EP2011-5122 ERID-201633

ACTION REQUIRED

Los Alamos NATIONAL LABORATORY EST 1943

IRM-RMMSO

Official Correspondence Form

Name:	U1100510
Title:	Approval with Modifications Investigation Report S-Site Aggregate Area LANL EPA ID NM0890010515 HWB-LANL-10-071
Date Received:	3/18/2011
Addressee Name:	M. Graham, ADEP
Originator:	J. Bearzi, NMED
Action Item Description:	
Action Due Date:	9/15/2011
Responsible for Action:	Search Graham, Michael J
Responsible Office:	ADEP
Distribution:	Michael J. Graham Isaac E. RichardsonIII Michael B. Mallory David J. McInroy Phoebe K. Suina William Z. Alexander Tina M. Sandoval Michael R. Anastasio Richard A. Marquez Deborah K. Woitte James C. Cantwell Anthony R. Grieggs Victoria A. George Scotty Jones

IRM RMMSO Record Copy

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

DAVE MARTIN
Cabinet Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 16, 2011

George J. Rael, Assistant Manager
Environmental Projects Office
Department of Energy/National
Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, MS A316
Los Alamos, NM 87544

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Security, LLC
P.O. Box 1663, MS M991
Los Alamos, NM 87545

RE: APPROVAL WITH MODIFICATIONS
INVESTIGATION REPORT
S-SITE AGGREGATE AREA
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-10-071

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, LLC (LANS) (collectively, the Permittees) *Investigation Report for S-Site Aggregate Area, Revision 1* (Report), dated February 2011 and referenced by LA-UR-11-0561/EP2011-0012 and the *Response to the Notice of Disapproval for the Investigation Report for S-Site Aggregate Area* (Response). NMED hereby issues this Approval with Modifications for the Report and provides following comments. The comment numbers correspond to the December 22, 2010 Notice of Disapproval (NOD) to which the Response refers.

General Comments:

1. The Response explains that the construction worker receptor was not evaluated at solid waste management units (SWMUs) 16-004(a), 16-004(e), 16-017(p)-99, and 16-029(d) because no demolition and decommissioning or remediation activities are proposed at these sites. NMED agrees that evaluation of a construction worker receptor was not warranted at these sites. However, it is unclear whether the construction worker receptor will be evaluated in all future risk assessments. To clarify, all future risk assessments including those conducted at S-Site Aggregate Area must include the evaluation of all potential receptors if corrective action complete is proposed for these sites. This would include the construction worker receptor, whether or not demolition and decommissioning or remediation activities are proposed, because for some metals, the screening levels for a construction worker are more conservative than those for a resident, as explained in Comment # 1.

3. Although the extent of contamination at the Courtyard Periphery Area remains undefined, the Report states that the site poses no unacceptable risks/hazards to recreational and ecological receptors. Such conclusions cannot be drawn from a risk assessment based on data from an exposure area where the extent of contamination has not been defined. NMED acknowledges that additional samples will be collected as part of the Phase II investigations (*See* the Response to this comment and the Report). An updated risk assessment is warranted to address the risks/hazards to recreational and ecological receptors as additional data become available and after the extent of contamination at the Courtyard Periphery Area has been adequately characterized.

Specific Comments:

6. **Section 6.9.5.1, Inorganic Chemicals, page 52:**

   In the Response, Table 6.9-2 was corrected and the text in Section 6.9.5.1 was revised. The text should not have been revised because corrections made to the table resolved the discrepancies noted in the NOD comment. The text revisions created additional discrepancies. The text states that copper was detected at six locations and the revised Table 6.9-2 indicates that copper was detected at only five locations and was not detected at location 11-611744; the text states that chromium was detected at two locations above its Qbt 2, Qbt 3, and Qbt 4 background value (BV) and the revised table indicates chromium was detected above BV at three locations including location 11-611744. These discrepancies do not change the conclusion that the vertical extent of contamination is not defined for chromium and copper at SWMU 11-005(c). No revisions to the report are required at this time because the Permittees propose to collect additional samples at SWMU 11-005(c) to define the vertical extent of contamination.

11. Section 7.15.5.4, Summary of Extent, page 109:

The Report states that the direction of potential contaminant migration is into the subsurface below the Imhoff tank. Samples collected only from the periphery of the structure and not from beneath the structure leave a data gap in characterization of site. Although the Permittees may defer the investigations until the decontamination and decommissioning (D&D) of the former wastewater treatment plant, additional samples must be collected beneath the structure to define the nature and extent of contamination (*See* also NOD Comment). A Certificate of Completion cannot be issued for SWMU 16-004(a) until investigations are complete at the site.

12. Section 7.16.5, Spatial Distribution, page 111:

The Report states that the direction of potential contaminant migration is downward. Samples collected from the perimeter locations are not sufficient to define the nature and extent of contamination. While further investigations may be deferred until the D&D of the former wastewater treatment plant, additional samples must be collected in the center and beneath the trickling filter, when it becomes accessible to sample, to define the nature and extent of contamination (*See* also NOD Comment). A Certificate of Completion cannot be issued for SWMU 16-004(b) until investigations are complete at the site.

13. Section 7.17.5, Spatial Distribution, page 114:

The Report states that the direction of potential contaminant is downward. Samples collected from the perimeter locations are not sufficient to define the nature and extent of contamination. While the investigations may be deferred until the D&D of the former wastewater treatment plant, additional samples must be collected in the center and beneath the clarifier tank, when it becomes accessible to sample, to define the nature and extent of contamination (*See* also NOD Comment). A Certificate of Completion cannot be issued for SWMU 16-004(c) until investigations are complete at the site.

22. Section 8.8.5.2, Organic Chemicals, page 151:

a. The reference to location 16-609190 in the NMED's NOD comment should be to location 16-160215.

b. The concentrations of several organic chemicals initially decrease downgradient from the source, but increase again downgradient towards the opposite end of the SWMU indicating off-site migration of contamination. Pyrene was detected at 8.23 mg/kg at upgradient location 16-609189 (0-0.5 ft). The concentration decreased to 0.628 mg/kg at downgradient location 16-609190 (0-0.5 ft), and increased to 15.2 mg/kg at a sample location 16-609215 (0-0.5 ft) located further downgradient. Concentrations of fluoranthene and phenanthrene increased at location 16-609215 compared to upgradient location 16-609189. HMX (1,3,5,7-

location 16-609189. HMX (1,3,5,7-tetranitro-1,3,5,7-tetrazocine) concentrations increased from location 16-609189 (20.1 mg/kg) to the downgradient location 16-01457 (143 mg/kg). In light of this, the Response statement "[t]herefore, the assertion that the lateral extent of contamination at SWMU 16-026(b) is defined remains" is not accurate. Propose additional samples to determine the extent of off-site migration of contamination from SWMU 16-026(b) during the Phase II investigations, as required by Section IX of the Consent Order and 40 C.F.R. § 264.101.

c. The results from sampling locations 16-01457, 16-609215, and 16-609216 that should be used to determine the lateral extent and off-site migration are depicted on Figure 8.8-3, but are not included in Table 8.8-3.

27. Section 8.16.5.1, Inorganic Chemicals, pages 183-186:

Plate 26 indicates that concentrations of several inorganic chemicals increased at the farthest downgradient sampling locations (16-608466 and 16-608467). The concentrations of barium, copper, lead, and vanadium were higher at downgradient locations indicating lateral extent is not defined in the Martin Spring Canyon drainage. Propose sampling to define the lateral extent of contamination in the drainages during Phase II investigations.

29. Section 9.5.5.1, Inorganic Chemicals, pages 205:
The lateral extent of inorganic contamination is not defined at SWMU 16-029(x). Additional samples must be collected east of sampling location 16-03174 to define the lateral extent during Phase II investigations (See also NOD Comment).

38. Table 8.10-3, Summary of Organic Chemicals Detected at SWMU 16-026(d), page 595:

Table 8.10-3 was revised to incorporate data for several organic chemicals that was missing in the August 2010 Investigation Report. However, data for benzoic acid was not included as required by the NOD comment. The extent of contamination is not defined at SWMU 16-026(d), and further investigations are proposed. Include this data in future submittals.

The Permittees must submit the Phase II investigation work plan for S-Site Aggregate Area no later than **September 15, 2011**. Please contact Neelam Dhawan of my staff at (505) 476-6042 should you have any questions.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

cc: R. Solomon, Acting Director, NMED WWMD
J. Kieling, NMED HWB
D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
S. Yanicak, NMED DOE OB, MS J993
T. Skibitski, NMED DOE OB
L. King, EPA 6PD-N
W. Woodworth, DOE-LASO, MS A316
S. Veenis, EP-CAP, MS K490
J. McCann, EP-CAP, MS K992

File: LANL, S-Site Aggregate Area IR, 2011, LANL 10-071

11 MAR 18 AM 9:52

CERTIFIED MAIL™

7010 0780 0002 2989 6694

Hasler

016H26523547

$05.540

03/16/2011

Mailed From 87505

US POSTAGE

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East-Building 1
Santa Fe, New Mexico 87505

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Security, LLC
P.O. Box 1663, ~~MS M991~~ MS-A150
Los Alamos, NM 87545

NAME Doreen Montoya
Z# 086365
DATE 3-18-11