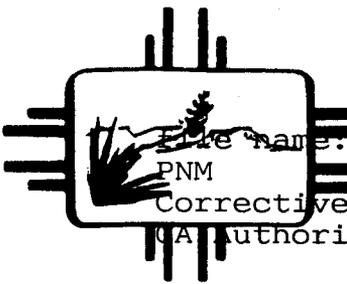


PNM 90

New Mexico Health and Environment Department



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MEMORANDUM

TO: Kathleen Sisneros, Bureau Chief  
Hazardous Waste Bureau  
  
Elizabeth Gordon, Supervisor  
Permit Section  
  
THRU: Bruce Swanton, Supervisor  
Inspection and Enforcement Section  
  
FROM: *JW* Julie Wanslow, Water Resource Specialist III  
Inspection and Enforcement Section  
  
DATE: November 21, 1990

SUBJECT: Recommendation to compel PNM to initiate interim measures through an enforcement action

The Inspection and Enforcement Section believes that we may use the following orders to compel PNM Person Generating Station to initiate interim measures: 74-4-10.E. or 74-4-13.

Section 74-4-10.E. Order

This order is equivalent with EPA's 3008(h) order. This order states that

"Whenever on the basis of any information the director determines that there is or has been a release of hazardous waste into the environment from a facility authorized to operate under Section 74-4-9 NMSA 1978, the director may issue an order requiring corrective action, including corrective action beyond a facility's boundaries or such other response measure as he deems necessary to protect human health or the environment, or may commence an action in district court in the district in which the facility is located for appropriate relief, including a temporary or permanent injunction."

We may be able to use the 74-4-10.E. order if we interpret it as being applicable to any facility that was or is subject to the interim status regulations. In other words, we could use this authority to address corrective action at permitted facilities,

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permitted facilities that have had their permits terminated, loss of interim status facilities, or facilities that never received interim status but should have.

I discussed this interpretation with David Fagin from EPA Headquarters. He said that EPA Headquarters believes that the 3008(h) type authority can be used for facilities that had, have had, or should have had interim status. However, he says the language is not very clear regarding this. He said EPA is planning on revising the 7003 language to make it explicit. He said some courts have supported this interpretation and some courts have not. However, he said that it was very clear that if the facility lost interim status based on its own wrongdoing, then 3008(h) authority could definitely be used.

#### Section 74-4-13 Order

This order is equivalent with EPA's 7003 order. This order states that

"Whenever the director is in receipt of evidence that the past or current handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste or the condition or maintenance of any underground storage tank may present an imminent and substantial endangerment to health and the environment, he may bring suit in the appropriate district court to immediately restrain any person, including any past or present owner or operator of a treatment, storage or disposal facility, who has contributed or is contributing to such activity, to take such other action as may be necessary or both."

We have been told by our attorneys that we cannot use the 74-4-13 order for PNM because our attorneys do not believe that the threat is imminent enough. They seem to indicate that we cannot use this order unless we can prove that persons are currently exposed or will be exposed in the immediate future to contaminants at levels that could endanger their health. We feel that this interpretation is too restrictive.

We discussed the definition of "imminent" with Olga Moya of EPA Region VI, Regional Counsel. She said that she thinks that the situation at PNM is clearly "imminent". She said that we do not have to prove that there is an injury, we only have to prove that there is a risk or threat of an injury. She said there was case law supporting this interpretation: B.F. Goodrich-Murtha, 697-Fed. Supp. 89, and U.S. vs. Seymour Recycling Corp., 618 Fed. Supp. 1. In addition, she sent us a copy of the September 26, 1984, EPA guidance on 7003 orders titled "Issuance of Final Revised Guidance on the Use and Issuance of Administrative Orders

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Under Section 7003 of RCRA", see attachment. This guidance states that "the words may present an imminent and substantial endangerment indicate that Congress established a standard of proof that does not require a certainty. The evidence need not demonstrate that an imminent and substantial endangerment to public health or the environment definitely exists. Instead, an order may be issued if there is sound reason to believe that such an endangerment may exist...Evidence of actual harm is not required....When one is endangered, harm is threatened; no actual injury need ever occur". The guidance further states, "EPA could act if there exists a likelihood that contaminants might be introduced into a water supply which could cause damage after a period of latency". The guidance recommends judging the risk or likelihood of harm by "examining the factual circumstances, including, but not limited to: 1) nature and amount of the hazardous substance; 2) the potential for exposure of humans or the environment to the substance; and 3) the known or suspected effect of the substance on humans or that part of the environment subject to exposure to the substance."

We would like to define imminent and substantial endangerment as contamination or a situation that immediately threatens substantial endangerment to human health or the environment. We don't want to limit "imminent endangerment" to actual contamination or a harmful situation, we also want to include the immediate threat of contamination or a harmful situation. We recommend that we use this order to mitigate contamination or a situation which if left unaddressed, may substantially endanger human health or the environment.

We would like to define substantial endangerment as a situation that could cause bodily injury or involves potential human exposure of contaminants whose levels are above the EPA MCLs (drinking water standards) or could cause one death per one million people or ( $10^{-6}$  risk factor), or potential environmental exposure of contaminants whose levels are above aquatic life standards or other appropriate environmental standards.

In the case of PNM, we would not have to prove that a specific water supply well is or will be contaminated in the immediate future (i.e., within two months). Instead, we would only have to document that the preponderance of evidence indicates that the plume threatens immediate and substantial endangerment. We believe that the plume threatens imminent and substantial endangerment because the off-site plume contains hazardous constituents above drinking water standards (MCLs), the plume is located in a drinking water aquifer, there is potential of exposure of humans to this contaminated water via nearby water supply wells (25 water supply wells are located within a one mile radius and two Albuquerque well fields are located within 1.5

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mile radius of the facility), and the groundwater velocities are high enough for us to suspect that the plume may be threatening substantial endangerment to nearby water supply wells in the immediate future. Based on the groundwater velocities, the plume may potentially extend 1.6 miles or 4.57 miles from the PNM property boundary.

Details of the Plume:

Beginning in October 1989, the groundwater data from PNM Person Generating Station monitor well PSMW-8A indicated that a major plume of contamination was moving in an easterly direction beyond their property boundary. Lower concentrations of constituents have migrated beyond the northern and eastern boundaries in the past, however, a major "slug" is currently moving beyond the eastern boundary. There is potential to use this contaminated water for drinking water because the plume is located in a drinking water aquifer and there are 25 water supply wells within a one mile radius of the facility. In addition, the plume is located within 1.5 miles of Albuquerque water supply well fields. Based on groundwater velocity data and historical flow directions certain water supply wells could be affected by off-site contamination.

The plume contains perchloroethylene (PCE), 1,1-dichloroethene (DCE), 1,1,1-trichloroethane (TCA), and total chromium. All of these constituents are above the EPA MCLs or drinking water standards except for TCA. Two wells at PNM's property boundary evidence contamination: PSMW-8A and PSMW-6.

Historical groundwater flow directions indicate that the groundwater flowed south in the 1960's, and has gradually shifted to the east-southeast in the 1980's. The groundwater flows to the east at PSMW-8A and PSMW-6. The direction of groundwater flow shifts to the southeast toward the southern portion of the facility.

Pump test data for PSMW-8A indicates that the velocity of the groundwater at this location is approximately 131 feet per year and pump test data for PSMW-6 indicate that the velocity of the groundwater at this location is approximately 74 feet per year. PSMW-8A is located on the eastern property boundary of the facility and PSMW-6 is located on the property boundary near the northeast corner of the facility. Pump test data from pump test well, PT-3, indicates that the velocity of groundwater at this well was 4,022 feet per year. PT-3 was located between PSMW-8A and PSMW-6, downgradient from the source of the plume, and 100 feet from the eastern boundary (see attached map). We know that the PSMW-8A and PSMW-6 were contaminated when they were first sampled in early 1984. (Actually, these wells were probably

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contaminated sooner than 1984. Camp Dresser McKee conservatively assumed in their 1985 Phase V Program Report that the groundwater at PNM has been contaminated since 1977.) We have no groundwater quality information from PT-3 because PNM never sampled this well for hazardous constituents. As a worst case or conservative scenario, if the groundwater is moving 4,022 feet per year, then the plume has migrated 24,132 feet (4.57 miles) from the property boundary since 1984. A less conservative approach would be to average these three velocities (131, 74, and 4,022 feet per year) to come up with an average velocity of 1,409 feet per year. Using the average velocity, the plume may have moved 8,454 feet (1.6 miles) from the property boundary since 1984. The velocity of the groundwater probably increases toward the north and the east because the aquifer is known to be highly permeable and productive in these areas.

The closest well (Well P) is a domestic water supply well located less than 500 feet south-southwest of the on-site plume (see attached water supply map). Well P appears to be sidegradient of the plume and thus contamination of Well P appears unlikely. However, we do not know the extent of the plume to the west or southwest because there are no monitor wells located on the western property boundary and PSMW-4 which is located near the southwest corner of the facility is not being monitored. Additionally, contamination does not always follow the direction of groundwater flow, and the 1985 soil gas survey indicated soil gas contamination to the west and south-southwest.

The closest downgradient wells which have the most potential for being affected by the plume are the PNM water supply wells. PNM did not include their water supply wells (#1, #3, #4, #5, #6) on the map that they submitted to EID, but these wells are indicated on maps supplied by the Camp Dresser McKee 1985 Phase V Report. However, the exact location of the PNM production well #5 and #6 is unclear. The Phase V Program Report includes different maps that alternately depict the same well as #5 and #6. PNM production wells #3, #4 and #6 appear to be located approximately 850 feet east of the property boundary. Production wells #4 and #6 appear to be directly downgradient of the plume. Production Wells #1 and #5 appear to be located sidegradient of the plume near PNM's southern property boundary.

The closest downgradient non-PNM well is Well R which is a domestic/sanitary and golf course irrigation well (see attached water supply well map). Well R is located approximately 0.76 miles (4000 feet) northeast of the property boundary and appears to be directly downgradient of the plume.

According to a 1987 map, the closest Albuquerque water supply wells are located to the north and the north-northeast of the

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facility. The zone of well influence of the San Jose Well Field (San Jose wells #1, #4, #5) is located approximately 1.25 miles (6600 feet) to the north. The zone of well influence of the Miles Well Field (Miles well #1) is located approximately 1.50 miles (7920 feet) to the north-northeast.

Based on the groundwater velocities discussed above, EID needs to require PNM to identify all water supply wells within a three mile radius including their own production wells. In addition, EID needs to require PNM to sample the groundwater from Well P, Well R, and perhaps the PNM production wells east of the facility depending on the location and length of the screens.