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ACTION REQUIRED

Name:	U1101096
Title:	Approval With Modifications - 2011 Monitoring Plan for Los Alamos And Pueblo Canyons Sediment Transport Mitigation Project
Date Received:	6/8/2011
Addressee Name:	Michael Graham, ADEP
Originator:	John E. Keiling, LASO
Action Item Description:	
Action Due Date:	3/10/2012
Responsible for Action:	Search Graham, Michael J
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June 3, 2011

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RE: APPROVAL WITH MODIFICATIONS
2011 MONITORING PLAN FOR LOS ALAMOS AND PUEBLO CANYONS SEDIMENT TRANSPORT MITIGATION PROJECT
LOS ALAMOS NATIONAL LABORATORY (LANL)
EPA ID #NM0890010515
HWB-LANL-11-020

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) *2011 Monitoring Plan for Los Alamos and Pueblo Canyons Sediment Transport Mitigation Project* (Work Plan), dated March 2011 and referenced by EP2011-0068. NMED has reviewed the Work Plan and hereby issues this Approval with the following modifications:

GENERAL MODIFICATIONS:

1) The table format is not appropriate for the Work Plan at this time. Submit future monitoring plans in a standard work plan format with a minimum 10-point font, similar to other LANL work plans and reports.

2) Ensure that the gages and sampling equipment installed at each monitoring location are capable of collecting sufficient sample volume during each sampling event to complete all required analyses included in Table 1 of the Work Plan. The sampling equipment must be appropriately programmed and maintained in good working order so that all storm events that meet the sampling criteria specified in the Work Plan can be sampled accordingly.

   Multiple sample bottles intended for use as a single sample must be appropriately correlated in time. Also, use the precipitation network and Sutron notifications to alert operators that a sample has or may have been collected at a station. All samples must be removed from the samplers and the samplers restored to a ready condition within three business days of a sampling event.

   In addition, it has been observed in the field that some of the Permittees' sample collection inlets are physically located at the stream bottom, which provides biased measurements of suspended sediment concentrations by collecting bed load sediments rather than suspended sediments. All sample inlets must be placed a minimum of four inches above the bottom of the stream channel.

3) Evaluate the collected samples with respect to the flow hydrograph from the sampled event prior to submitting samples for analyses. Samples collected before the peak flows are highly variable and have limited value in regard to sediment and contaminant transport evaluations. NMED has evaluated 2010 hydrographs and determined that the time delay for collecting samples in the lower watersheds should be extended from 10 minutes to approximately 30 minutes. This should improve the probability that samples submitted for laboratory analysis will be collected after the peak of the hydrograph. Either analyze past hydrographs to determine a site-specific delay time for each station or use a default delay of 30-minutes to initiate sample collection. The results of laboratory analysis of samples collected prior to the peak flow will not be accepted as one of the four required samples for stormwater mitigation evaluation.

SPECIFIC MODIFICATIONS

4) **Monitoring Geomorphic Changes, Page 1**

   The Permittees propose to document geomorphic changes "associated with unique runoff events." The criteria for determining a unique runoff event is not defined. The Permittees must develop such criteria and inspect for geomorphic changes in those portions of Los

Alamos and Pueblo Canyons where storm water controls are present after floods containing flow rates greater than 50 cubic feet per second (cfs) or floods that exceed the channel-forming flow rate.

5) Monitoring Geomorphic Changes, Pueblo Canyon, page 2

The Permittees must inspect erosion and sediment control structures and monitoring stations after all significant storm events (e.g., storm events resulting in flows sufficient to trigger sample collection at the sampling stations listed in the Work Plan or as defined in Item 4 above) within three business days and make repairs as necessary to ensure such structures and other storm water mitigation features continue to function as intended.

6) Monitoring Stormwater Runoff, Page 3, 1st Paragraph

Permittees' Statement: "Stormwater monitoring will be conducted at locations shown in Figure 1 and listed in Table 1."

NMED Comment: NMED and LANL stormwater data collected from 2006 to 2010 in Graduation Canyon below SWMU 00-019 indicate that this tributary to Pueblo Canyon is a source of polychlorinated biphenyls (PCBs). The Permittees must install an automatic stormwater monitoring device in Graduation Canyon at an appropriate location upstream from the confluence with Pueblo Canyon. Samples must be collected at the initiation of flow and analyzed for TAL metals, hardness, PCBs (by method 1668A), total organic carbon, gross alpha, gross beta, and suspended sediment. Samples must be collected in accordance with the sampling methods included in the Work Plan and the requirements of this Approval. Update Table 1 appropriately.

7) Monitoring Stormwater Runoff, Page 3, 2nd paragraph

Permittees' Statement: "Additionally, grab samples will be collected at the retention basins below SWMU 01-001(f) at the locations shown in Figure 2 and listed in Table 1. These grab samples will allow the performance of the sediment retention basins and wetland below the basins to be evaluated."

NMED Comment: The Permittees must install automatic stormwater monitoring devices at the inlet to the upper retention basins and at the discharge point of the wetlands downstream from the outlet of the lower retention pond. Samples must be collected at the initiation of flow and analyzed for TAL metals, hardness, PCBs (by method 1668A), isotopic uranium, total organic carbon, gross alpha, gross beta, and suspended sediment as outlined in Table 1. A minimum of four events must be sampled in accordance with the Work Plan and this Approval. Grab samples also may be collected as proposed in the Work Plan, but are not required.

8) Monitoring Stormwater Runoff, Discharge Gaging, Page 3

Permittees' Statement: "Each of the gage-monitoring locations listed in Table 1 will be monitored continuously for stage. Each gage location will have an established rating curve and be reviewed annually or after large channel-altering floods to enable conversion of stage to discharge."

NMED Comment: The Permittees must operate and maintain the gage station in Guaje Canyon above Los Alamos Canyon (E099). No stormwater monitoring is required at this station with the exception that date, time, and stage height must be recorded when flows occur. If the gage can be rated, discharges must also be reported in the annual Monitoring Report.

Gages at E042 and E050 must be maintained to correlate their discharges with the new critical flumes installed prior to the 2010 monitoring season to provide an understanding of the accuracy of earlier discharge measurements collected at the older stations.

The requirements of the Work Plan and this Approval must be implemented beginning this (2011) storm water monitoring season. The Permittees must submit the annual update to the Work Plan no later than March 10, 2012.

Please contact Ben Wear at (505) 476-6041 should you have any questions.

Sincerely,

John E. Kieling
Acting Chief
Hazardous Waste Bureau

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File: LANL 2011, Los Alamos/Pueblo Watershed

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