



**Environmental Programs**

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**National Nuclear Security Administration**

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*Date:* October 1, 2007  
*Refer To:* EP2007-0625

James P. Bearzi, Bureau Chief  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303

**Subject: Approval of the Investigation Report for Consolidated Unit 73-002-99 and Corrective Action for Solid Waste Management Unit 73-002, at Technical Area 73, Los Alamos National Laboratory**

Dear Mr. Bearzi:

The U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) are in receipt of the Approval of the Investigation Report for Consolidated Unit 73-002-99 and Corrective Action for Solid Waste Management Unit 73-002, at Technical Area 73, Los Alamos National Laboratory (the approval letter), dated August 13, 2007. The approval letter requires DOE and LANS to submit a work plan to install stormwater controls at Consolidated Unit 73-002-99. This requirement was discussed by DOE (D. Gregory) and New Mexico Environment Department (NMED) staff (D. Cobrain, E. Galloway, and K. Roberts) during a meeting on September 5, 2007. Because stormwater controls had already been installed at this site as part of corrective actions, it was agreed that a work plan for stormwater controls was not required. Rather, DOE and NMED agreed that DOE and LANS would submit a description of the stormwater controls installed at the site and a description of planned monitoring, inspection, and maintenance activities related to stormwater. The requested information is provided below.

**Physical Controls**

Stormwater controls were installed at Consolidated Unit 73-002-99 as part of the cleanup activities implemented at the site. The controls are designed to retard and control stormwater run-on to the site and to stabilize the area that had been excavated to prevent erosion. Physical controls at this site include concrete Jersey barriers, wattles, rock armor, and shallow swales to divert run-on. These controls are described below.

One of the main functions of the stormwater controls is to control runoff from the topographically higher paved parking areas to the south from running onto the site. Runoff from these areas may flow onto the site from the hillsides to the east and west of the former incinerator building and from the gravel access road that fronts the south boundary of the site. The concrete pad between the incinerator building and the former ash pile is at the topographic low point of the access road so that, absent controls, all runoff from the surrounding area would flow onto the former ash pile.

Runoff from the parking lot to the south of the former incinerator building is directed to asphalt drainage channels on the hillsides to the east and west of the building. Rock armor has been placed at the toes of these channels to reduce the energy and velocity of the runoff flow. A drainage swale has been constructed across the access road from the toe of each asphalt drainage channel to the edge of the canyon. These swales are also designed to collect runoff flowing along the access road from the topographically higher areas to the east and west. Rock armor has been placed at the toe of each swale to control erosion at the discharge area at the top of the canyon slope.

Concrete Jersey barriers have been installed along the edge of the canyon from the edge of the concrete pad adjacent to the incinerator to the drainage swales. Four Jersey barriers were installed to the east of the pad and two to the west. Rock armor, sand bags, and hay bales have also been placed along the edge of the access road to the east to stabilize and protect the edge of the canyon.

The upper slope of the former ash disposal area consists primarily of large boulders that are not susceptible to erosion. Below this steep, the upper slope is a bench area where much of the ash and debris had accumulated and was removed. This excavated area has been stabilized by installing jute matting across the site. Vegetation is beginning to grow on this area.

### **Monitoring, Inspections, and Maintenance**

Solid Waste Management Units (SWMUs) 73-002 and 73-006, which comprise the canyon slope components of Consolidated Unit 73-002-99, are subject to the Federal Facility Compliance Agreement (FFCA) between DOE and the Environmental Protection Agency (EPA). In addition, they are also subject to the National Pollutant Discharge Elimination System (NPDES) multisector general permit (MSGP) for stormwater discharges. The requirements for the FFCA and MSGP are implemented through a Storm Water Pollution Prevention Plan for SWMUs and areas of concern (AOCs) and Storm Water Monitoring Plan (SWMU/SWPPP), which is updated annually and submitted to EPA for approval. The most recent approved SWMU/SWPPP was submitted in March 2007. The SWMU/SWPPP includes requirements for monitoring of stormwater discharges and inspection and maintenance of best management practices (BMPs) and other stormwater controls. These requirements are discussed below.

### **Monitoring**

Stormwater monitoring under the SWMU/SWPPP is conducted using watershed-scale gauge stations to monitor low-priority sites and site-specific sampling stations for medium- and high-priority sites. SWMUs 73-002 and 73-006 fall into the latter category. Where multiple sites exist in close proximity, such as with SWMUs 73-002 and 73-006, monitoring is performed using site monitoring areas (SMAs) where the combined runoff from multiple sites is sampled.

SWMUs 73-002 and 73-006 are in Pueblo Canyon SMA-2 (P-SMA-2). The SMA sampler is located downslope from the sites in one of the drainage channels collecting runoff from the sites. SMA samples are collected using single-stage samplers installed in the bed of the drainage channel. Samples collected from P-SMA-2 under the 2007 SWMU/SWPP will be analyzed for metals (except mercury) and dioxins/furans.

The analytical suite for SMAs was initially developed based on a review of the results of soil samples collected from the SWMUs and AOCs comprising the SMA. Analytical suites were chosen to include inorganic chemicals detected above background and detected organic chemicals. This initial suite was used for the first four samples collected from the SMA. The suite can then be refined to eliminate those chemicals not detected in excess of water screening action levels (wSALs). The revised analytical suites are proposed in the annual updates to the SWMU/SWPPP.

Monitoring at P-SMA-2 began in 2005. One sample was collected in 2005, and three samples in 2006. The analytical suite for the 2005 included cyanide, ammonia-nitrogen, suspended solids, and metals. The suite was expanded in 2006 to include perchlorate and dioxins/furans. Only two samples for dioxin/furan analysis were collected. All analyses were performed on unfiltered samples, with the exception of metals which were performed on both filtered and unfiltered samples.

Potential Laboratory-derived pollutants exceeding wSALs in 2005–2006 samples were arsenic (one unfiltered sample), copper (two unfiltered samples), lead (one unfiltered sample), silver (one unfiltered sample), and zinc (one unfiltered sample). Potential non-Laboratory-derived pollutants exceeding wSALs in 2005–2006 samples were chemical oxygen demand (four unfiltered samples), aluminum (three unfiltered samples), and magnesium (three unfiltered samples). Based on these results, the analytical suite in the 2007 SWMU/SWPPP was revised to metals (except mercury, which was not detected above wSALS) and dioxins/furans, which were not detected above wSALs, but only two samples were collected. The 2007 SWMU/SWPPP calls for four samples to be collected at P-SMA-2 during 2007.

### **Inspections and Maintenance**

The SWMU/SWPPP uses the results of stormwater sampling as an indicator of the effectiveness of BMPs or other stormwater controls. Therefore, if a wSAL exceedance occurs, an inspection of the site is required. This inspection must be performed in a timely manner and must assess the effectiveness of BMPs and other stormwater management structures. If the inspection determines that the BMPs or controls are not functioning properly, repairs or maintenance must be performed before the next storm event, or as soon as possible. BMP inspection information must be documented on a site-specific BMP Inspection Form and must also be documented in digital photographs.

Annual inspections of all sites are also performed as part of a comprehensive site compliance evaluation. The site drainage area must be inspected for evidence of potential contaminants, such as exposed materials or wastes or erosion and sediment transport. All deficiencies must be identified and documented in a report, along with necessary follow-up activities.

The requirements of the 2007 SWMU/SWPPP described above will be superseded by the requirements of the annual SWMU/SWPPP updates after they are approved by EPA. The FFCA and MSGP will be replaced by an individual NPDES permit for stormwater discharges from SWMUs and AOCs. This permit is currently being drafted by EPA and is expected to be issued in draft form shortly. When this permit is issued, the Laboratory will implement the specific permit requirements for stormwater controls, monitoring, inspections, and maintenance applicable to SWMUs 73-002 and 73-006.

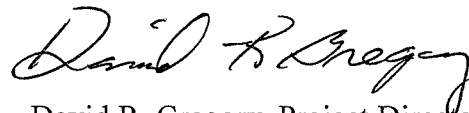
If you have any questions, please contact David Gregory at (505) 667-5808 (dgregory@doeal.gov) or John McCann at (505) 665-1091 (jmccann@lanl.gov).

Sincerely,



Susan G. Stiger, Associate Director  
Environmental Programs  
Los Alamos National Laboratory

Sincerely,



David R. Gregory, Project Director  
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