



BILL RICHARDSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

TA 03

Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us



RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

MEMORANDUM

TO: Gedi Cibas,

FILE: LANL TA-3, TA-6 and TA-50

THROUGH: John E. Kieling, Manager, Permits Management Program, HWB
David Cobrain, Santa Fe Program Manager, Hazardous Waste Bureau

FROM: John Young, LANL CA Project Leader, Hazardous Waste Bureau

SUBJECT: HAZARDOUS WASTE BUREAU COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE CHEMISTRY AND METALLURGY RESEARCH BUILDING REPLACEMENT PROJECT AT LOS ALAMOS NATIONAL LABORATORY
NMED FILE: 1726ER

DATE: June 17, 2003
~~June 14, 2002~~

The Hazardous Waste Bureau has the following comments regarding "The Draft Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory."

General Comments:

1. Los Alamos National Laboratory (LANL) and the Department of Energy (DOE) *must* provide a more concise presentation of draft/final environmental impact statements. Factual information presented is often too vague and supported only by anecdotal statements, is not supported by the referenced documents or supported by any document references. For example, in Section A.6.2.2: Water Quality; states that the "determination of the impacts of the alternatives is summarized in Table A-8 and consisted of a comparison of the projected effluent quality with relevant regulatory standards and implementing regulations...". LANL and DOE do not support this statement by providing the assumptions, calculations, regulatory levels, etc. used to



5711

compile Table A-8. Table A-8 should compare individual constituent relative to applicable standards, limits, derived concentration guides, etc. It is difficult for the public and other stakeholders to evaluate/assess DOE and LANL conclusions on impacts to the environment without this information.

2. Prior to decontamination and demolition activities at the current CMR structure (TA-3-29), DOE and LANL must close all Resource Conservation and Recovery Act (RCRA) interim status and/or permitted units following proper procedures including but not limited to, public participation and permit modification requirements.
3. Prior to decontamination and demolition (D&D) activities at the current CMR structure (TA-3-29), DOE and LANL must investigate and remediate all solid waste management units (SWMUs) and areas of concern (AOCs) potentially impacted by D&D activities.
4. SWMUs 55-011(d) a drain or outfall, and possibly others, are located within the proposed boundary or may be impacted by construction of the Chemistry and Metallurgy Research Building Replacement (CMR Replacement) preferred location at TA-55. DOE and LANL *must* investigate remediate all SWMUs and AOCs to appropriate ecological and human health based standards prior to initiation of construction activities at TA-55 (or TA-3 or TA-6). A work plan(s) outlining the investigation and remedial activities at the SWMUs and AOCs *must* be submitted to and approved by the New Mexico Environment Department's Hazardous Waste Bureau prior to corrective action activities. An investigation report documenting corrective action activities is also required. All waste generated during the remediation(s) *must* be characterized prior to disposal and subsequently stored and disposed in appropriate facilities.
5. If DOE and LANL have not already done so, the Seismic Hazards Borehole one (SHB-1), located to the west of TA-55, *must* be properly plugged and abandoned (according to New Mexico regulations) prior to construction activities. All other open borings, wells, etc. that are in the impacted area *must* also be identified and properly plugged and abandoned prior to commencement of construction activities. The locations of all borings and wells, prior to P&A activities, should be surveyed and the borehole/well should be screened for the presence of vapor phase contamination and water following proper procedures. A report documenting each well and the details of the surveying, screening and P&A activities associated with each well must be submitted to the New Mexico Environment Department's Hazardous Waste Bureau following completion.
6. DOE and LANL must identify and properly plug and abandon (according to New Mexico regulations) all open borings, wells, etc. in the general area surrounding the TA-3 CMR building, which may be impacted by D&D activities. The locations of all borings and

wells, prior to P&A activities, should be surveyed and the borehole/well should be screened for the presence of vapor phase contamination and water following proper procedures. A report documenting each well and the details of the surveying, screening and P&A activities associated with each well must be submitted to the New Mexico Environment Department's Hazardous Waste Bureau following completion.

7. DOE and LANL should discuss in detail the volumetric increases in waste generation (i.e. transuranic, mixed transuranic, low-level, mixed low-level and hazardous wastes). For example, discuss what form(s) (e.g., liquid, solid, air) the waste streams and the expected percentage of each, list the constituents/radionuclides expected to be present in the various waste streams and identify expected concentrations and activities in each waste stream. It is difficult for the public and other stakeholders to scrutinize DOE and LANL conclusions without this information.
8. DOE and LANL should discuss in detail the expected impacts to air emissions and increased discharge to/from the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF). Discharge volume increases, constituents and associated concentrations and activities should be discussed in detail as it relates to each waste stream identified. It is difficult for the public and other stakeholders to scrutinize DOE and LANL conclusions regarding environmental impacts without this information.
9. DOE and LANL should clarify if the proposed site, located at TA-6, is suitable due to hazard radii associated with firing sites. Also, clarify if access to the proposed site, at TA-6, would be hindered or limited by firing site activities.

Section Specific Comments:

10. Section 3.5.1.3: Seismicity; DOE and LANL do not discuss seismic conditions at either of the proposed locations. Vaniman and Wohletz, 1993 (ER ID 48822) describe a zone of "abundant fracturing" around TA-55. As the zone of "abundant fracturing" is located on the trace of the Rendija Canyon Fault, it may be related. DOE and LANL must discuss in detail recent studies that have considered the TA-55 and TA-6 locations in order for DOE, LANL, the public and other stakeholders to adequately assess these locations for the possible location of the new CMR Building.
11. Section 3.6.1: Surface water; indicates the compliance during 2001 with the National Pollutant Discharge Elimination System (NPDES) permit was "nearly 100 percent." Because construction of the new CMR Building will undoubtedly impact effluent discharges, DOE and LANL should discuss historic compliance with NPDES discharges from the TA-50 RLWTF outfall and resulting cumulative impacts to surface water,

sediment quality and groundwater quality. In addition, as discharges from the RLWTF will be impacted, DOE and LANL should discuss their "compliance" history with internally DOE derived concentration guides (DCGs) for radionuclides. It is impossible for the public and other stakeholders to adequately scrutinize DOE and LANL conclusions regarding possible environmental impacts without this information.

12. Section 3.6.2: Groundwater; indicates "most aquifers underlying LANL and the vicinity, except for perched groundwater bodies, are considered Class II aquifers (i.e., those used or potentially available for drinking water or other beneficial use." NMED strongly disagrees with the statement, all groundwater or subsurface water potentially used for water supply (single household, municipal, etc.) having less than 10,000 ppm total dissolved solids may potential be used for "drinking water or other beneficial use." Beneficial use would include springs emanating from groundwater bearing intervals that wildlife/other receptors may utilize. The text should be updated to state that other groundwater bearing zones, in addition to the regional aquifer, are capable of water supply. In addition, DOE and LANL have demonstrated an interconnection between the surface water and regional aquifer systems as indicated by LANL Facility derived contaminants found in the regional aquifer (e.g., perchlorate, nitrate, tritium, etc.).
13. Section 3.6.2: Groundwater; does not indicate the actual subsurface conditions beneath Mortandad Canyon. Perched groundwater was encountered at 646 feet at R-15 (12 ppb perchlorate). Samples from the regional aquifer, R-15 indicate 4 ppb perchlorate. R-15 (pore water collected near the top of the regional aquifer contained 1662 ppb perchlorate at 740 feet). The top of the regional aquifer is identified at 958 feet. At intermediate well MCOBT-4.4 water was encountered at 485-520 feet and perchlorate ranging from 142-179 ppb, nitrate at 12-13.2 ppm (WQCC standard of 10 ppm), and tritium at 14, 900 pCi/L. Perchlorate was detected in core samples from the vadose zone at MCOBT-4.4 and MCOBT-8.5, no plugged and abandoned, between 80 and 380 feet (perchlorate concentrations range between roughly 300 ppb and more than 800ppb). In addition, springs located throughout the facility and White Rock Canyon contain anthropogenic contaminants derived from the LANL Facility (e.g., perchlorate, high explosives, nitrate, tritium, strontium-90, etc.).
14. Section 3.6.2: Groundwater; indicates the RLWTF at TA-50 has installed a treatment system to remove perchlorate, but does not indicate that the treatment system only treats current discharges and does nothing to remove perchlorate from the down gradient and interconnected alluvial, intermediate or regional groundwater systems. It should be noted that LANL and DOE installed a permeable reactive barrier that may treat perchlorate in the shallow alluvial aquifer between alluvial monitoring wells MCO-4 and MCO-5. The effectiveness of the barrier has yet been demonstrated; however, it would

only prove effective for alluvial groundwater treatment. The text should be updated to include all relevant information.

15. Section 3.11: Human Health; DOE and LANL should identify and describe in detail, the individual chemicals that comprise the “volatile organic compounds” and “hazardous air pollutants” as well as radionuclides, concentrations and activities, volumes and types of impacted environmental media that may cause adverse health impacts. Contaminants can have highly variable health based standards that are dependent on a variety of factors such as the characteristics of the individual contaminant, exposure route(s) and affects of other commingled contaminants.
16. Section 4.3.6: Ecological Resources; In addition to discussions on loss of habitat due to construction of the new CMR Building, DOE and LANL should cite information (if available) regarding current facility operational impacts (e.g., air emissions and waste water discharges) on the overall ecological health (e.g., affected terrestrial and aquatic receptors; impacts to species populations, diversity, mutagenic affects, etc.) of the system. If no information is available, DOE and LANL should identify if the current impacts from the current/historic releases prior construction of a new facility where discharges are likely to increase. In addition to the “preferred alternative” this evaluation should be included for the other alternatives/locations considered.
17. Section 5: Applicable Laws, Regulations and Other Requirements; LANL and DOE should provide a list of all facility permits that will or may require modification (e.g., Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act), the timetable for such modifications and the changes that are anticipated.