

*John Parker / File*



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LANL  
TA-70

*interd*

February 5, 1999

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DOE OVERSIGHT BUREAU

LANL / Non-HSWA Regulatory

David Wilfert  
U.S. Department of Energy  
Oak Ridge Operations Office  
200 Administration Road, 146/SNS  
Oak Ridge, Tennessee 37831

Dear Mr. Wilfert :

**RE: CONSTRUCTION AND OPERATION OF SPALLATION NEUTRON SOURCE PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT, DOE/EIS-0247; U.S. DEPARTMENT OF ENERGY, OFFICE OF SCIENCE; DECEMBER 1998**

This transmits New Mexico Environment Department (NMED) staff comments concerning the above-referenced Draft Environmental Impact Statement (DEIS).

**A. BACKGROUND:**

The U.S. Department of Energy (DOE) has proposed siting, constructing and operating a new Spallation Neutron Source (SNS) at one of four DOE facilities. Design will begin in 1999, construction is planned to begin in 2000, and operation will begin at the end of 2005. Los Alamos National Laboratory (LANL) in New Mexico is one of the potential candidates. Oak Ridge National Laboratory (ORNL) in Tennessee is the preferred site. This DEIS addresses the consequences of the SNS at each facility and a no action alternative.

The DOE selection criteria for the SNS required an area approximately 1,100 ft by 4000 ft. The proposed site at LANL is located in its southwest portion, at Technical Area-70 (TA-70). The area is on an undeveloped mesa top, flanked by Ancho Canyon to the southwest and a small unnamed canyon to the northeast. Other primary selection requirements by DOE were: a one mile buffer zone to insulate the public from accidents, proximity to a 62 to 90 MW power source, and presence of existing facilities and programs using neutron scattering techniques.

**B. GENERAL COMMENTS:**

1. LANL has the rights to approximately 1.8 billion gallons of water per year. They currently use 0.5 billion gallons, the surrounding communities use approximately 0.9 billion gallons, and the proposed SNS could use up to 0.7 billion gallons of water per year. Ground



water pumping may lower the water table in nearby wells, reduce long term main aquifer productivity, and directly compete with surrounding communities for water. The DEIS did not describe measures to mitigate this impact.

2. The proposed site at TA-70 is an undeveloped area at LANL within 1 to 2 miles of Bandelier National Monument. Large scale development would eliminate existing public use, be highly visible during the day and night, and increase traffic congestion. Over 330,000 people visit the Monument each year. We expect a greater negative impact to monument visitors and local residents than described.

3. White Rock was described to be 3 miles from the SNS. Pajarito Acres is a subdivision of White Rock and appears to be within 1.5 miles of the facility. If the Maximum Exposed Individual (MEI) is based on exposure to individuals in White Rock, we expect it to be greater for residents of Pajarito Acres. We also expect noise levels and traffic congestion to be greater than described.

4. Siting the SNS at TA-70 would require development of extensive utility infrastructures, such as a 60 to 90 MW power source, natural gas lines, steam lines, a water delivery system and access to sanitary waste facilities. The DEIS did not adequately describe the expense or environmental impacts that would occur from these actions.

5. This document described cooling-tower blowdown discharge of 250 to 350 gpm into TA-70 drainage. It also stated that the water would infiltrate before reaching the Rio Grande. We believe the shallow alluvium, the short distance to the Rio Grande, and existence of Ancho Spring make it possible for water to flow to the Rio Grande. Surface water flows should meet New Mexico Cold Water Fishery Standards.

6. This document states that waste management facilities at LANL have sufficient capacity to handle the waste volume projected for the period 1998-2030. Therefore, construction and operation of the SNS would have a minimal contribution to cumulative impacts on waste management facilities. However, it also concludes that the existing treatment facilities do not have the capacity to treat all of the Low Level Waste (LLW) from the proposed SNS. It correctly states that the LLW (with accelerator-produced tritium) would not meet the waste acceptance criteria for the existing treatment facility at TA-50. Therefore, additional facilities that will accept these wastes are required. A new facility at TA-53 is under construction and expansion at TA-54 would be required. These expansions would be for treatment of waste with accelerator-produced tritium and LLW disposal. They do not appear to be minimal impacts.

7. **Air Quality:** a) The project is in an area that is currently in attainment for all National Ambient Air Quality Standards (NAAQS). ( Incidentally, the reference on Page 5-69 to Table 5.2.3.2-1 should probably be changed to Table 5.3.3.2-1.) Should LANL be chosen as the preferred site, LANL personnel should meet with the Department's Air Quality Bureau permitting personnel prior to construction of the proposed project to determine the appropriate level of air quality permitting for it.

b) The DEIS states that the MEI would receive a radiation dose from this project of approximately 2.9 mrem/year. The DEIS does not provide the location of this individual. Currently, LANSCE (a linear accelerator) at LANL provides between 2.9 and 5.0 mrem per year

to the current MEI. The report does not state whether the contributions from LANSCE have been considered in the 2.9 mrem present in this report. Communication with LANL personnel indicates that none of the staff responsible for the calculation of dose from airborne radiation were consulted in the development of the report. LANL is a very unique site due to its topography and climate (as opposed to Oak Ridge). If these considerations were not taken into account, the number reported in the DEIS could be significantly off. Concern about this possibility increases when noting the statement in the DEIS that the MEI reported in 1997 by LANL personnel is too large and should be reduced.

c) The DEIS does not address the Tribal Authority Rule (TAR) which is a vague EPA document that may empower the tribes to receive regulatory authority over LANL instead of the state. The new Neutron Source may place the MEI on tribal land, which would give the tribe excellent leverage to receive authority. However, since the location of the MEI was not adequately described nor were data provided showing that proper meteorological and topographical considerations were taken into account, it is not possible to reach any specific conclusion.

8. If the SNS is located at LANL, locations other than TA-70 should be considered. For example, there is an existing accelerator facility at TA-53. This location appears to have many of the features described as necessary for the SNS.

### **C. SPECIFIC COMMENTS**

1. **4.2 Los Alamos National LANL, Page 4-63, paragraph 1, line 11**  
*The Rio Grande is the only permanently flowing river near the project area.*

This statement is incorrect. Ancho Canyon contains a perennial reach, which is supplied by Ancho Spring, that normally extends to the Rio Grande from a position about 0.5 miles southeast of the proposed SNS facility site.

2. **4.2.2.1 Surface Water, Page 4-70, paragraph 2, line 1**  
*There are no permanent surface water resources within 0.25 miles (0.44 km) of the proposed SNS facility site.*

The statement is true; however, the document should note that approximately 0.5 miles downstream of the proposed facility, a perennial reach exists in Ancho Canyon.

3. **4.2.2.1 Surface Water, Page 4-72, paragraph 2, line 13**  
*Los Alamos, Water, and Pajarito canyons/streams originate upstream of LANL facilities.*

This statement is not entirely correct. Several perennial streams exist onsite, and they include: 1) a 2-3 mile reach in Sandia Canyon exists as a result of the discharge of treated sanitary-sewage effluent, and heads at Technical Area 3, 2) a 1.5-2.0 mile reach in Canon de Valle that heads at Technical Area 16, and 3) 2-3 mile reach in Pajarito Canyon that heads near Technical Area 22 (Dale, 1998). A more accurate description of the hydrologic setting should be incorporated into the document.

4. **4.2.2.1 Surface Water, Page 4-72, paragraph 2, line 15**

*Perennial streams in the lower portions of Ancho and Chaquehui Canyons extend to the Rio Grande without being depleted by recharge to the ground.*

A more accurate description of the flow conditions in the referenced canyons should be included in the document. Field observations and documentation during 1996, 1997 and 1998 showed that perennial flow in Chaquehui Canyon extended for approximately 300 ft from Spring 9A, and did not reach the Rio Grande. On September 29, 1998, field observations showed that perennial flow Ancho Canyon extended from Ancho Spring to within about 600 ft of the Rio Grande. In other words, these perennial reaches do not always reach the Rio Grande.

**5. 4.2.2.2. Flood Potential, Page 4-72, paragraph 1, line 10**

*The overall flood risk to LANL and facilities at TA-70 is small because of the position of this site on a mesa top.*

We agree that the flood risk on the mesa top is minimal. However, the flood risk downstream in Ancho Canyon and the unnamed canyon may be increased due to the additional outfall and runoff from parking lots, roofs, etc., at the site. The increase in runoff may affect the physical conditions and biological communities downstream from the proposed facility.

**6. 4.2.2.3 Groundwater, Page 4-73, paragraph 2, line 9**

*Depth to groundwater, 840 ft (256 m), at TA-70 is inferred from a monitoring well adjacent to the site.*

To the best of our knowledge there is no regional monitoring well adjacent to the TA-70. DT-9 is the closest well, and it is located approximately 4 miles northwest of the proposed SNS site.

**7. 4.2.2.3 Groundwater, Page 4-73, paragraph 2, line 11**

*The depth to groundwater at the bottom of Ancho Canyon along the southern edge of TA-70 is 600 ft.*

This statement may not be correct considering the fact that Ancho Spring discharges within the canyon bottom.

**8. 4.2.2.3 Groundwater, Page 4-75, paragraph 4, line 14**

*Background concentrations of radionuclides and trace metals are shown in the Ancho Spring results.*

o The text should explain what "background concentrations" were used. To the best of our knowledge, background concentrations for ground water at LANL have not been agreed upon.

o It should be noted that in 1995, the high explosive compounds HMX (4.9 ppb), RDX (23 ppb) and 2,4-DNT (0.18 ppb) were detected in Ancho Spring waters (data from LANL Report: Environmental Surveillance at Los Alamos during 1995), which may indicate that Ancho Spring is not an appropriate background station.

o Contaminants were also found in Ancho Spring at earlier times. From 1951 through 1955 some contaminants were found: nitrate as nitrate (NO<sub>3</sub>), 0.2 to 30.0 ppm;

phosphate (NO<sub>3</sub>), 3.0 to 30 ppm; chloride (Cl), 2.8 to 93 ppm; and Fluoride (F), 0.2 to 3.2 ppm (data from Weir, et al., 1963, USGS report titled "The hydrology and the chemical and radiochemical quality of surface and ground water at Los Alamos, New Mexico, 1949-55").

**9. 4.2.2.3 Groundwater, Page 4-75, paragraph 5, line 1**

*Long-term trends of the water quality in the main aquifer beneath LANL have shown little impact resulting from operations (LANL, 1997d).*

The regional-aquifer monitoring system at LANL is probably inadequate to monitor long-term trends (e.g., long-screened intervals, spacing, casing degradation, possible borehole leakage, etc.). Recent data show that the regional aquifer beneath several historical release sites has been impacted by LANL activities.

**10. 4.2.5.3 Aquatic Resources, Page 4-85, paragraph 1, line 2**

*These habitats currently receive NPDES-permitted wastewater discharges from LANL.*

This statement is incorrect. A total of three perennial reaches or aquatic habitats at LANL do not receive wastewater effluent: 1) lower Ancho Canyon, 2) Canon de Valle near TA-16, and 3) Pajarito Canyon from TA-9/22 to approximately the mouth of Two-mile Canyon.

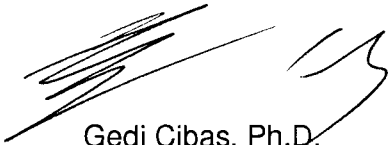
**11. 4.2.9.1.2 Water, Page 4-108, paragraph 1, line 21**

*Surface and runoff water results from Ancho Canyon (TA-70) indicate all radionuclides well below the DOE DCGs for public dose, with many reported values below analytical detection limits (Table 4.2.9.1.2-1).*

Surface-water data should be compared to more applicable standards such as New Mexico Water Quality Act or the federal Clean Water Act.

We appreciate the opportunity to comment on this DEIS. Please let us know if you have any questions.

Sincerely,



Gedi Cibas, Ph.D.  
Environmental Impact Review Coordinator

NMED File No. 1229ER