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February 16, 2011

Jeffrey M. Casalina
Environmental Projects Office (EPO)
U.S Department of Energy
National Nuclear Security Administration Los Alamos Site Office
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Los Alamos, NM 87544

Subject: **NMED-DOE/OB Site Evaluation Report for Stormwater and Erosion Controls at Technical Area (TA) 55, the LANL Nuclear Safeguards and Security Upgrades Project (NMSSUP) on November 17, 2010**

Dear Mr. Casalina:

NMED DOE Oversight Bureau is submitting the referenced report documenting our participation in a site evaluation for stormwater and erosion controls on November 2010 at the Technical Area (TA) 55, the LANL Nuclear Safeguards, and Security Upgrades Project (NMSSUP). This site evaluation was made in consideration of the NPDES General Permit for Large and Small Construction activities and is intended to be part of a non-regulatory approach to permit compliance through open consultation between the State of New Mexico and Los Alamos National Laboratory/Los Alamos National Security (LANL)/LANS) Los Alamos National Security, Limited liability company (LLC) and is funded through the Agreement in Principle (AIP) between the State of New Mexico and the United States Department of Energy.

Thank you for your continued support of our environmental monitoring and site evaluations at LANL. Please notify Erik Galloway (476-6024, email- erik.galloway@state.nm.us) at your earliest convenience, if you or your staff has any questions concerning this report.

Sincerely,

Steve Yanicak, Staff Manager/POC

SY:eg

xc: Denny Hjeresen, LANS, ENV-DO, Acting Division Director, MS K404
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LANL 2011 Site Evaluation File

NMED-DOE/OB Site Evaluation Report: Stormwater and Erosion Controls at Technical Area (TA) 55, the LANL Nuclear Safeguards and Security Upgrades Project (NMSSUP) on November 17, 2010

The site evaluation was made pursuant to the NPDES General Permit for Large and Small Construction Activities (Clean Water Act, 33 U.S.C. §1251 et. seq.) and is intended to be part of a non-regulatory approach to NPDES storm water General Construction Permit (GCP) compliance through consultation between the State of New Mexico, the DOE Oversight Bureau and Los Alamos National Laboratory (LANL)/Los Alamos National Security (LANS) LLC.

Participants:

Jeffery Casalina, (DOE/NNSA/LASO)
Erik Galloway, (NMED/DOE-OB)
Steve Yanicak, (NMED/DOE-OB)
Terrill Lemke, (LANS-WQ/RCRA)
Morgan Leaders, (Kiewit)
Erin Duffy, (Kiewit)
Glenn Brooks (Kiewit)
Chris Frieborg (Kiewit)
Jacob Knight, (LANS-WQ/RCRA)

DOE Oversight Bureau staff met LANL/LANS WQ/RCRA staff at TA-59 at approximately 10:00 am and than were escorted to Technical Area (TA)-55, LANL Nuclear Safeguards and Security Upgrades Project the Security Perimeter Project to meet the sites staff and contractors at TA-55, the LANL Nuclear Safeguards and Security Upgrades Project at approximately 10:35 am. The day was clear and cold during the time of this site evaluation. DOE Oversight Bureau staff was informed that on November 1, 2010, the site did receive some precipitation as recorded at the nearest meteorological station tower at TA-6, previous to this site evaluation. Before entering the site, everyone was required to sign in and a short briefing session was held with all involved parties to discuss the scope and purpose of the visit and site safety issues. The site's Stormwater Pollution Prevention Plan (SWPPP) was reviewed before the initial site evaluation. There were construction activities at the site at the time of the site evaluation so all personal protection equipment including a hard hat, safety goggles, a safety vest, and safety boots, was required.

Background

As a result of the events of September 11, 2001, the nature of the terrorist threat to US DOE facilities has changed significantly in terms of the potential magnitude of the attack as well as the terrorists' motivations, targets, and methods. The most recent attacks appeared to be intent on maximizing; disruption, destruction and casualties, in addition to including the willingness to conduct suicide attacks. In recognition of this increased

threat, LANL Management and Security officials have determined that there is a critical need to upgrade the physical protection around critical assets at the core of the facility. These conclusions were based on the May 2003 Design Basis Threat (DBT) from the Department of Energy and input from Los Alamos County community leaders and officials, the Laboratory and the National Nuclear Security Administration site office and the public.

LANL is one of the few DOE complex sites where the general public has access to the core technical area and has public roads that pass in close proximity to Category I or II facilities. Temporary measures have recently been implemented to help protect particular LANL assets, but long-term measures are required to provide an additional level of protection to the core of LANL which houses vital national assets, government property, and critical scientific and support staff. Unauthorized (unscreened) access in the future must be restricted and controlled to minimize the possibility of a terrorist threat being introduced into the core area.

The revised project calls for additional vehicular access-control infrastructure on Diamond Drive, on the Laboratory side of the Los Alamos Canyon Bridge and at the old East Gate intersection of NM 4 and NM 501. The access-control facilities would not constitute a road closure, but rather would provide Laboratory security officials with the ability to counter the existing threat from vehicle bombs by adding access controls.

The LANL Nuclear Safeguards and Security Upgrades Project Security Perimeter Project site is covered under an Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activity Permit No.NMR100000, and its activities at Los Alamos National Laboratory.

Overall:

During this site evaluation of the Security Perimeter Project's northern and western boundaries the site was in an "active" mode with most site BMPs installed and maintained according to the Storm Water Pollution Prevention Plan (SWPPP). Overall site housekeeping and construction site, waste management was observed. Due to lack of available space to accommodate stormwater management BMPs and provide site access, and the fact that part of the disturbed area overlaps with another construction company's area of work, management of this complex project (NMSSUP) was very good. But because of these close quarters and importance of the work and its associated deadlines, several areas were observed to have very steep grades, around than 1/1 or 2/1, were during heavy rainfall events the potential for erosion and sediment runoff was challenging. The following are suggestions provided to LANS/LANL staff and their contractor (Kiewit) in order to improve site stormwater, sediment, and erosion control and improve permit compliance.

Storm Water Pollution Prevention Plan (SWPPP):
During this site evaluation, the site SWPPP was accessible at the site's construction trailer, was signed, and had all inspection forms present and up-to-date, as required by their NPDES General Construction (GCP) permit. All changes to the SWPPP's original site map were signed, dated, and logged into the SWPPP. Inside the SWPPP, there was a small reproduction of the site map with a larger, more up-to-date map located on the wall of the construction trailer for better use and visibility. The required permit and Notice of Intent (NOI) was found in the SWPPP in addition, the NOT was posted in an area near the job site for public review.

Entrance/Exit:
The stormwater site map showed detail of two construction site entrance/exits. The DOE OB crew was informed that the main entrance/exit was located on the western side of the site with the eastern entrance being used for general and not, construction related movement. A suggestion was made to site management that site map detail should note this difference but entrance/exit construction specifications need to be followed if these areas are included in the SWPPP and associated site maps.

The main entrance/exit was situated on the western side of the construction site. This entrance/exit consisted of a large dug in area with 4 to 6 inch rock placed in order to provide a rumble pad to shake incoming and outgoing equipment to the point where any dust, mud, or other particulate matter to prevent it from leaving the site and possibly causing track-off and/or track-on. When looking over the entrance/exit pad it was observed that its construction was not the same as the detail as seen in the site's SWPPP as a designed Best Management Practice (BMP) or required by the permit. It is a requirement that if a rock pad is to be used for site entrance/exit sediment control that besides having a 6 inch or greater rock depth that this BMP design requires the rock be placed over a geotextile fabric to prevent the rock from being pushed into the ground by any heavy equipment going over the BMP. This geotextile fabric was absent and therefore a suggestion was made to site management to either, implement the detail of the entrance/exit as provided in the SWPPP or the detail in the SWPPP needs to be modified to reflect "real world" site conditions. In addition, alternated to a rock pad was discussed including used of a rumple grate or wheel wash system.

Active Outfall on North side:
During the investigation an active outfall was discovered (03A181, Plutonium Cooling Tower) on the northern side of the complex that had some water discharging from it. Site management was notified and was asked about the outfall's presence and a suggestion was made to make sure that its location is noted in the SWPPP and associated site plan. At the time of this site evaluation, site management did not know if the outfall was active or inactive, but in a follow up clarification conservation with Mr. Terrill Lemke of LANL/LANS WQ/RCRA on January 19, 2011, the outfall was stated to be active. In addition, DOE OB staff made a suggestion to site management to conduct observations of this discharge point and if the flows increase due to site stormwater run-off, to provide additional outlet protection or velocity dissipation, as needed.

Concrete Washout:
During the time of this site evaluation 3 separate concrete washouts were observed near the southern ridge of the construction area is a bermed area used as a concrete washout consisting of two in the inactive stage and one in the active stage. Some waste was visible during the site evaluation, but DOE Oversight Bureau staff was informed that all concrete waste was being stockpiled to be sent to be recycled. These washouts were well maintained but a suggestion was made to site management to think about cleaning out the active washout are due to concrete and wash accumulation nearing 50% capacity. In addition, because there was other inactive concrete washout areas near the active washout area, signage should be erected in order to direct any further washout activities from the active containment site away from the inactive containment areas.

Northern Side of Project:
Along the north side of the project area between the perimeter and the backside of an existing building lays an access road used by site workers. On both sides of this access road are areas with steep grades that have the potential for run-off during wet conditions. BMPs were placed in strategic positions in order to prevent site runoff from these steep areas. Several suggestions were made by DOE Oversight staff to add mulch or a soil tackifier for stabilization and in several areas to use water bars on the road in order to help to achieve better directional flows toward established BMPs and to slow stormwater velocities to prevent incising and control erosion potentials. In addition, a suggestion was made to install wattles along the transitional areas between the building site and the road to capture and filter sediment.

North Side Silt-fence(s):
Two kinds of silt fence used at this site: the regular and often used woven geotextile fabric fence and a more durable more compact silt fence called ERTEC S-Fence™. The woven textile fence was in fair condition and one area was immediately repaired during the site evaluation that had been ripped. All S-Fence was in good condition and no problems were noted.

Staging Areas:
All staging areas at the time of this site evaluation were in good condition and site housekeeping was excellent. DOE Oversight staff did make a suggestion to site management to install wattles that would be durable enough to drive over with heavy machinery or water bars for addition direction flow vectoring and as slope interruption devices that could help channel flows away from disturbed areas and into BMP fortified locations and help reduce runoff velocities.

Check Dams:
In addition, on the northern side of the access road several rock check dams had been installed to help to further reduce run-off velocities from the construction areas and nearby road to allow sediment to be captured during several high intensity rain events. A suggestion was made to site management to lower the center of the check dams in order

to facilitate proper BMP performance. The center of each check dam should be approximately 6 inches lower then its outer edges and made with an appropriate rock size to help provide stability in concentrated flow areas.

Northern Low-lying Area:
At the time of the site evaluation, there was a low-laying area were natural flows from the site were being captured and allowed to pool. While this area was not designated as a tempory holding pond or detention basin in the SWPPP or associated site plan, natural flows from much of the northern part of the construction site were being channeled to this low-point. This pooling was identified due to the presents of silt and sediment from previous stormwater flows. DOE Oversight bureau staff did make a suggestion that that area, because of the flow patterns and its natural "catchment" qualities be designated and implemented as a tempory holding pond or detention basin and identified in the SWPPP and site plan. While some time and effort will be needed to improve the sites capacity and stabilization it was discussed that this use of the natural grade and elevation would provide a cost effective BMP.

Final:
Site management at TA-55 has done a very good job taking into consideration the small envelope available for construction activities and working side-by-side with another contractor. During this site evaluation, all parties concerned seem to have a proactive attitude toward overall construction stormwater control and permit compliance.

If there are any questions concerning these recommendations, please call either Erik Galloway at (505)-476-6024. Mr. Galloway will notify appropriate LANL/LANS staff to schedule a follow-up site evaluation.