TRDOO

**NEW MEXICO**
**ENVIRONMENT DEPARTMENT**

***Hazardous Waste Bureau***

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

RON CURRY
Secretary

CINDY PADILLA
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

August 30, 2007

David Gregory
Federal Project Director
Los Alamos Site Office
DOE/NNSA
528 35th Street, Mail Stop A316
Los Alamos, NM 87544

David McInroy
Remediation Services Deputy Project Director
Los Alamos National Laboratory
P.O. Box 1663, Mail Stop M992
Los Alamos, NM 87545

**RE: APPROVAL WITH DIRECTION**
**LOS ALAMOS AND PUEBLO CANYONS SUPPLEMENTAL INVESTIGATION REPORT**
**LOS ALAMOS NATIONAL LABORATORY (LANL)**
**EPA ID #NM0890010515**
**HWB-LANL-06-014**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy (DOE) and the Los Alamos National Security, LLC's (the "Permittees") response to the notice of disapproval (Response) for the document entitled *Los Alamos and Pueblo Canyons Supplemental Investigation Report* (Report), dated December 2005 and referenced by LA-UR-05-9230/ER2005-0893. NMED has reviewed the Response and hereby approves the Report with direction as described below.

NMED recognizes that the Permittees have fulfilled the requirements of the Work Plan for Los Alamos and Pueblo Canyons and the addendum to the Work Plan. However, the Permittees have failed to comply with surface water quality standards outlined in the Clean Water Act (33 U.S.C. §§ 1251 to 1387), the New Mexico WQCC Regulations (20.6.2 NMAC), and the State of New

30002

Mexieo Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC), as required in Section VIII.C of the Consent Order. NMED is particularly concerned with the recent destahilization of stream banks and remobilization of contaminants entrained in sediment in Los Alamos and Pueblo Canyons. In January 2004, NMED published a report which documents this phenomenon in Pueblo Canyon (NMED 2004a). NMED's data collected from 2003 through 2006 document that storm water in both canyons contains detectable concentrations of polychlorinated biphenyls (PCBs) (NMED 2004b, NMED 2006, NMED 2007a). NMED's April 2007 NMED report also shows that suspended sediment from Los Alamos and Pueblo Canyons reaches the Rio Grande during storm events with greater magnitude and frequency than before the Cerro Grande Fire (NMED 2007b), at least since the 1950s.

In order to comply with the abovementioned standards, the Permittees must perform the following activities:

- Stormwater data from the Permittees' Water Quality Database show aroclor-1254 at 0.46 parts per billion (ppb) in a sample collected on July 6, 2006 from LA-SMA-6.5. The Permittees' data include a detection of aroclor-1260 at 0.22 ppb in a sample collected on July 3, 2006 from the same location. The Permittees also report detections of aroclor-1254 ranging from 1.6 to 12.1 ppb in samples collected from August 6, 2004 through May 13, 2007 at LA-SMA-2. Samples collected from the same location from May 3, 2005 through May 13, 2007 contained aroclor-1260 concentrations ranging from 0.7 to 4.2 ppb. Data collected by the NMED from August 23, 2003 through August 24, 2005 showed concentrations ranging from 0.25-16.9 ppb total PCBs at the gage station E030 located in Los Alamos Canyon (upstream of DP Canyon confluence). At this same location, the Permittees report concentrations ranging from 0.062 to 3 ppb in samples collected from July 23 through August 1, 2006. The chronic aquatic life standard is 0.014 ppb and the human health standard is 0.00064 ppb (20.6.4.900 NMAC). To limit PCB migration in Los Alamos Canyon, the Permittees must install a low-head weir in Los Alamos Canyon helow the confluence with DP Canyon to capture contaminants from both canyons.

- The Permittees must determine the source of the PCBs detected at LA-SMA-2 (see above). In particular, because this location monitors solid waste management unit (SWMU) 01-001(f), the Permittees must determine if the PCBs are originating from the SWMU or another source.

- The Permittees must install a low-head weir in Pueblo Canyon between the confluences of Graduation and Kwage Canyons to reduce transport of PCB-contaminated sediment. NMED data eollected in Pueblo Canyon show detections of total PCBs above the Kwage Canyon confluence at 1.43 ppb (location PU 4.1) and below the confluence at 2.27 ppb (location PU 3.1).

- The Permittees must enhance and stabilize the wetlands in Pueblo Canyon to prevent further erosion and contaminant migration. Currently, the wetlands are eroding and formerly-stable contaminated sediment is migrating downstream during runoff events. The Permittees' report aroelor-1260 concentrations of 0.23 ppb in a surfaee water sample collected on August 1, 2006. The sample was collected in Pueblo Canyon above State Road 502 (gage station E060). Concentrations of PCBs in surface water samples collected by NMED at that location from September 6, 2003 through August 25, 2006 for total PCBs ranged from 0.082 to 2.49 ppb, well above the chronic aquatic life and human health standards.

- The Permittees must install surface water monitoring stations below each newly-installed weir and develop a monitoring plan to evaluate each weir's effectiveness.

- The Permittees must enhance the ability of the existing Los Alamos Canyon weir to trap fine-grained sediment. Any enhancement to the weir must he implemented after the removal of accumulated sediment behind the weir. The Permittees must characterize any sediment removed prior to disposal.

The Permittees must submit a plan that includes the design, locations, and monitoring of each weir mentioned above. The plan must also include a monitoring and maintenance schedule for the newly-installed weirs and the existing weir. Additionally, the plan must include a plan to stahilize the wetlands to reduce degradation from erosion. The Permittees must submit this plan to NMED no later than November 1, 2007.

As a separate matter, the Permittees must submit a plan to investigate the source of PCBs at LA-SMA-2. The plan must include sampling methods, locations, and frequency. The plan must also include a schedule for implementation. The Permittees must submit this plan no later than Octoher 1, 2007.

All submittals must be in the form of two paper copies and one electronic copy in accordance with section XI.A of the Consent Order. Should you have any questions regarding this letter, please contact Darlene Goering of my staff at (505) 476-6042.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:dxg

cc: D. Goering, NMED HWB
K. Roberts, NMED HWB
J. Young, NMED HWB
D. Cobrain, NMED HWB
S. Yanicak, NMED DOE OB, MS J993
L. King, EPA 6PD-N
G. Rael, DOE LASO, MS A316

file: Reading and LANL TA-0, Los Alamos Canyon, Pueblo Canyon

References:

NMED DOE Oversight Bureau, January 2004, Post Cerro Grande Fire Stream Channel Morphology in Lower Pueblo Canyon, Reach P-4 East (NMED 2004a)

NMED DOE Oversight Bureau, December 3, 2004, Release of Environmental (Draft) Data Related to Split-sampling and Independent Sampling at Los Alamos National Laboratory and Surrounding Areas During 2003 (NMED 2004b)

NMED DOE Oversight Bureau, Submittal of 2005 Ground Water, Surface Water, Storm Water, Spill and Soil and Vegetation Monitoring Data (NMED 2006)

NMED DOE Oversight Bureau, June 4, 2007, Submittal of 2006/2007 Ground Water, Surface Water, Storm Water, Outfall and Vegetation Monitoring Data (NMED 2007a)

NMED DOE Oversight Bureau, April 2007, Distribution of Radionuclides in Northern Rio Grande Fluvial Deposits near Los Alamos National Laboratory (NMED 2007b)