Public Service Company
of New Mexico
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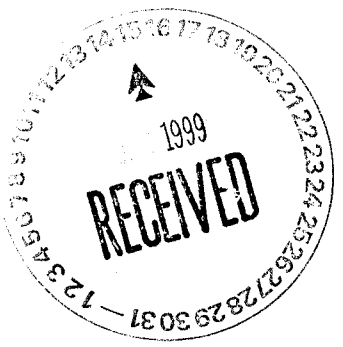

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January 12, 1999

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044 Galisteo Street
P.O. Box 26110
Santa Fe, New Mexico 87502

RE: Response to Request for Supplemental Information: Technical Adequacy, RCRA Permit Renewal Application for Person Generating Station RCRA Permit No. NMT 360010342

Dear Mr. Garcia:

I am writing on behalf of Public Service Company of New Mexico ("PNM") in response to your request for supplemental information, dated November 25, 1998, on the above-referenced permit renewal application, dated March 1998. We have examined the additional information requirements identified by the Hazardous and Radioactive Materials Bureau ("HRMB") of the New Mexico Environment Department ("NMED") during the initial technical adequacy review. As discussed in our letter of December 22, 1998, we would like to propose topics for additional discussion with your staff on January 27, 1999. A brief summary of these topics and our initial thoughts are provided in Attachment A. Please note that these topics focus only on those elements of the RSI for which we believe HRMB may need advance notice on in order to be fully prepared for discussion at the meeting. Other issues may be identified during the meeting for discussion. The primary objective of the January 27 meeting will be to discuss these topics in more detail so that our respective positions can be clarified and it can be determined how best to address HRMB's requirements for additional information.

We welcome the opportunity to discuss with HMRB those issues identified during the initial technical adequacy review. We are prepared to develop and submit the additional information that is required to secure a facility permit which satisfies HRMB requirements and is protective of human health and the environment. If you have questions, please contact me at (505) 241-2998.

Sincerely,

Ron D. Johnson
Technical Group Leader

Cc: Carl Will – NMED HRMB
Baird Swanson - NMED GWB
Colin Adams - PNM - 0806
Steve Anderson - PNM -1206
Doug Downey – Parsons Engineering Science

ATTACHMENT A

ITEMS FOR ADDITIONAL DISCUSSION BASED ON REQUEST FROM HRMB FOR SUPPLEMENTAL INFORMATION ON THE RCRA PERMIT RENEWAL APPLICATION FOR PERSON GENERATING STATION

SUBMITTED BY PUBLIC SERVICE COMPANY OF NEW MEXICO

January 12, 1999

Following is a brief summary of topics for discussion at our January 27, 1999 meeting to address the Request for Supplemental Information (RSI) from HRMB. PNM considers these issues to have a significant impact on the current corrective action program for the Person Generating Station site and its long-term objectives. Each general topic has been keyed to the specific technical review comments provided by HRMB. Note that not all of the elements of the HRMB RSI are included in this response. PNM proposes to submit a detailed response to each element of the HRMB RSIby March 31, 1999.

General Topic #1: Appropriateness of eliminating all references to natural attenuation processes in the context of describing how remediation goals will be achieved in shallow groundwater at the Person Generating Station site.

(in response to HRMB technical comments Page I.1-3 [Last line], Page I.1-4, Page III.6-10, Page IV.1-1, Page IV.3-3 through 17 [In paragraph 3.3.2.2], Page IV.3-23 through 34, Page IV.3-35)

The corrective action strategy for shallow groundwater underlying and downgradient from the Person Generating Station site, as described in the March 1998 permit renewal application, was intended to be inclusive of all processes that will be involved in the reduction of dissolved contaminant mass and concentration. As part of the permit renewal application, PNM is committed to continued implementation of an engineered remediation system for shallow groundwater. Additionally, the permit renewal application summarizes the expected effectiveness of the engineered groundwater remediation system at reducing contaminant mass and concentration over time. Quantitative groundwater flow and contaminant transport and fate modeling results were used to optimize the groundwater remediation system design and predict the time required to reduce dissolved contaminant concentrations below the targeted groundwater concentration limits (i.e., the more stringent of the Maximum Contaminant Levels [MCLs] under the Safe Drinking Water Act or the New Mexico Water Quality Control Commission (WQCC) groundwater protection standards). Conservative model simulations suggest that, under the influence of the current pumping configuration alone, the contaminant tetrachloroethene (PCE) should be reduced by almost 97 percent within 10 years. However, these modeling simulations (and the EPA's consensus on pump-and-treat technologies) indicate that the reduction in contaminant mass and concentration due to engineered extraction efforts will eventually diminish, possibly before all contaminants have been reduced below targeted groundwater concentration limits. At this point it may be technically impractical to continue groundwater extraction. When it becomes necessary to re-evaluate the technical practicality of the groundwater remedial approach, PNM believes that the technical basis for the permit should at least reflect an understanding of natural attenuation processes occurring at this site.

Rather than propose an alternate concentration limit (ACL) and/or submit a demonstration of technical infeasibility at this point in the corrective action program, PNM wanted to point out that natural attenuation is another ongoing process that will contribute to contaminant concentration reduction over time. PNM believes that understanding the role these natural attenuation processes play in the reduction of dissolved contaminant mass and concentration is important for two reasons. First, the actual effectiveness of the engineered remedy may be enhanced by these processes over

time (and therefore may affect future plans on how best to optimize/modify pumping). Second, the long-term feasibility of attaining the targeted groundwater concentration limits may be significantly tied to the effects of these non-engineered processes.

Thus, PNM would like to retain a discussion of natural attenuation for the following reasons:

- It reflects the current state of knowledge regarding groundwater contamination and remediation;
- It is important to understanding the basis for observed contaminant concentration reductions over time at this site (i.e., such information is analogous to the detailed operational data provided on the engineered treatment system);
- It will play a role in future determinations on the scope, nature, and objectives of monitoring groundwater remediation at this site; and,
- Eliminating all references to these processes in the permit would be technically inaccurate and at odds with recent US Environmental Protection Agency (EPA) guidance on the RCRA Corrective Action Program (see 61 *Federal Register* 19432, 19451-2 [1996]). Here EPA states as follows: "Natural attenuation should be evaluated, where it might be applicable, along with and in a manner similar to other potential remedial approaches. In some cases, natural attenuation might be only one aspect of an overall approach to achieving remedial goals."

PNM would like to discuss HRMB's concerns with the way that natural attenuation is portrayed in the permit reapplication. PNM understands that natural attenuation may not be acceptable as a remedy until the engineered extraction system has reached its technical limits. How would HRMB like to include information on natural attenuation processes in the permit without implying that these processes will be implemented in lieu of engineered remediation?

General Topic #2: The appropriate point of compliance based on corrective action program requirements versus post-closure care program requirements.

(in response to HRMB technical comments Page II.1-2, Page II.2-5 [Line 6], Page II.2-10, Pages IV.1-9 and 10, Page IV.3-2)

PNM would like to discuss the proposed change in the point of compliance to be included in the to-be-issued permit. The soil and shallow groundwater corrective action program was triggered by measured exceedances of the permit-specified alternate concentration limits (ACLs) at one well in the point-of-compliance network (PSMW-8A). This program, as reflected in the current permit, was based on the point of compliance being monitored by wells PSMW-6R, PSMW-8B, PSMW-8A, PSMW-11, and PSMW-3B. The RSI states that the point of compliance should be PSMW-1R near the closure cap.

PNM would like to understand the basis for modifying such an important component of the RCRA permit for the site at this point in the compliance program. For example, the technical evaluation of the different corrective action strategies that could have been implemented at this site presumed that the point of compliance was monitored at the property boundary. The extraction wells were located so as to provide the maximum rate of contaminant reduction, with the goal of at least containing the dissolved plume core upgradient of the currently-specified point of compliance. PNM pursued this remedial objective pursuant to 40 CFR §264.100, which specifies that corrective actions are warranted to prevent hazardous constituents from exceeding their respective concentration limits at and downgradient from the compliance point. PNM would like to understand NMED's rationale for changing the corrective action program requirements that are consistent with past decisions and planning discussions regarding corrective action at the Person Generating Station site.

General Topic #3: Appropriate and health-protective remedial objectives for site soils.

(in response to HRMB technical comments Page III.6-2, Page III.6-2 [Line 12], Page III.6-3 [Table 6-1], Page III.6-3 [Line 21], Page III.6-7, Page III.6-9)

PNM concurs that the use of the maximum detected or upper 95 percent confidence limit (UCL) or tolerance limit (UTL) [depending on the data distribution fit] is appropriate for comparison to health-based cleanup levels for direct exposure routes. This is consistent with EPA guidance. However, PNM would like to provide technical justification for using the arithmetic mean of site concentrations when determining whether site soils could present a leaching hazard to underlying groundwater quality. This technical justification will include a brief synopsis of the 1996 EPA *Soil Screening Technical Document*, which recommends use of the arithmetic mean of analytical data when determining if residual contamination could leach at unacceptable concentrations into underlying groundwater.

Additionally, PNM will evaluate the current EPA Region IX soil screening levels (SSLs) to determine if they are representative of conditions likely to be encountered at the Person Generating Station site. These types of "generic" cleanup levels usually are based on extremely conservative exposure assumptions that may be unreasonable for this site, given its current and potential future uses. As part of our proposed meeting, PNM would like to briefly review the basis for the soil remediation standards presented in the March 1998 permit renewal application. A comparison between the EPA Region IX SSLs and the PNM soil remediation standards will be provided, to facilitate discussions on which (or combination thereof) soil cleanup level could be used to evaluate soil corrective actions.

General Topic #4: The need to identify corrective action plan performance standards to be used to evaluate the effectiveness and technical feasibility of the groundwater extraction system.

(in response to HRMB technical comments Page IV.3-3 through 17 [Section 3.3], Page IV.3-35)

As noted in General Topic #1, PNM included a detailed discussion of the anticipated effectiveness of the engineered shallow groundwater remediation system as a means of documenting that the selected corrective action is reducing contaminant mass and concentration at this site. The permit renewal application describes what PNM expects will happen under the current corrective action program for shallow groundwater over time, and outlines a methodology for quantitatively evaluating groundwater quality data relevant to documenting system performance. Rather than "surprise" HRMB with asymptotic performance reports in a few years, PNM included a discussion of what methodology could be used to demonstrate asymptotic contaminant recovery and technical impracticability. PNM is not seeking HRMB approval of specific asymptotic contaminant concentration levels as concentration limits at this time. If, at some time in the future, a demonstration of technical impracticability needs to be made for this site, the methodology described and the groundwater monitoring data collected in compliance with the permit could be used as supporting documentation. If HRMB would like to use a different interpretation of the WQCC regulations for determining technical impracticability, PNM would like to discuss this at our January 27 meeting.

HRMB's position that there should be no references to technical impracticability appears to be at odds with recent EPA guidance on this issue (See 61 *Federal Register* 19432, 19451 [1996]) . Specifically, EPA states: "To avoid creating unrealistically high remedial expectations in these situations, the corrective action permit or order should discuss the possibility that full restoration of a particular medium may prove technically impracticable."

Additionally, PNM included a brief discussion of the potential human health risks that could be posed by residual dissolved contamination in shallow groundwater at concentrations greater than the targeted groundwater concentration limits (i.e., the MCLs under the Safe Drinking Water Act or the WQCC groundwater protection standards, whichever is more stringent). This information was provided to point out that the proposed shallow groundwater corrective action approach is expected to be protective of human health and the environment, even if diminishing rates of contaminant mass reduction should be observed. PNM feels that this information is an important consideration when evaluating the long-term performance of the shallow groundwater corrective action.

General Topic #5: Deletion of groundwater use restrictions.

(in response to HRMB technical comments Page II.2-10, Page IV.3-33)

PNM has proposed the implementation of two groundwater use restrictions on property currently owned and controlled by PNM through the mechanism of a deed restriction. The first proposed restriction calls for the identification of a 1000 foot zone horizontally around the existing shallow groundwater plume into which no production well could be sited and screened within the upper 100 feet of the saturated zone. The second proposed restriction calls for the identification of a 200 foot zone horizontally around the existing shallow groundwater plume into which no production well (regardless of screened interval) could be sited at all.

HRMB has requested that the language for the restrictions be deleted.

The discussion provided by PNM in the application package is in error in that the restrictions appear to be suggested for the property "after completion of corrective action". PNM's intent was for the immediate implementation of the deed restrictions and their continuance until corrective action has been completed. There is also a discussion of the restrictions in Volume IV as part of the section on natural attenuation.

PNM would like to know if HRMB is opposed to the implementation of the deed restrictions out right, or if HRMB only wishes to express disagreement with their usage "after corrective action" or along with natural attenuation? If HRMB agrees that the restrictions are appropriate until corrective action is completed, PNM will revise the language accordingly.

General Topic #6: Groundwater Sampling Frequency

(in response to HRMB technical comments Page II.2-8 and Page II.4-2; Volume IV. Page IV.6-1; Volume V. Page V.3-4 and Page V.5-1)

PNM's application proposes to use 8 consecutive quarters of groundwater monitoring data for trend analysis to demonstrate attainment of concentration limits.

The HRMB advises PNM that the regulatory language at 40 CFR 264.96(c) and 264.100(f) calls for three year demonstration of meeting concentration limits and suggests that the permit application be modified from "8" consecutive quarters to "12" consecutive quarters. PNM currently conducts semi-annual sampling events. In the permit application, PNM proposed switching to quarterly sampling only when biannual trends indicated that the pumping system was reaching asymptotic recovery levels. The 2 years of quarterly sampling matches WQCC requirements for demonstration of technical infeasibility and would be used to demonstrate that the pump and treat could cease and monitored natural attenuation could continue.

PNM would propose that the language be revised to indicate "three years of semi-annual sampling to

demonstrate attainment of concentration limits". PNM feels that three years of semi-annual sampling would meet RCRA requirements in view of the fact that there does not appear to be a significant seasonal impact on contaminant concentrations at this site.

General Topic #7: Third year evaluation of treatment effectiveness

(in response to HRMB technical comments Page IV.4-1)

HRMB has requested replacing the number "50" with "5" in the following sentence: "In the event that shallow groundwater remediation does not proceed as predicted, and the existing pumping system has not reduced all contaminant concentrations below 50 ppb after the first three years of pumping (October 1999), PNM will reevaluate the need for additional or improved extraction wells."

Clearly the system will not achieve the 5 ppb level by October 1999. However, 50 ppb was a reasonable goal based on the initial modeling assumptions. The 50 ppb limit is not put forth as a final goal, but rather as an intermediate goal to trigger a reevaluation of effectiveness of the system.

In reality, PNM has already begun a reevaluation of the system performance and intends to incorporate proposed system modifications in the RSI response.

General Topic #8: Soil Corrective Action

(in response to HRMB comments Page III.6-2)

HRMB appears to concur with PNM's proposal to allow certain activities to be "self-implementing", although it has requested clarification on the use of this term. PNM would like to discuss with HRMB more specifically how this concept can be implemented for documenting completion of soil corrective action requirements.

General Topic #9: Vertical Extent of Contamination

(in response to HRMB comments Page IV.1-8

PNM has alluded to recent sampling data showing the presence of contaminants in previously clean "B" wells (i.e., monitor wells originally installed with screens starting below the upper 20 feet of the aquifer). This is believed to be an effect of the general overall lowering of the water table since the installation of the wells and may also be influenced by the implementation of the pump and treat system. PNM seeks to clarify how this issue should be addressed in the new permit.