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GOVERNOR

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**RETURN RECEIPT REQUESTED**



**RON CURRY**  
SECRETARY

**DERRITH WATCHMAN-MOORE**  
DEPUTY SECRETARY

October 13, 2006

David Gregory  
Federal Project Director  
Los Alamos Site Office  
Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, NM 87544

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

**RE: FINAL DECISION**  
**REMEDY SELECTION FOR SOLID WASTE MANAGEMENT UNIT 16-021(c)**  
**LOS ALAMOS NATIONAL LABORATORY, EPA ID #NM0890010515**  
**HWB-03-021**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (the "Department") has carefully considered the remedy selection for the solid waste management unit ("SWMU") 16-021(c) at Los Alamos National Laboratory ("LANL"). The remedy was proposed by the Department of Energy and the University of California in the *Corrective Measures Study Report for Solid Waste Management Unit 16-021(c)-99*, dated November 2003. The Department issued a public notice with its intent to select a remedy on May 15, 2006, initiating a public comment period that ended on July 14, 2006. Based on the administrative record for this matter, and the comments received during the public comment period, and pursuant to Section VII.D.7 of the March 1, 2005 Compliance Order on Consent ("Order"), I hereby render a final decision selecting the following remedy:

- Soil removal and off-site treatment and disposal of contaminated soil and tuff at the outfall source area;
- Pressure injection of a clay-based grout into boreholes that intersect the surge bed and extension of the existing cap in the pond area; and
- Installation of permeable reactive barriers ("PRB") and storm water filters to treat the sediment, surface water, and alluvial groundwater. The Department will require the

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installation of an initial PRB (i.e., pilot test) to determine its effectiveness before installing the remaining PRBs. The location of the initial PRB must be proposed in the Corrective Measures Implementation Plan ("Plan").

The Department of Energy and the Los Alamos National Security, LLC (collectively, the "Permittees") must submit the Plan for this remedy no later than May 13, 2007. The Plan must include the requirements set forth in Section VII.E of the Order. In addition, the Plan must include contingency procedures that must be implemented by the Permittees if the remedy set forth above fails to be protective of human health and the environment. In the event the Department determines that the remedy is effective, the Permittees shall submit a long-term monitoring and maintenance plan. The Permittees must follow all other requirements for corrective measures implementation and reporting as set forth in Section VII.E of the Order.

If you have any questions regarding this letter, please contact Darlene Goering of the Hazardous Waste Bureau at (505) 428-2542.

Sincerely,



Ron Curry  
Cabinet Secretary

RC:dxg

cc: J. Bearzi, NMED HWB  
D. Goering, NMED HWB  
S. Yanicak, NMED DOE OB, MS J993  
L. King, EPA 6PD-N  
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L. Woodworth, LASO, MS A316  
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file: Reading and LANL TA-16

## S. CORRECTIVE MEASURES FOR SWMU 16-021(c)

1. The report, Corrective Measures Study Report for Solid Waste Management Unit 16-021(c)-99 (LA-UR-03-7627) dated November 2003, and Notice of Deficiency and Revision 1 (LA-UR-05-4379 and LA-UR-05-4381) dated June 2005 (LANL 2005), are incorporated herein by reference.

2. The remedy to be implemented by the Permittees for Solid Waste Management Unit 16-021(c) shall be defined as the following: soil removal at the outfall source area and transport of the excavated soil for off-site treatment and disposal; pressure injection of a clay-based grout into boreholes that intersect the surge bed at the settling pond location; and installation of permeable reactive barriers (PRB) to treat groundwater in the alluvial system coupled with stormwater filters for impacted springs. The Permittees shall install an initial PRB to determine its effectiveness before installing the remaining PRBs.

3. A Corrective Measures Implementation (CMI) Plan that incorporates the final remedies described in Section S.2 of this section shall be submitted by the Permittees for Solid Waste Management Unit 16-021(c) for the Administrative Authority's approval no later than May 13, 2007. The CMI Plan shall provide details on the design, construction, operation, maintenance, and performance monitoring for the selected remedy and a schedule for implementation. The CMI Plan shall, at a minimum, include:

- a. A description of the selected remedies;
- b. A description of remedy objectives;
- c. An identification and description of the qualifications of key persons, consultants, and contractors that will be implementing the remedies;
- d. Detailed engineering design drawings and systems specifications for all elements of the remedies;
- e. A construction work plan;
- f. An operation and maintenance plan;
- g. The results of any pilot tests, such as grout injection pilot test;
- h. A schedule for implementation of remedies; and
- i. A schedule for submission to the Administrative Authority of periodic progress reports.
- j. A description of contingency procedures that must be implemented by the Permittees if the remedy set forth in Section S.2 above fails to be protective of human health and the environment.

4. A Remedy Completion Report for Solid Waste Management Unit 16-021(c) shall be submitted by the Permittees to the Administrative Authority for approval within 90 days after implementation of the remedies is complete. The CMI Report shall, at a minimum, include:

- a. A summary of the work completed;
- b. A statement signed by a registered professional engineer, that the remedy has been completed in full satisfaction of the specifications in the CMI Plan;
- c. As-built drawings and specifications signed and stamped by a registered professional engineer;

- d. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the remedy implementation, if not already submitted in a progress report; and
- e. A certification, signed by a responsible Permittee official stating: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

5. The Permittees shall submit to the Administrative Authority progress reports during implementation of the remedies in accordance with a schedule approved in the CMI Plan for Solid Waste Management Unit 16-021(c). Each of the progress reports shall, at a minimum, include the following information.

- a. A description of the work completed during the reporting period;
- b. A summary of all problems, potential problems, or delays encountered during the reporting period;
- c. A description of all actions taken to eliminate or mitigate problems, potential problems, or delays;
- d. A discussion of the work projected for the next reporting period, including all sampling events; and
- e. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the reporting period.

6. The Administrative Authority may require monitoring, maintenance, and physical and institutional controls based on the performance of the selected remedy. A long-term monitoring and maintenance plan, which includes all necessary physical and institutional controls to be implemented in the future, shall be submitted by the Permittees to the Administrative Authority for approval within 180 days after the Administrative Authority's approval of the CMI Report.