State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

BUTCH TONGATE
Cabinet Secretary
J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

July 11, 2017

Doug Hintze, Manager
U.S. Department of Energy
Environmental Management
Los Alamos Field Office
3747 West Jemez Rd, MS M984
Los Alamos, NM 87544

Bruce Robinson, Program Director
Environmental Remediation Program
Los Alamos National Laboratory
P.O. Box 1663, MS K491
Los Alamos, NM 87545

RE: APPROVAL WITH MODIFICATIONS
2017 MONITORING PLAN FOR LOS ALAMOS/PUEBLO WATERSHED SEDIMENT TRANSPORT MITIGATION PROJECT
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-17-021

Dear Messrs. Hintze and Robinson:

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) *2017 Monitoring Plan for Los Alamos/Pueblo Watershed Sediment Transportation Mitigation Project* (Plan) dated and received April 27, 2017, and referenced by LA-UR-17-23270/ADEM-17-0087.

NMED hereby approves the Plan with the following comments:

Comments:

1. Section 2.0, Monitoring Geomorphic Changes, page 2

Permittees' Statement: While LiDAR surveys are extremely useful, they are expensive and time-consuming. In 2017 and in the future, evaluation of geomorphic changes will rely on field observations to determine further actions. If storm water peak discharge at any gaging station in

the Los Alamos/Pueblo watershed is greater than 50 cubic feet per second (cfs), the upgradient reach will be visually inspected to document qualitative geomorphic changes. Following the summer monsoon, thalweg and bank surveys will be repeated for the reaches evaluated during the previous year. Minor geomorphic changes occurred between 2015 and 2016, and this minor change will be used as a baseline for determining the level of change in future evaluations. If the visual observations or thalweg surveys indicate geomorphic changes that are not consistent with the past year's observations, a LiDAR aerial survey will be planned for the fall of 2017, and the processed data will be field-verified to ensure that geomorphic changes shown in a threshold DEM of difference comparison represent actual geomorphic changes. The following details the plan to monitor geomorphic changes via LiDAR surveys if events warrant.

If LiDAR surveys are conducted in 2017, they will measure points at a density at least equivalent to the 2016 LiDAR data set (18–24 points per square meter). The LiDAR surveys will provide a detailed DEM of the entire active channel within each monitoring area so a comparison with the previous year's DEM can show areas of geomorphic change. If noteworthy features are identified in the LiDAR comparison, the features will be field-checked and additional ground-based survey methods may be implemented. Ground-based thalweg and bank surveys will be conducted and directly compared with 2016 data to show any geomorphic changes to these specific areas. These surveys help to verify geomorphic changes to the principal erosional processes in the canyon, including bank erosion and channel incision. Independent ground-based check-point survey points will be collected and used to estimate how well the DEM represents the bare earth in each of the survey areas.

NMED's Comment: NMED concurs that LiDAR surveys do not need to be repeated every year if no significant geomorphic changes are observed in the field. As discussed during a site visit on June 23, 2017, and as proposed in the Plan, the Permittees must conduct thalweg and bank surveys every year to evaluate the geomorphic changes and to evaluate the need for a LiDAR survey against the benchmark of storm events with discharges of greater than 50 cfs. If there are no significant geomorphic changes observed or if there are no storm events with discharges greater than 50 cfs, then the Permittees must, at a minimum, conduct LiDAR surveys every three years.

2. Section 3.1, 2017 Storm Water Monitoring Locations Inspection, Maintenance, and Sample Retrieval Plan, page 4

Permittees' Statement: Sample retrieval will be attempted within 1 business day and will be performed using the following priority order:

- BDBB-related gaging station E050.1 and E060.1;
- Gaging stations bounding watershed mitigation at E038, E039.1, E042.1, E059.5, E059.8; and
- Other gaging stations at E026, E030, E040, E055, E055.5, E056, CO101038, and CO111041.

NMED's Comment: Section 4 of this plan refers to the proposed priority order as a 'three-tiered approach'. In the future, use consistent terms throughout the document. The Permittees should

also include an additional figure depicting the locations of the sampling locations and their tier designation.

3. Section 4.0, 2017 Monitoring Plan Changes, page 7

Permittees' Statement: Reduction of sampling to four samples and additional samples analyses only if a subsequent event has a larger peak discharge than the four storm events that have already been sampled. Previously, if four samples had been collected and a storm occurred with a peak discharge less than the peaks of the four storms already sampled the following sampling would occur:

- At BDDB-related stations E050.1 and E060.1, all events are monitored for all parameters;
- At gaging stations that are up- or downstream of watershed mitigations, one bottle from each of the four portions of the hydrograph (rapidly rising limb, peak, rapidly receding limb following the peak, and longer-duration recessional limb following the peak) would be analyzed for SSC; and
- At gaging stations that are not up/downstream of watershed mitigations, the first and last bottle collected would be analyzed for SSC.

NMED's Comment: NMED approves of the Permittees' approach for sampling reduction.

The above comments must be addressed and incorporated into the 2017 Report to be submitted to NMED in 2018.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: N. Dhawan, NMED HWB
S. Briley, NMED-HWB
S. Yanicak, NMED-DOE-OB
M. Green, NMED-DOE-OB
L. King, EPA Region 6
C. Rodriguez, DOE-EM-LA, MS M984
S. Veenis, ADEM-ER Program, MS M9991
S. Martinez, OIO-DO (E-file)
locatesteam@lanl.gov

File: 2017 LANL, Approval with Modifications: 2017 Monitoring Plan for Los Alamos/Pueblo Watershed
HWB-LANL-17-021