State of New Mexico
ENVIRONMENT DEPARTMENT

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

September 11, 2017

Doug Hintze, Manager
U.S. Department of Energy
Environmental Management
Los Alamos Field Office
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1900 Diamond Drive,
Los Alamos, NM 87544

Bruce Robinson, Program Director
Environmental Remediation Program
Los Alamos National Laboratory
P.O. Box 1663, MS M992
Los Alamos, NM 87545

RE: APPROVAL WITH MODIFICATIONS
2016 SANDIA WETLAND PERFORMANCE REPORT
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-17-022

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) *2016 Sandia Wetland Performance Report* (2016 Report) dated April 2017, and received April 27, 2017; and referenced by LA-UR-17-23076/EP2017-0038.

On January 30, 2017, the Permittees met with NMED technical staff to discuss comments provided to the Permittees regarding the 2015 Monitoring Report for the Sandia Wetland. During the meeting, the Permittees agreed to incorporate several of NMED's comments into the 2016 Monitoring Report. NMED notes that the information and tables presented in the 2016 Report have incorporated NMED's comments.

NMED's Draft comments on 2016 Sandia Canyon Wetland Performance Report

NMED hereby approves the 2016 Report with the following comments specific to Section 3.7, Proposed Changes to Monitoring Plan, page 15:

1. **Surface Water Base Flow**
   a. **Permittees Statement:** Alluvial well will be sampled for arsenic and iron speciation during the sampling to achieve four rounds of data from the alluvial wells but will be discontinued after four total rounds for these analytes have been collected from each alluvial well.

      NMED Comment: The Permittees must collect four rounds of speciation data and demonstrate to NMED in the forthcoming 2017 Performance Monitoring Report that reducing conditions are present and further sampling is not required. NMED will evaluate this data and make a determination if additional sampling is required.

   b. **Permittees Statement:** After the first round of sampling, the Laboratory will attempt to perform all analysis at an accredited off-site laboratory. The Laboratory will keep NMED Hazardous Waste Bureau informed of progress in meeting this goal.

      NMED Comment: NMED concurs that all samples collected after the first round of sampling must be sent to an accredited off-site laboratory. The Permittees must keep NMED apprised of any issues in meeting this requirement.

   c. **Permittees Statement:** Monitoring for nitrogen and oxygen (^{15}N and ^{18}O) isotopes in base flow will be discontinued. These constituents are no longer relevant in assessing the Sandia wetland performance because the conceptual model of nitrate sources and attenuation is well constrained (sections 3.1 and 3.2 of the "Sandia Wetland Performance Report, Baseline Conditions 2012-2014" [LANL 2014, 257590] and section 3.2 of the "Sandia Wetland Performance Report, Performance Period April 2014-December 2014" [LANL, 600399]).

      NMED Comment: NMED approves of the Permittees' proposal to discontinue monitoring for nitrogen and oxygen (^{15}N and ^{18}O) isotopes in base flow.

2. **Stormwater Sampling**
   Permittees Statement: Storm water sampling and off-site analysis will continue as presented in Table 1.5-4. If four storm water runoff events have been sampled at gaging station E121, E122, and E123 during the monitoring year, subsequent events with discharges less than the largest discharge of the sampled storm events will not be analyzed. This allows collection of representative data from each

gaging location and ensure the largest storm water runoff event of the season is analyzed.

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

3. **Vegetation Surveys**
   Permittees Statement: Quantitative surveys of wetland vegetation along cross-sections will occur biennially, with the next surveys to be conducted in 2017. No other changes in vegetation monitoring will occur.

   NMED Comment: NMED approves of the Permittees' approach to reduce vegetational cross-sectional surveys to a biennial schedule if no changes to vegetation are observed during the thalweg survey, and if no significant changes are observed in water monitoring levels (*i.e.*, reduced inputs ≥25% at E121 and E122, or increased peak discharges ≥50 cfs at E123).

4. **LiDAR Surveys**
   Permittees Statement: In 2017, evaluation of geomorphic changes will rely on field observations to determine further actions. If storm water peak discharge at E123 is greater than 50 cfs, a visual inspection of the wetland will occur to document the qualitative geomorphic changes. Following the summer monsoons, the thalweg survey will be conducted. Since minor geomorphic changes occurred from 2015 to 2016, this level of the changes can be used as a baseline for future evaluations. If visual observations or thalweg survey indicate geomorphic changes that are not consistent with the past year's observation, a LiDAR aerial flyover 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 installation and monitoring of erosion pins in the side channel south of the plunge pool above reach S-2 will be conducted to evaluate the impact and/or contribution of sediment into the expanding cattails at the western part of the reach.

   NMED Comment: NMED concurs that LiDAR surveys do not need to be repeated every year if no significant geomorphic changes are observed in the field. The Permittees must continue to 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.

The above comments must be addressed and incorporated into the 2017 Sandia Wetland Performance Monitoring Report, and must be submitted to NMED no later than **April 30, 2018.**

Should you have any questions or comments, please contact Siona Briley at (505) 476-6049.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

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