

September 9, 1996

Certified Mail
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Mr. Benito Garcia
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Garcia:

Subject: Notice of Proposed Intent for Permit Reapplication Activities and Request for New Mexico Environment Department Consensus on Proposed Strategy for Permit Reapplication, Person Station Hazardous Waste Facility, NMT 360010342

Public Service Company of New Mexico (PNM) will be submitting a request to the Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department (NMED) to modify the Resource Conservation and Recovery Act (RCRA) Post-Closure Care Permit for the PNM Person Generating Station (EPA ID Number NMT360010342) as part of the Permit reapplication process conducted pursuant to the requirements of the New Mexico Hazardous Waste Act and the New Mexico Hazardous Waste Management Regulations (HWMR). The proposed modifications would (1) change the existing minimum post-closure care period for impacted soils, referenced in the Permit, by documenting reliable decontamination of remaining buried contamination via soil vapor extraction (SVE) and (2) prescribe the site remediation plans for shallow and deep groundwater contamination, including target remedial objectives, goals, and anticipated compliance periods. PNM has prepared this letter to facilitate discussions about the regulatory framework and technical basis for the anticipated Permit modifications.

Background

PNM filed a complete application for a RCRA Post-Closure Care Permit with the NMED on November 3, 1986. Based on the application information, NMED issued the initial RCRA Post-Closure Care Permit on September 1, 1988. This original Permit included provisions for maintenance of the final cover system over the site as well as semi-annual monitoring requirements to verify that specified groundwater Alternate Concentration Limits (ACLs) were not exceeded. The ACLs listed in the original Permit were based on historical analytical data from specified sampling locations. The original Permit specified that any verifiable ACL exceedance would trigger an assessment of the sampling program and/or a corrective action program (CAP). Analytical data collected at one of the groundwater monitoring wells (PSMW-8A) in October 1989 exceeded the specified ACL. Subsequent sampling events confirmed continued exceedances. Based on these sampling data, NMED directed PNM to implement a quarterly compliance monitoring program. In September 1991, NMED issued a Corrective Action Directive (CAD) that required installation and monitoring of additional monitoring wells

as part of shallow and deep groundwater assessment activities. Results of the initial assessment activities conducted pursuant to Phase I of the CAD prompted NMED to direct PNM to implement a Corrective Action Program (CAP) to contain, remove, or treat the hazardous waste constituents escaping from the permitted unit.

PNM has been responding to the CAD, while implementing the required CAP. PNM requested a Permit Modification in September/October 1993 to:

- Replace two of the groundwater monitoring wells in the monitoring program;
- Clarify/integrate Permit and CAD monitoring program requirements; and
- Allow temporary disturbance of the final cover system to install an SVE system designed to remediate remaining buried contaminants.

PNM identified the SVE system as a key element of the recommended remedial approach for the Person Generating Station after evaluating the cost-effectiveness of available remedial technologies. The technical basis for and conceptual design of the recommended remedial approach was presented in the corrective measures proposal (CMP), which was submitted to NMED in November 1993 in partial response to Phase II of the CAD. The stated purpose of the SVE system, which was classified as "necessary to the proposed use of the property" was to "remediate the vadose zone area ... to reduce the threat to the environment by reducing the potential for buried contaminants to reach underlying groundwater" (PNM Letter to NMED, dated October 8, 1993).

On March 11, 1994, NMED completed a review of the Permit Modification requests submitted by PNM in September/October 1993, and concluded that the requested modifications met applicable regulatory requirements. As part of the review process, NMED also proposed an additional modification--which had not been requested by PNM--to be included in the Permit. The NMED proposed to modify Permit paragraphs II.J.4 and II.J.5 and the Post-Closure Plan to disallow the use of groundwater ACLs and require compliance with the more stringent New Mexico Drinking Water Standards at every point in the groundwater. NMED elaborated on this proposed modification in Legal Notice No. 62, "Notice of Intent to Modify a Hazardous Waste Permit" (dated March 18, 1994), which was part of the administrative record for the proposed decision that was released for a 45-day public comment period.

The only comment received during the public comment period was from the U.S. Fish and Wildlife Service, which supported issuance of the Permit modification. On June 3, 1994, NMED approved all Permit modifications as proposed on March 18, 1994. The revised Permit expires on August 31, 1998.

PNM has completed the initial Phase II assessment activities specified in the CAD. The conclusions of the Phase II assessment activities and resultant CAP recommendations for both soils and shallow groundwater contamination were documented in the CMP, which was released for public comment on March 18, 1994, as an integral part of the Permit modification request. Pursuant to the CMP, SVE pilot testing was completed at the Person Generating Station in the fall of 1994. The SVE system was restarted as a full-scale unit on August 9, 1995, after air permitting negotiations and minor system adjustments had been completed. As of August 26, 1996, PNM also is currently operating the full-scale remedial treatment system described in the

CMP (and subsequent design documents) required to implement the proposed CAP for shallow groundwater contamination. The findings and conclusions of the Phase II assessment activities related to deeper groundwater contamination were submitted to the NMED for review and comment on December 18, 1995.

Statement of Basis for Permit Modifications Under Consideration

PNM is preparing a request for a Class 3 Permit modification to (1) change the existing minimum post-closure care period for impacted soils by demonstrating completion of required maintenance/CAP activities and (2) prescribe the site remediation plans for shallow and deep groundwater contamination, including target remedial objectives, goals, and anticipated compliance periods. The following describes the regulatory basis for these potential modification requests.

Proposed Change in Post-Closure Care Period for Managed Soil Unit

In accordance with the corrective action provisions of HWMR and Section 3004(u) of RCRA, PNM believes that a modification to Permit conditions II.M and II.N can be supported at this time by a technically defensible demonstration that the contamination source has been removed by SVE treatment and that the soils and unsaturated subsoils may, in fact, no longer warrant regulation under RCRA. PNM proposed, and NMED approved, installation of the SVE system for the purpose of remediating remaining buried contaminants. Although no target remedial goals for soils and subsoils are specified in the existing Permit, PNM pursued soil remediation in good faith to reduce potential threats to human health and the environment.

PNM is prepared to demonstrate that both pilot and full-scale SVE treatment of the soils and subsoils in the known source area has significantly reduced the mass of hazardous constituents based on equilibrium vapor concentrations. **Based on 160 days of operational data, more than 1,300 pounds of perchloroethylene (PCE), 1,1,1-trichloroethane (1,1,1-TCA) and 1,2-dichloroethene (1,2-DCE) have been removed from the soils and subsoils underneath the final cover system installed at the Person Generating Station. A 99-percent reduction in equilibrium soil gas concentrations has been achieved, indicating that very low levels of residual contaminants remain in the soils and subsoils.** Table 1 provides a comparison of current soil gas concentrations to the estimated concentrations in the soil which are in equilibrium with soil gas concentrations. A more complete description of the equilibrium calculations will be provided as part of the Permit modification request/reapplication.

Table 1: Estimated Residual Soil Concentrations

Contaminant	Measured Soil Vapor Concentration (mg/m ³ soil vapor)	Residual/Equilibrium Soil Concentration (mg/kg of soil)
PCE	14	0.00348
1,1,1-TCA	3	0.00417
1,1-DCE	7	0.00068

PNM intends to use equilibrium soil gas data to demonstrate that the source of contamination at the site has been completely removed such that the soils and subsoils no longer pose a potential

threat to human health and underlying groundwater quality. Soil gas data is proposed in lieu of soil borings for two reasons. First, in comparison to discrete soil sampling analytical results, which are representative of only a few cubic inches of soil, soil gas from the SVE vent well and two vapor monitoring points is a more accurate indicator of average contaminant concentrations in the narrow column of soils and subsoils extending from beneath the former waste tank to the lowering groundwater table. Second, the sampling and soil extraction techniques for volatile organic compounds (VOCs) generally results in some loss of contaminants. The magnitude of VOC loss may be increased due to the physical characteristics of the predominantly sandy soils found at the Person-Generating Station. Equilibrium soil gas measurements should provide a more conservative estimate of *in situ* contaminant concentrations. If required, PNM would complete a sufficient number of soil borings within and adjacent to the source area to collect discrete soil samples at multiple depths to demonstrate reliable decontamination. However, this may require additional disruption of the final cover system installed at the site as part of the closure approach for the soils and subsoils unit before PNM can establish that complete remediation has been achieved. Based on available soil gas data from the SVE system, **PNM believes that soil sampling results will indicate no VOCs remain associated with soils and subsoils at concentrations above reliable detection limits.**

On the basis of the soil gas equilibrium concentrations, PNM is prepared to demonstrate that the approved CAP for soils and subsoils has been successfully completed and that no additional post-closure care maintenance or monitoring activities associated with the soils and subsoils are warranted to protect human health or underlying groundwater quality. The current post-closure care period for soils specified in the Permit is 30 years, beginning from September 1, 1988. **PNM is considering requesting a reduction in the post-closure care period for soils from 30 years to 10 years (i.e., until September 1, 1998),** which would be contingent upon verifiable attainment of approved risk-based cleanup levels for soils that are protective of human health and underlying groundwater quality given the likely future uses of the property. All information related to developing and demonstrating attainment with the risk-based soil cleanup levels will be included as appendices to the proposed modifications to the Permit. This approach would provide the regulatory trigger for assessing completion of the approved CAP for soils and subsoils at the Person Generating Station. Once the cleanup goals for soils and subsoils are achieved, post-closure care of these media under RCRA is no longer warranted. Ongoing CAP activities at the site would focus on groundwater contamination only. The types of restrictions on future use and deed notations as they apply to soils and subsoils will then depend on the nature of the established cleanup levels (i.e., if cleanup levels that are appropriate for unrestricted land use are attained, no future land use restrictions or deed notations would be necessary). PNM would consider incorporating the **soil screening levels (SSLs) developed by the U.S. Environmental Protection Agency (EPA/540/R-94/101) for contaminated soils and subsoils as the target remedial objectives for the Person Generating Station.** These generic SSLs have been established to expedite identification of soils and subsoils that do not warrant additional monitoring and remediation.

Proposed Change in Permit Scope to Include Groundwater Corrective Action Plans

The site remediation plans for both shallow and deep groundwater contamination are not adequately described or incorporated into the existing Permit or Post-Closure Plan. Although the soils and subsoils CAP was partially included in the first modification request to the Permit (i.e., allowance for installation of the SVE system), the proposed CAPs for shallow and deep groundwater contamination were not specifically addressed. The CMP that was released for

public comment conceptually describes the proposed approach for remediating shallow groundwater contamination. Although NMED has reviewed and approved subsequent technical documentation prepared by PNM that (1) describes the refinement of the conceptual design to the now-operational full-scale remedial system and (2) estimates the operational time required to achieve the groundwater remedial goals specified in the existing Permit (i.e., the state drinking water standards), **these CAP decisions for shallow groundwater contamination have not been formally incorporated into the Permit.** This substantial modification, which would include establishing a CAP performance monitoring program, is deemed necessary to prevent potential Permit noncompliance issues.

Additionally, PNM would like to re-initiate discussions about target final remedial objectives and goals for groundwater contamination. Based on the available site hydrogeologic data and pilot test results for the shallow groundwater remedial system, **PNM suspects that attainment of state drinking water standards at every point in the groundwater underlying the Person Generating Station may be technically infeasible, as well as not necessary to protect human health.** Pursuant to previous discussions with NMED, there is the very real possibility that the full-scale remedial system for shallow groundwater **will reach asymptotic levels of contaminant concentrations above the state drinking water standards within the next permit period (i.e., 10 years from the date that the anticipated Permit reapplication is issued).** However, these levels may be more than sufficient to protect human health and the environment given the current and future beneficial use of the impacted resource. The existing Permit does not provide contingency plans related to nonattainment of Permit-specified remedial goals within the timeframe of an authorized CAP for the shallow groundwater contamination nor specify decommissioning plans for the approved CAP once its technical limit of performance has been achieved.

Furthermore, the Phase II assessment report for deep groundwater contamination (submitted December 18, 1995 for review and comment) does not recommend active remediation of deep groundwater contamination above the levels specified in the existing Permit. PNM completed an exposure pathways analysis and a long-term chemical fate assessment as part of the Phase II activities. **This analysis indicated that residual contamination in deeper sediments underlying the Person Generating Station will not migrate to a potential ingestion exposure point at concentrations above the Permit-specified compliance standards.** Natural chemical attenuation processes are reasonably expected to be sufficient to attain the state drinking water standards in deeper sediments within 20 years. Monitoring of deep contamination is recommended to verify progress toward attainment of the stringent drinking water standards. The estimated compliance period for this approach is within the 30-year compliance period specified for groundwater in the existing Permit. PNM finds that the monitoring approach and relevant contingency plans for deep groundwater contamination should be specified in the Permit to avoid potential noncompliance issues.

Conclusions and Recommendations

After careful consideration, **PNM believes that these Class 3 Permit modifications can be most expediently addressed as part of the Permit reapplication process.** Module I(C) of the existing Permit sets forth the maximum term of the permit (i.e., 10 years from the date of issuance). **Because of the effort and time required to implement a Class 3 Permit modification (as illustrated in the "background" section), PNM is preparing a Permit reapplication for submittal that includes these proposed modifications.** Although maximum Permit terms are specifically identified, HMWR and RCRA do not specify when a facility may submit a Permit reapplication.

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PNM prepared this letter to solicit advance input from NMED on the probability that the desired Permit modifications would be acceptable to NMED. PNM intends this letter to facilitate discussions about the regulatory and technical basis for these proposed Permit modifications.

PNM requests that NMED carefully review the technical basis and approach outlined in this letter, and then call to schedule a meeting with PNM to discuss these issues and reach a consensus on the approach. I can be reached at (505) 241-2998.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Johnson", with a stylized flourish underneath.

Ron D. Johnson
Sr. Environmental Scientist

cc: Barbara Hoditschek, NMED
Teri Davis, NMED