM's conclusions derived from SVE soil gas concentrations.

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Accordingly, it will be necessary to penetrate the existing RCRA cover system to obtain these samples. PNM will include a specific work plan for data collection in the application for permit renewal. PNM will request that the permit issued by HRMB specifically approve such a work plan so that no further approvals or permit modifications will be necessary to collect the data.

With respect to target levels for soil remediation, PNM agrees to review the Soil Screening Levels for Transfer from Soil to Groundwater ("SSLs") contained in the U.S. Environmental Protection Agency ("EPA") Region 6 Media Specific Screening Levels, dated June 11, 1997, to determine whether these standardized concentration limits should be applied to the Person Generating Station site. These region-specific concentration goals appear to be generally based on those developed by EPA as part of the national SSL guidance program. PNM will document that soil has been remediated to levels sufficient to protect human health and the environment, given all potential reasonable future land uses and an understanding of site-specific conditions. This documentation will form the basis for the request for post-closure certification (see above).

### **III. Remediation of Shallow Groundwater.**

As discussed in our September 9, 1996 letter, PNM intends to incorporate the requirements for a corrective action program for shallow groundwater in the permit. In our application for permit renewal, PNM will propose corrective action levels for target contaminants that PNM believes are technically achievable by the engineered groundwater treatment program currently in place at the site. PNM will also include sufficient documentation in the permit application to demonstrate that these corrective action levels are low enough (i.e., at the low parts per billion [ppb] levels) for natural attenuation processes alone to complete the remediation of groundwater to the more stringent of MCLs or WQCC standards in a reasonable period of time. As described earlier, these corrective action levels will be developed to define that concentration threshold at which natural attenuation processes can be relied upon alone as the most cost-effective approach to addressing residual contamination, both in the shallow groundwater and deeper sediments. Consistent with EPA 1996 RCRA corrective action guidance, statistically significant evidence that hazardous constituents are present in site groundwater at concentrations above these health- and environmental-protective corrective action levels would trigger implementation of additional (e.g., engineered) corrective actions or further evaluation (61 Fed. Reg. 19432, 19446 [1996]).

As discussed in Section IV of this letter, EPA recognizes that natural attenuation can be an effective mechanism for achieving the final increment of cleanup after a pump-and-treat system has reached its limits of effectiveness. Remediation by natural attenuation is the result

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of both destructive and non-destructive processes. For the hazardous constituents at the Person Generating Station site (i.e., chlorinated compounds), natural destructive attenuation processes include biodegradation and abiotic degradation. Natural non-destructive attenuation processes include advection, hydrodynamic dispersion, adsorption, and volatilization. PNM recognizes that, although recent field sampling data imply that site conditions may be optimal to promote natural biodegradation of the chlorinated compounds, the dominant natural attenuation processes operating at this site are likely to be non-destructive. These non-destructive attenuation processes can play a pivotal role in restoring groundwater quality. EPA clearly has acknowledged the importance of factoring these non-destructive processes into decisions regarding how best to remediate impacted groundwater so that human health and the environment are protected (61 Fed. Reg. 19432, 19451-52 [1996]). PNM is not proposing implementation of natural attenuation as a component for the groundwater corrective action program as a "no action" remedy or as a means to avoid its remedial obligations; rather, PNM believes that reliance on natural attenuation processes may represent the best approach to achieving overall remedial goals once hazardous constituent concentrations have been reduced to the low ppb levels.

Because PNM does not have sufficient operating or monitoring data to indicate that achievement of the more stringent of MCLs or WQCC standards is technically infeasible at this time, we will not be submitting a petition to the WQCC for a permanent variance from promulgated groundwater standards. However, the permit application will specify the statistical data evaluation procedures that will be used to determine the technical limits of contaminant removal using the existing pump-and-treat system and the capacity for natural attenuation processes to achieve the more stringent of MCLs or WQCC standards in a reasonable period of time.

Finally, based on our ongoing review of groundwater and pumping data and an examination of site characteristics, PNM can find no evidence of dense nonaqueous phase liquids ("DNAPLs") on the site. However, PNM understands that HRMB is concerned that small amounts of DNAPLs may be contributing contaminants to groundwater over a long period of time. Consequently, in the corrective action monitoring program module of our permit application, PNM intends to include a work plan for an additional field test to investigate the potential presence of DNAPLs in the source area.

#### **IV. Remediation of Deeper Sediments.**

Again, as discussed in our September 9, 1996 letter, PNM intends to incorporate the corrective action program requirements for deeper sediment contamination into the permit. The depth of the deeper sediments and distribution of extremely dilute levels of contaminants over significant distances make an engineered approach extremely difficult and inefficient.

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PNM believes that no continuing source of contamination exists in the deep sediments, and that contaminants are already below the corrective action levels that would trigger implementation of engineered groundwater restoration techniques such as pump and treat. Consequently, we will propose natural attenuation as the most cost-effective and health-protective corrective action strategy for remediating the deeper sediments to established groundwater concentration limits (i.e., the more stringent of the MCLs or WQCC groundwater protection standards). We have completed the source control phase of corrective action by plugging three production wells that we believe created a pathway for contamination from shallow groundwater to the deeper sediments. Our modeling indicates that natural non-destructive attenuation processes will reduce existing contaminant concentrations to or below the more stringent of the MCLs or WQCC standards over the course of the next 20 years. Also, recent field sampling data imply that site conditions may be optimal to promote natural biological degradation, which should expedite attainment of final groundwater concentration limits. A full discussion of these data and principal processes of natural attenuation is presented in the technical report entitled Summary Report on the Impact of Chemical Attenuation Processes on Chlorinated Compounds Dissolved in the Deeper Sediments, (Parsons-ES, November 1997), which will be forwarded to HRMB under separate cover.

PNM believes that if hazardous constituent concentrations exist at low levels, natural attenuation processes will be at least as effective as an engineered remediation strategy. In addition, this phased approach to remediation is in keeping with recent EPA guidance on the role of natural attenuation in groundwater restoration activities. As you know, EPA recognizes that natural attenuation may be the most appropriate corrective action strategy for groundwater in certain situations. In the Preamble of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 55 Fed. Reg. 8666, 8734 (1990), which is the regulatory framework for groundwater and other remediation under the Superfund statute, EPA notes that natural attenuation processes such as biodegradation, dispersion, dilution, and adsorption can effectively reduce contaminants in groundwater to concentrations that are protective of human health in a time frame comparable to that which could be achieved through engineered restoration techniques. More importantly, EPA also recognizes in the Preamble to the NCP that natural attenuation processes may be superior to engineered groundwater restoration techniques in terms of completing cleanup action beyond that which can be cost-effectively realized by more conventional strategies (e.g., pump-and-treat systems). Finally, and of particular relevance to this site, EPA confirmed the major role natural attenuation processes can play in groundwater remediation strategies at RCRA sites in an advance notice of proposed rule making concerning the RCRA Corrective Action Program, 61 Fed. Reg. 19432, 19451-2 (1996).

PNM agrees that the final groundwater concentration limits for deeper sediments should continue to be the more stringent of MCLs or WQCC groundwater protection

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standards. Consequently, PNM will not be requesting any kind of variance from these standards in our application for permit renewal. PNM does not believe that a request for permanent relief from these standards (whether it be in the form of a petition for ACLs or technical impracticability under RCRA or a petition for alternate abatement standards, substitute abatement standards [i.e., demonstration of technical infeasibility], or a variance under WQCC regulations) is appropriate until the selected remedial approach is given an opportunity to prove itself. However, PNM will propose that the corrective action levels discussed in Section III of this letter should apply in the deeper sediments as well as in shallow groundwater. If contaminant levels in the deeper sediments were to increase above these corrective action levels, PNM would re-evaluate the need to supplement natural attenuation processes with engineered remediation approaches. PNM believes that this approach, which is consistent with recent EPA corrective action guidance, is the most reasonable.

Consequently, for the deeper sediments, PNM will focus particularly on a recommended monitoring approach to track expected water quality improvement as well as outline elements of a contingency plan if any deterioration of water quality should occur. Our application for permit renewal will explain the basis for and propose such a corrective action monitoring program for the deeper sediments.

In conclusion, PNM plans to submit our application for permit renewal to HRMB in January 1998. The application will incorporate the approaches described in this letter. As we prepare the application, we are open for discussion of any remaining unresolved issues with you.

Sincerely,



Ron D. Johnson  
Sr. Environmental Scientist

cc: Carl Will - NMED HRMB  
Ana Marie Ortiz - NMED Office of General Counsel