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November 27, 1996

Mat Johansen, AIP POC
U.S. Department of Energy
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SUBJECT: Clarification review of Section 4.6.2.4 in United States Department of Energy's Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, September 1996, Volume I

Dear Mr. Johansen:

DOE Oversight Bureau (DOB) has reviewed the referenced section from the subject document. The following comments are provided for the purpose of communicating the results of the review. They are not provided or intended for the purpose of representing the regulatory position of the New Mexico Environment Department.

1. 4.6.2.4, *Water Resources*, Surface Water, second paragraph, first sentence

Perennial flow, not ephemeral flow, exists within some onsite canyon systems. Based on multiple field observations by DOE OB, onsite perennial flow exists in the following canyons or canyon segments: 1) Pajarito Canyon from approximately MDA-M at Tech Area (TA) 9 to varying distances downstream (on July 21, 1994, DOE OB staff observed perennial flow to at least the mouth of Twomile Canyon) and from Spring 4A to the Rio Grande; 2) Canon de Valle from approximately MDA-R at TA-16 to varying distances east of MDA-P; 3) Water Canyon from approximately New Mexico (NM) State Road (SR) 501 to varying distances downstream; 4) Ancho Canyon from Ancho Spring to the Rio Grande; 5) Sandia Canyon from the TA-3 facility outfalls to varying distances downstream.

Doe Spring and Spring 9A discharge into Chaquehui Canyon; however, surface-water flow only extends several hundred feet and does not reach the Rio Grande.

2. 4.6.2.4, *Water Resources*, Surface Water, third paragraph

Perennial flow conditions do exists in Ancho Canyon from Ancho Spring to the Rio Grande. Flow in Chaquehui Canyon is depleted before entering the Rio Grande (see comment 1.). Spring 5AA in lower Water Canyon is the only permanent water source in that section of the canyon, and several years of field observations, specifically during 1993 through 1996, show that the spring discharges at less that 1 gpm (a noticeable damp area at spring); therefore, no flow occurs in lower Water Canyon.

Additional springs (Charlie's, Starmer's and Bulldog Springs) in the Pajarito Canyon system supply the majority of perennial flow (see comment 1.).

3. 4.6.2.4, *Water Resources*, Surface Water, fourth paragraph

Base flow from springs west of NM SR501 in Los Alamos, Pajarito, Water Canyons and Canon de Valle rarely extends to the western boundary of the Laboratory; however, onsite springs located east of NM SR502 (western portion of the Laboratory at TA's 9, 22 and 16) do supply perennial flow at varying distances downstream (Dale and Yanicak, 1996).

4. 4.6.2.4, *Water Resources*, Surface Water, fifth paragraph, seventh sentence

The S-Site steam plant at TA-16 uses water from one spring located in a northern tributary of Water Canyon.

5. 4.6.2.4, *Water Resources*, Groundwater

Hydrologic data/information suggest four distinct ground-water zones or modes of occurrence: 1) deep aquifer; 2) intermediate-perched zones within volcanic and sedimentary rock at and beneath the base of the Bandelier Tuff; 3) perched within canyon alluvium; 4) perched within the upper units of the Tshirege Member of the Bandelier Tuff (discharge points include approximately eight onsite perennial springs such as Starmer's Spring in Pajarito Canyon) (Dale and Yanicak, 1996). DOE OB recognizes these four modes of occurrance.

If there are any questions, please contact me at 505-672-0448 or Michael Dale at 505-672-0449.

Sincerely,

Stephen Yanicak

Steve Yanicak, LANL POC
Department of Energy Oversight Bureau

SY:mrd

attachment

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CITED REFERENCES

Dale, M.R., and Yanicak, S., 1996, Characteristics of springs in the western Pajarito Plateau, Los Alamos National Laboratory, New Mexico: New Mexico Geological Society, Guidebook 47th field conference, in press.