

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

October 1, 1998

Certified Mail
Return Receipt Requested



Mr. Carl Will
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Will:

Subject: Request for Clarification, Additional
Influent Sources for Person Generating
Station Groundwater Treatment Plant

Public Service Company of New Mexico (PNM) has entered into a contractual agreement with Cobisa-Person Limited Partnership (C-PLP) who will construct and operate a nominal 140 megawatt simple cycle gas combustion turbine electric power generation plant on the site of PNM's decommissioned Person Generating Station. A process description for the combustion turbine is contained in Attachment 1 to this letter.

NMED Discharge Plan (DP) - 1006 (and a contractual agreement with UNM) currently allows PNM to discharge treated groundwater to the UNM Championship Golf Course irrigation pond. The groundwater is treated via air stripping and Granular Activated Carbon (GAC) to remove several volatile chlorinated compounds. The incoming groundwater is slightly acidified with Sulfuric Acid which minimizes scaling within the treatment train. Under DP-1006 PNM conducts monthly sampling and quarterly reporting of chlorinated compounds within the influent, effluent, and irrigation ponds; and sulfates within the effluent.

PNM is currently evaluating the potential to accept blowdown water from the gas turbine unit which will be fed into the inlet point of our existing groundwater treatment plant and ultimately discharged to the UNM Championship Golf Course irrigation pond. The blowdown water would pass through the complete treatment train and would be completely mixed with existing extraction well influent.

The makeup water for the combustion turbine evaporative cooler will originate from the local groundwater, although from groundwater resources which are not contaminated with volatile chlorinated compounds. C-PLP will install a production well screened into the 500 foot zone beneath the property at a location which will not be impacted by, nor exert an influence on, the existing volatile chlorinated compound contaminant plume at the site. The source groundwater

will be fed into an evaporative cooling system, cycled approximately three times then discharged as a continuous blowdown at a rate of approximately 35 gpm. As detailed further in Attachment 1, the combustion turbine will not operate continuously, nor will the evaporative cooler operate at all times when the combustion turbine is in operation (i.e., only when ambient temperatures are above 70 °F.) In any event, the maximum treatment rate for the groundwater treatment plant is 100 gpm, which corresponds to the maximum discharge flow rate allowed in DP-1006.

C-PLP contemplates the need to slightly acidify their makeup water to minimize scale. Attachment 2 contains a table of common chemical parameters anticipated to represent both the makeup water and the blowdown water for the combustion turbine evaporative cooler. Makeup water characteristics are primarily taken from information collected through sampling of on site monitoring well PSMW-17-500 (a monitor well screened at the 500 foot zone). This and other data sources are identified on Attachment 2.

In order to facilitate acceptance of the blowdown water PNM would need to seek a modification to DP-1006. PNM also recognizes the need to address potential RCRA issues which might arise due to the mixing of clean groundwater with contaminated groundwater prior to treatment by the Groundwater Treatment Plant. PNM is hereby requesting a determination from the NMED HRMB on any RCRA regulatory concerns with this planned approach.

A second option, which is currently less favorable to PNM, is to direct the C-PLP blowdown into the treated water transfer tank where it would mix with groundwater which had completed treatment via air stripping and granular activated carbon. It would then be more directly sent to the UNM Championship Golf Course. PNM is also requesting a determination from the NMED HRMB as to whether or not this second option presents any RCRA regulatory concern to the HRMB.

Thank you for your attention to these questions. If you have any questions, please contact me at (505) 241-2998.

Sincerely,



Ron D. Johnson
Technical Group Leader

enclosures

cc: Steve Anderson

Attachment 1
COBISA-PERSON LIMITED PARTNERSHIP
Process Description
Proposed 140 Megawatt Simple Cycle Turbine Electric Power Generation Project

The Cobisa-Person Limited Partnership proposes to construct and operate a nominal 140 megawatt (MW) simple cycle combustion turbine electric power generation project on a portion of the site of the Person facility operated by the Public Service Company of New Mexico (PNM). The project will generate electricity through the use of a gas turbine. The project is not a Steam electric generating station per 40 CFR 423.14.

The proposed Person Project encompasses adding a new combustion turbine (non-steam) unit at the existing PNM Person facility located near Albuquerque, New Mexico. The new combustion turbine will be designed for simple cycle operation and the exhaust gases from the combustion turbine will flow through an exhaust stack.

The Person Project will utilize new equipment to provide cost effective intermittent generation of electric power for periods of peak electrical demand, typically during the summer months when daily temperatures exceed 70 degree fahrenheit. The electric non-steam power generation will vary depending upon ambient weather conditions.

Ambient air will be drawn through an air filtration intake structure into the inlet section of the turbine, compressed, mixed with fuel and burned in the combustors, which will exhaust the hot gases through rows of stationary vanes and rotating blades. The hot exhaust gases will turn the turbine and drive a generator to produce electric power for distribution.

Ambient air will be drawn through an air filtration/evaporative intake structure located on the front of the turbine. During periods when the ambient air is warm, filtered well water will be circulated through the evaporative cooler. The intake air will directly contact the circulating water and will be cooled through the heat absorbed by the water's evaporation. This lower temperature air will result in increased turbine output. In order to keep the concentration of dissolved solids within design limits, a portion of the circulated water will be "blown down" to a process drain. Therefore, the blow down stream will contain well water in which the dissolved solids have been concentrated through the evaporation of the water. In addition, Sulfuric acid will be added to the inlet air evaporative cooler make-up water to control scale and pH. The amount of sulfuric acid added to the make-up water will depend upon the inlet well water hardness and alkalinity.

The Person Project will be under the dispatch control of PNM, during times of peak demand and therefore, the periods of operation will be intermittent. It is anticipated that the Person Project will be operated under periods of high electric demand, when temperatures are above approximately 70 degrees fahrenheit. Based on present day economic and technical characteristics of the New Mexico electrical system, it can be predicted that the Person Project will operate approximately 500 hours per year. Continuous, year round operation would only occur in the unlikely event that one or more baseline generating facilities in the region are removed from service. Since the evaporative cooler will not be operated when ambient conditions cool off, it is not anticipated that the evaporative cooler will be operated during the coolest parts of the night. Therefore, a continuous twenty-four hour per day operation of the evaporative cooler is not anticipated. It is also anticipated that the unit will not operate during winter months.

The anticipated start of on-site construction date is July, 1999. Construction will occur over a 9 month period, with testing beginning in December, 1999 and commercial operation scheduled to begin April, 2000.

Attachment 2
Makeup and Blowdown Water Characteristics
Cobisa Gas Turbine

Parameter	Makeup Water¹	Blowdown Water²
Flow	70 gpm	35 gpm
pH ⁴	7.40	7.40
Summer Temperature	80 deg. F.	80 deg. F.
Winter Temperature	40 deg. F.	40 deg. F.
Ammonia (as N) ⁴	0.20 mg/L	0.60 mg/L
Sulfate ⁵	39.1 mg/L	117.3 mg/L
Total Dissolved Solids ³	300 mg/L	900 mg/L
Total Hardness ³	140 mg/L	420 mg/L
Total Calcium ³	99 mg/L	297 mg/L
Total Chromium ⁴	0.004 mg/L	0.012 mg/L
Total Copper ⁴	0.06 mg/L	0.18 mg/L
Total Iron ³	0.04 mg/L	0.16 mg/L
Dissolved Iron ³	<0.01 mg/L	0.03 mg/L
Total Lead ³	<0.01 mg/L	0.03 mg/L
Total Magnesium ³	37 mg/L	111 mg/L
Total Potassium ³	11 mg/L	33 mg/L
Total Silicon ³	34 mg/L	102 mg/L
Total Vanadium ³	0.008 mg/L	0.024 mg/L
Total Zinc ⁴	0.20 mg/L	0.60 mg/L
Nitrite ⁵	0.20 mg/L	0.60 mg/L
Nitrate ⁵	0.20 mg/L	0.60 mg/L

- Notes:
1. Makeup water characteristics are estimated primarily from an on site monitor well (PSMW-17-500), supplemented by data from other sources (See notes below.)
 2. Blowdown water characteristics are engineering estimates calculated assuming three cycles of concentration.
 3. Makeup water estimate source: PSMW-17-500
 4. Makeup water estimate source: NMEID, Groundwater and Public Health, Albuquerque South Valley, 1987, table 6.2.
 5. Makeup water estimate source: Regional Monitoring Well (Perfection Truss)