TA11

# NEW MEXICO ENVIRONMENT DEPARTMENT

ENTERED

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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

October 26, 2010

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**RE: NOTICE OF DISAPPROVAL**
**UPPER WATER CANYON AGGREGATE AREA INVESTIGATION WORK PLAN**
**LOS ALAMOS NATIONAL LABORATORY**
**EPA ID #NM0890010515**
**HWB-LANL-10-070**

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 L.L.C.'s (LANS) (collectively, the Permittees) *Investigation Work Plan for Upper Water Canyon Aggregate Area* (Plan), dated August 2010 and referenced by LA-UR-10-5229/EP2010-0306. NMED has reviewed the Plan and hereby issues this Notice of Disapproval (NOD).

34060

**General Comments:**

1. **Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Consolidated Units (CUs) Where 20 Percent of the Soil Samples are Proposed for Polychlorinated Biphenyl (PCB) Analyses:**

**NMED Comment:** The Permittees must state the proposed criteria for selecting the sample intervals selected for analyses of PCBs (for example, only surface samples will be selected or only sample intervals found to contain volatile organic compounds (VOCs), semi-VOCs).

2. **Typographical Errors; Various Figures:**

**NMED Comment:** NMED noted that some SWMUs are identified as "SWUMs" in the lower left-hand corner of the figure legends. Review the legends and correct as necessary.

3. **Sites Where Buildings, Magazines or Other Structures Were Destroyed by Intentional Burning**:

**NMED Comment:** In accordance with facility practices and policies in effect at the time, several wood-framed structures that were, or may have been, in contact with high explosives (HE) were destroyed by intentional burning. While explosive compounds do not typically contain chlorine, wood and various plastics do. With a chlorine source, dioxins and furans can result from combustion. At any AOC, SWMU, or CU where burning was conducted, soil samples must be collected and analyzed for dioxin/furan congeners. Due to the relative low mobility of these compounds in soil, NMED will accept sampling proposals for individual AOCs, SWMUs and CUs which target the upper sample interval(s) at locations slated for sample collection at multiple depths. In proposing sample locations for these analytes, the Permittees must consider past and current site drainage patterns. Proposed sample locations for these analytes must target areas most likely to have served as drainage pathways. This comment applies to structures in both Technical Area 11 (TA-11) and TA-16 and affects approximately 36 AOCs, SWMUs, or CUs. Note that because former outfall SWMU 16-029(r) served HE process building 16-25 which was destroyed by intentional burning, dioxin/furan congeners must also be included in the analytical suites for that SWMU.

4. **Section 7.1 Groundwater, last two sentences, page 123:**

**Permittees' Statement:** "There are no alluvial and intermediate wells located in the Upper Water Canyon Aggregate Area. No regional monitoring is located in the vicinity of any site under investigation in this work plan."

**NMED Comment**: New intermediate and regional monitoring wells are required in the Upper Water Canyon Aggregate Area. They will be used to monitor conditions in TA-16. The two wells must be placed approximately 500 feet west of and 200 feet south of building 16-380; however, the final locations must be determined in the field in consultation with NMED. The

Permittees must submit a separate monitoring well work plan (MWWP) for the installation of each of the wells. The work plans must be submitted by or before **December 30, 2010.** The work plans must include a proposed schedule for completion.

**Specific Comments:**

5. **Section 5.3.3, Scope of Activities for SWMU 16-003(a), fourth paragraph, page 20:**

**NMED Comment**: The Permittees indicate that building 16-410 is an active facility and that characterization of the sump and associated drain line will be delayed until the building is deactivated. No reason is given for why the delay is considered necessary.

Absent possible safety concerns due to the use and possible presence of HE in the sump and drain line, NMED believes the drain line could be characterized during future field work activities at the SWMU. Additional sample locations must be proposed along the east and west legs of the line, where the line exits the sump and at the two apparent pipe joints located where the line direction changes toward the outfall. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the structures.

6. **Section 5.5.2.3, Scope of Activities for SWMU 16-030(h), page 25:**

**NMED Comment**: This SWMU received hydraulic oil releases. Total petroleum hydrocarbons-diesel-range organics (TPH-DRO) and oil-range organics (TPH-ORO) must be added to the analytical suites for all samples collected at this SWMU.

7. **Section 5.6.1.3, Scope of Activities for SWMU 16-006(d), page 26:**

**NMED Comment**: The Permittees indicate that building 16-380 is an active facility and that characterization of the sump will be delayed until the building is deactivated. No reason is given for why the delay is considered necessary.

Absent possible safety concerns due to the use and possible presence of HE in the sump, NMED believes the sump could be removed during field activities with post-removal confirmation sampling or otherwise characterized during future field work activities at the SWMU. Additional sample locations must be placed around the sump to a depth equal to the sump base and five feet below the first interval and adjacent to where the discharge line exits the sump at similar sample intervals. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the sump.

**8. Section 5.6.2, SWMU 16-006(d)-Septic System, page 26:**

**NMED Comment**: The Permittees must propose plugging the five floor drains in building 16-380 to prevent potential releases of HE or provide sound technical and/or safety-related rationales for not plugging the drains.

**9. Section 5.6.2.3, Scope of Activities for SWMU 16-006(d), first paragraph, page 27:**

**NMED Comment**: No information is provided concerning the depth of the lines associated with the active drain field. The Permittees must provide justification(s) for limiting sample depths to two to three feet at proposed sample locations 6d-1, 6d-2 and 6d-3 which are located adjacent to the drain field.

**10. Section 5.10.3, Scope of Activities for SWMU 16-005(k), third paragraph, page 31 and Figure 5.10-2, Proposed Sampling Locations for SWMU 16-005(k), page 172:**

A structure is located west of the septic tank and proposed sample location 5k-14 as shown on the figure. The structure is not discussed in the text. The Plan indicates the former drain field is now located beneath building 16-969; it appears that the structure may either be the distribution box or a group of distribution lines leading to the former drain field. According to the figure, the structure is approximately 30 feet long. Sample location 5k-14 is positioned to evaluate the joint where the tank outlet turns toward the former drain field area. The Plan does not include evaluation of the structure along its west to east segment as illustrated on the figure.

Revise the Plan text to include information about the structure (if available). Propose locating the structure by trenching, removing the structure (if present) and performing sampling of soils beneath the excavated line. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the structure.

**11. Section 5.11.3, Scope of Activities for SWMU 16-005(l), last paragraph, page 32:**

**NMED Comment**: This SWMU is a former grease trap. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at this SWMU.

**12. Section 5.17.3, Scope of Activities for AOC 16-016(f), third paragraph, page 39:**

**NMED Comment**: Include a brief description of the steps that will be taken by the Permittees in the event asbestos or suspected asbestos-containing materials are encountered during sampling activities at the AOC.

**13. Sections 5.19.3, 5.20.3, 5.21.3, 5.22.3, 5.23.3, and 5.24.3, Scope of Activities for SWMU 16-017(j)-99, SWMU 16-017(k)-99, SWMU 16-017(l)-99, SWMU 16-017(m)-99, SWMU 16-017(n)-99, and SWMU 16-017(o)-99, respectively, pages 40 through 43 inclusive:**

**NMED Comment**: The SWMUs (all former storage magazines) are described as having earthen berms on three sides and on the top of former wood-framed or reinforced concrete structures. Provide additional construction (or demolition) information concerning the structures. Using the information provided in the Plan, NMED cannot evaluate whether two proposed sample intervals are adequate for the investigation. For example, indicate (if it is known) if the floors of the structures were built at or near current area grades. Indicate (if it is known) what was done with the berm material when the structures were removed. In the event the berm material was graded "in- place" to match existing area topography, the four to five foot sample interval may not be deep enough to evaluate site conditions depending on the depth of berm material used at each SWMU. However, if the berm material was removed from a given SWMU for placement or disposal elsewhere, the proposed interval may be appropriate.

**14. Scope of Activities for AOC 16-021(b) and AOC C-16-071, last paragraph, page 43:**

**NMED Comment:** AOC 16-021(b) is a former decommissioned hydraulic press and the AOC is collocated with AOC C-16-071. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at these AOCs.

**15. Section 5.25.3 Scope of Activities for AOC 16-021(b) and AOC C-16-071, last paragraph, page 43:**

**NMED Comment:** One or both of these AOCs experienced a former hydraulic oil spill. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at these AOCs.

**16. Section 5.26.3, Scope of Activities for AOC 16-022(a), page 44:**

**NMED Comment**: The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's Petroleum Storage Tank Bureau (PSTB). That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Compliance Order on Consent (Consent Order). The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The AOC previously contained an underground storage tank (UST) used for storage of diesel fuel. The Plan indicates three soil samples were collected from the excavation when the UST was removed in September 1993. Five additional samples were collected the following month. A third round of sampling was conducted in August 1994. No information is provided in the Plan about why additional sampling was conducted in October 1993 or August 1994. The Plan indicates samples were analyzed for TPH using an on-site laboratory and it was somehow determined that the extent of contamination was 12 feet laterally and 20 feet vertically (presumably, relative to area ground surface at that time). Information is not provided concerning whether contaminated soil was removed or left in place. The Plan indicates the results showed elevated concentrations of TPH but no concentration data is provided. The 1994 sampling was conducted at depths of ten, 15, 20 and 25 feet below ground surface (bgs) and an on-site laboratory was used for analyses of TPH. The Plan indicates no TPH concentrations greater that 100 parts per million (ppm) were found and that TPH was not reported present in the deepest sample interval. Finally, the Plan asserts that the site does not pose an immediate threat to human health or the environment even though no decision level data are available to support that conclusion.

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings and sample collection and analyses of appropriate sample intervals to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

**17. Section 5.27.3, Scope of Activities for AOC 16-022(b), page 45:**

**NMED Comment**: The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's Petroleum Storage Tank Bureau. That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The AOC previously contained three USTs used for storage of leaded and unleaded gasoline. Unknown volumes of contaminated soil were removed in 1987, 1990, and 1994. Samples were collected in 1994 and analyzed by an on-site laboratory. According to the Plan, analytical results indicated benzene, toluene, ethyl benzene, and xylenes (BTEX) were present to a depth of at least 65 feet bgs. The BTEX concentrations are not provided in the Plan.

The Plan indicates contaminated soil was remediated but information is not provided concerning the nature of the remediation or the volume of soil that was affected. A UST

removal effort was performed in 2003 and soil samples were collected at that time for analyses of VOCs, SVOCs, and TPH-gasoline range organics (TPH-GRO). Although an adjacent UST was used for storage of leaded gasoline, the Plan does not indicate why analyses of lead was not performed. Since the deepest sample interval analyzed in 2003 was four feet bgs, contaminant nature and extent have not been determined at AOC 16-022(b).

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings and sample collection intervals and associated chemical analyses to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

**18. Section 5.28.3, Scope of Activities for AOC 16-024(i), first paragraph, page 46:**

Because the magazine was built in 1944 and removed in 1951, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

**19. Section 5.29.3, Scope of Activities for AOC 16-024(j), page 46:**

*See* comment 18.

**20. Section 5.39.3, Scope of Activities for SWMU 16-025(w), page 53:**

**NMED Comment**: Include discussion about whether analyses of soil samples for nitrocellulose should be proposed and the utility of using nitrate analysis as an indicator of possible nitrocellulose contamination.

**21. Section 5.40.1.3, Scope of Activities for SWMU 16-025(y), page 54:**

**NMED Comment**: Text in Section 5.40.2 (SWMU 16-029(a2)) indicates building 16-55 was used for HE grinding while the text in Section 5.40.1 (SWMU 16-025(y)) indicates it was used for grinding barium nitrate. Review the text statements and revise the Plan as needed for consistency.

**22. Section 5.43.3.3, Scope of Activities for SWMU 16-017(x)-99, first paragraph, first sentence, page 60:**

**Permittees' Statement:** "Ten surface and subsurface samples will be collected from five locations—one within the footprint and five around the footprint (Plate 6)."

**NMED Comment**: As described in the statement, there would be six locations total. There are four sampling locations shown on Plate 6 which are located outside of the

footprint of the former magazine and one location within the footprint. Revise the text or the figure for consistency.

**23. Section 5.44.3, Scope of Activities for SWMU 16-026(s), first and second paragraphs, pages 68 and 69:**

Include an additional sample location at the 90 degree pipe bend located approximately ten feet northeast of sample location 26s-1. Sampling at location 26s-1 must not be limited to the upper 12 inches of soil. If the drain pipe is found, the additional sample location and location 26s-1 must be sampled immediately below the line and five feet below that sample interval. If the line is not found, these two locations must be sampled from four to five feet and nine to ten feet bgs.

**24. Section 5.45.3, Scope of Activities for SWMU 16-026(u), third paragraph, page 70:**

**NMED Comment:** Add TPH-GRO to the analyte list for all samples collected at this SWMU.

**25. Section 5.45.3, Scope of Activities for SWMU 16-026(u), last paragraph, page 70:**

**Permittees' Statement:** "Existing sampling locations are within the building footprint where confirmation samples were collected after removal of the building. These existing samples are not applicable to define the nature and extent of contamination of the drainline and outfall of SWMU 16-026(u)."

**NMED Comment:** The building the Permittees' statement refers to is former building 16-195 which was located approximately 95 feet northwest of SWMU 16-026(u).

NMED agrees with the Permittees' statement that the samples collected from locations within the former building footprint "are not applicable" in the sense that the footprint sample data are insufficient to evaluate the former service station since the deepest sample collected was 18 inches bgs and the base of the separator was reported as being three feet deep. The samples would also not be useful in evaluation of the drain line and outfall.

Additional sample locations must be proposed within the former building footprint. Sampled intervals must be deep enough to suitably characterize potential impacts from the oil/water separator and TPH-GRO, -DRO, and -ORO must be added to the analytical suites for this SWMU.

**26. Section 5.46.3, Scope of Activities for AOC 16-026(y), last paragraph, page 70:**

**Permittees' Statement:** "Because building 16-411 is an active facility, characterization of the drainline will be delayed until the building is deactivated."

**NMED Comment:** The Permittees have not provided justification for delay of characterization of the drain line segment located outside of the building. The Permittees must either propose several sample locations between the building and outfall or provide sound technical justification(s) for not doing so.

**27. Section 5.47.3, Scope of Activities for AOC 16-027(c), first paragraph, page 71:**

**NMED Comment:** NMED cannot determine what sampling depths are appropriate at this AOC with the limited information provided in the Plan. According to the Plan, several sampling and clean-up efforts were conducted at the site in 1987, 1989, and 1992. These efforts included removal of the transformer, the associated concrete pad, and 691 cubic feet (approximately 25 cubic yards) of soil. The Plan indicates site cleanup was considered complete when soil concentrations were below 25 parts per million (ppm). New Mexico Soil Screening Levels (NMED SSLs) are much lower than 25 ppm for the seven Aroclor congeners and even lower for the 14 PCB congeners in the current NMED SSL listings. In addition, Section VIII.B.1.a of the Consent Order establishes a default PCB soil cleanup level of one ppm.

Provide information on previous soil removal locations and depths and review current proposed sample locations and sample depths relative to where fill was used to replace excavated PCB-affected soil. Native soil must be sampled at this AOC; sampling fill to characterize historical contaminant releases is not acceptable in this instance regardless of its origin.

**28. Section 5.48.3, Scope of Activities for AOC 16-027(d), first paragraph, page 72:**

**NMED Comment**: Because little is known about the history of this AOC, including how and when the transformer and associated pad were removed, actual sample locations may need to be adjusted in the field to avoid sampling post-removal, imported fill material. *See* comment 27.

**29. Section 5.49.3, Scope of Activities for SWMU 16-028(b), first three paragraphs, page 73:**

**NMED Comment**: Add text indicating that sample locations from SWMU 16-026(a) and 16-016(g) will provide additional information down slope of the SWMU 16-028(b) outfall.

**30. Section 5.50.1.3 Scope of Activities for SWMU 16-029(b2), third paragraph, last line, page 74:**

**Permittees' Statement:** "Additionally, a surface sample (0–1 ft bgs) will be collected at proposed sampling location 29b2-1 to characterize the nature and extent of contamination to the east side of building footprint (AOC C-16-005)."

**NMED Comment**: There may be a typographical error in the statement. As illustrated on Figure 5.50-2, proposed sample location 29b2-1 is positioned on the southwest side of former building 16-53. Sample locations 5-3 and 5-4 (associated with AOC C-16-005) provide coverage on the east side of the former building. Review the statement and figure and revise as needed for consistency.

**31. Section 5.51.1, SWMU 16-005(e) – Former Septic System, third sentence, page 75:**

**Permittees' Statement:** "A 6-in.-diameter VCP drainline exited building 16-37 on the northwest corner and connected to the septic tank inlet (LANL 1994, 039440, pp. 5-387–5-388)."

**NMED Comment**: As illustrated on associated Figures 5.51-1 and 5.51-2 (*Site features of Consolidated Unit 16-029(c2)-99 [SWMU 16-005(e), AOC 16-015(c), SWMU 16-025(z), and SWMU 16-029(c2)]* and, *Proposed sampling locations for Consolidated Unit 16-029(c2)-99 [SWMU 16-005(e), AOC 16-015(c), SWMU 16-025(z), and SWMU 16-029(c2)], respectively*), the line exits from the approximate center of the north side of building 16-37 rather than the northwest corner of the building. Edit the text or the figures for consistency. If the figures are edited, this comment would also be applicable to the two figures which follow Figure 5.51-2.

**32. Section 5.52.1.1, Summary of Previous Investigations for SWMU 16-026(h2) and Section 5.52.1.2, Summary of Data for SWMU 16-026(h2), page 78:**

**Permittees' Statements:** "No previous investigation has been conducted at this site." and "No decision-level data are available at this site."

**NMED Comment**: Although NMED was unable to locate an associated data summary table(s) for this SWMU, Figure 5.52-2 (*Proposed sampling locations for SWMU 16-026(h2)*), page 255, shows several previous sample locations. Figure 5.52-3 (*Inorganic chemicals detected above [background values] BVs at SWMU 16-026(h2)*), page 256, lists metal concentrations for four of those locations and Figure 5.52-4 (*Organic chemicals detected at SWMU 16-026(h2)*), page 257, lists various organics concentrations at six of the locations. Organic compounds listed include some VOCs, SVOCs (primarily polycyclic aromatic hydrocarbons (PAHs)), and explosive compounds.

If the data provided on the figures are decision-level data, provide data summary tables and revise the text for consistency. Consider whether or not the data changes the Permittees' proposed sampling approach, including proposed sample depths and proposed analytical suites. If the data were intended to be presented in the Plan, delete the figures containing the metals and organic compound data.

**33. Section 5.52.2.3, Scope of Activities for SWMU 16-029(e), first paragraph, page 80:**

**Permittees' Statement:** "Twelve samples will be collected from five locations at the outfall and in the drainage (Figure 5.52-2)."

**NMED Comment**: NMED is unable to determine if the sample locations are appropriate because none are shown on the figure for SWMU 16-029(e). The referenced figure shows proposed sample locations for SWMU 16-026(h2). Review the text and revise as needed for clarity. Revise the figure to show the sample locations. Note that Figures 5.52-3 and 5.51-4 also pertain to SWMU 16-026(h2).

**34. Section 5.52.2.3, Scope of Activities for SWMU 16-029(e), last paragraph, page 80:**

**Permittees' Statement:** "Because building 16-360 is an active facility, characterization of the sump and its associated drainline will be delayed until the building is deactivated."

**NMED Comment**: The Permittees have not provided any justification for delaying investigation of the building 16-360 sump and associated drain line. According to Section 5.52.2 of the Plan (*SWMU 16-029(e)—Sump and Outfall*), the sump outlet was plugged in the 1990s. While the Plan indicates the building is in active use, past-tense statements in the Plan indicate the sump is no longer in use.

Absent possible safety concerns due to past use and the possible presence of HE in the sump, NMED believes the sump and drain line could be removed during field activities. Post-removal confirmation sampling must be conducted or the structures must be otherwise characterized during future field work conducted at the SWMU. Whether removed or not, sample locations must be proposed to evaluate the sump, its inlet and outlet and the drain line. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the sump and associated drain line.

**35. Section 5.53.1.3, Scope of Activities for SWMU 16-021(a), last paragraph, page 82:**

**Permittees' Statement:** "Because building 16-450 is an active facility, characterization of the drainline will be delayed until the building is deactivated."

**NMED Comment**: The Permittees have not provided any justification for delaying investigation of the drain line which is associated with the materials testing laboratory in building 16-450. Although the Plan does not provide information concerning whether or not the inlet to the line is plugged, NMED assumes it is, since the outfall for the line is no longer operative.

Absent possible safety concerns due to past use(s) and the possible presence of HE in the line, NMED believes the drain line could be removed during field activities. Post-removal confirmation sampling must be conducted or the line must otherwise be characterized during future field work activities at the SWMU. Whether removed or not, sample locations must be proposed to evaluate the drain line and its inlet and outlet. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain line.

**36. Section 5.53.3.3, Scope of Activities for SWMU 16-029(g), last paragraph, page 83:**

**Permittees' Statement:** "Because building 16-450 is active, characterization of the sump and its associated drainline will be delayed until the building is deactivated. The outfall and the drainage will be characterized by sampling at SWMU 16-028(e)."

**NMED Comment**: The Permittees have not provided justification for delaying investigation of the removed sump and drain lines associated with the materials testing laboratory in building 16-450. Although the Plan does not provide information concerning whether or not the inlet to the sump is plugged, NMED assumes it is, since the outfall for the line is no longer operative.

Absent possible safety concerns due to past use and the possible presence of HE in the line, NMED believes the sump and drain lines could be removed during field activities. Post-removal confirmation sampling must be conducted or the lines and sump must otherwise be characterized during future field work conducted at the SWMU. Whether the structures are removed or not, sample locations must be proposed to evaluate the sump and drain lines and their inlet and outlet. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain line.

**37. Section 5.54.2.3, Scope of Activities for SWMU 16-025(a2), first paragraph, page 85:**

**NMED Comment**: Because the building was built in 1944 and removed in 1960, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

**38. Section 5.54.3.3, Scope of Activities for SWMU 16-025(b2), first paragraph, page 86:**

**NMED Comment**: Because the building was built in 1944 and removed in 1960, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

**39. Section 5.57.3, Scope of Activities for SWMU 16-031(a), last paragraph, page 103:**

**NMED Comment**: The cooling tower portion of this SWMU was destroyed in the Cerro Grande Fire in 2000. Dioxin/furan analyses must be added to the analytical suites for proposed sample locations 6c-13, 6c-14, and 6c-15. The Permittees may propose to limit those analyses to the upper one or two sample intervals due to the relatively low mobility of the compounds in soil.

**40. Section 5.58.3, Scope of Activities for SWMU 16-031(e), second paragraph, page 103:**

**NMED Comment:** The Permittees have not provided justification for delaying investigation of the drain lines which are associated with the former chlorination building, 16-560. The Plan does not provide information concerning the current use of building 16-560 and whether or not the inlets to the drain lines are plugged.

NMED believes the drain lines could be removed during field activities. Post-removal confirmation sampling must be conducted or the lines must otherwise be characterized during future field work conducted at the SWMU. Whether the lines are removed or not, sample locations must be proposed to evaluate the drain lines and their inlet(s) and outlet(s). Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain lines.

**41. Section 5.59.3, Scope of Activities for AOC 16-033(a), page 104:**

**Permittees' Statement:** "No activities are proposed for AOC 16-033(a) because the former UST was regulated, removed, and characterized under the guidelines of the NMED UST Bureau. The NMED UST Bureau currently has the administrative authority of the site."

**NMED Comment:** The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's PSTB. That

reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings, sample collection intervals, and associated chemical analyses to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

**42. Section 5.60.1, Summary of Previous Investigations for AOC 16-033(b), fourth and fifth lines, page 104 and Section 5.60.3, Scope of Activities for AOC 16-033(b), page 105:**

**Permittees' Statements:** "Samples were collected and analyzed at an on-site laboratory. The analytical results of the samples collected from the locations between building 16-195 and UST 16-1465 showed elevated levels of BTEX at 65 ft bgs (LANL 1995, 057225, pp. 6-40–6-43)." and, "No activities are proposed for AOC 16-033(b) because the former UST was regulated, removed, and characterized under the guidelines of the NMED UST Bureau in compliance with the UST regulations in effect at the time."

**NMED Comment:** The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's PSTB. That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings. Sample collection intervals and associated chemical analyses also must be proposed to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes. The proposed sample locations and depth intervals must be selected to define the vertical and horizontal nature and extent of the release at this AOC.

**43. Section 5.65, AOC 16-033(k) – Underground Storage Tank, last sentence, page 107:**

**Permittees' Statement:** "The tank was discovered during construction activities in 1996 and was given the SWMU number 16-033(k) (LANL 1996, 055066)."

**NMED Comment:** The Plan describes the UST as being designated an AOC rather than as a SWMU. Review the Plan and revise it as needed to clarify whether the site is an AOC or SWMU.

**44. Section 5.65.3, Scope of Activities for AOC 16-033(k), page 107:**

**Permittees' Statement:** "The site will be surveyed to specify the exact location of the tank. The AOC boundary will be updated based on the survey results if the tank is in place. Characterization of the site is proposed to be delayed because this is the central area providing water supply to various locations and in order to avoid utility lines, the number of locations that could be sampled is inadequate to define nature and extent of contamination at the site."

**NMED Comment:** NMED agrees that the number of sample locations that could be sampled will likely be inadequate to determine nature and extent of contamination at the AOC. However, NMED does not agree that delay of all characterization work for the site is appropriate, given the uncertainty concerning when the site could be fully characterized.

According to the legend in Figure 5.59-1, the utilities most likely to be potentially affected by site characterization activities are communication lines, although the figure does not indicate whether the line(s) are buried or above ground. The Permittees have indicated the UST was discovered during construction activities in 1996. Indicate in the revised Plan whether or not the construction activities involved laying the communication line that appears to cross over the UST as indicated on the figure. The Permittees have also indicated the site will be surveyed to determine the exact location of the AOC. The exact location(s) of site utility lines that may be affected by subsurface activities must also be determined during site activities undertaken to implement the Plan.

Review and revise the Plan to include the expanded site survey work and placement of two to four soil borings near or adjacent to the surveyed UST. Include proposed sample intervals and chemical analytical suites as proposed in the Plan for AOC 16-033(i).

**45. Section 5.67.3, Scope of Activities for AOC C-16-020, page 108:**

**Permittees' Statement:** "No investigation or sampling is proposed for AOC C-16-020 because there is no evidence or history of any release of hazardous constituents at this site."

**NMED Comment:** Although the Plan indicates the former office building (16-22) was moved offsite in 1961, associated Figure 5.67-1 shows a sewer line which enters the building footprint near the northeast building corner and which appears to have serviced the former building during its operation. The sewer line entering the former building appears to be (or has been) connected to lines serving existing buildings located north, south, east and west of this AOC. Provide a discussion in the Plan concerning whether the line entering former building 16-22 may have been affected by past or present

activities associated with those existing buildings. If the Permittees' records review indicates the line could have been affected by operations in those existing buildings, the Permittees must propose placement of one or more soil borings to evaluate possible affects in and near the footprint of former building 16-22.

**46. Section 5.69.1, Summary of Previous Investigations for AOC C-16-030, page 109:**

**NMED Comment:** This section indicates diesel contaminated soil was found in or near former building 16-7 while utilities to the building were being disconnected. Add a discussion to the section indicating whether or not soil removal actions were initiated after the discovery. If removal actions were undertaken, provide a description of them.

**47. Section 5.70.3, Scope of Activities for AOC C-16-031, page 110:**

**NMED Comment**: Although NMED does not object to the proposed sample locations that will be located within the footprint of former building 16-7 (previously a steam plant / machine shop), NMED noted that no sample locations are proposed north and west of former sample location 16-27021. That sample was reported to contain TPH-DRO at a concentration of 15,000 ppm at a depth of six to six and one-half feet bgs within the former building footprint. A sample location (16-600642) placed approximately five feet (or less) east of 16-27021 contained TPH-DRO at 290 ppm at the same sample depth and a concentration of 330 ppm at 11 to 11.5 feet bgs. This suggests that neither horizontal or vertical extent was defined during the 2003 and 2007 sampling efforts. All sample locations that were affected by TPH-DRO were found in Cooling Unit 3 of the Bandelier Tuff, also known as QBT3. The Permittees must propose additional sample locations north and west of previous sample location 16-27021.

**48. Section 5.73.3, Scope of Activities for AOC C-16-046, page 112:**

**Permittees' Statement:** "No investigation or sampling is proposed for AOC C-16-046 because there is no evidence or history of any release of hazardous constituents at this site."

**NMED Comment**: Discussion in Plan Section 5.4 (Consolidated Unit 16-003(c)-99) indicates building 16-460 is a decommissioned analytical chemistry laboratory which is also associated with an HE sump (SWMU 16-003(c)) located on the north side of the building. SWMU 16-026(v) is an outfall located approximately 60 feet down slope and southeast of the building. According to Section 5.4.2.2 of the Plan, samples collected from that SWMU in 1995 were reported to contain elevated metals concentrations, explosive compounds, PAHs, other SVOCs, and VOCs. NMED requires additional sampling at AOC C-16-046 in conjunction with the sampling efforts planned for SWMU 16-003(c) and SWMU 16-026(v).

**49. Section 5.78.3, Scope of Activities for AOC C-16-073, first and second paragraphs, page 115:**

**Permittees' Statement**: "The site will be surveyed to specify the exact location of the tank. The AOC boundary will be updated based on the survey results if the tank is in place." and, "If the tank is not in place, 20 subsurface samples will be collected from five locations—one within and four around the footprint of the former UST (Figure 5.78-2). Samples will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). If the tank is in place, samples will be collected only from the four locations around the tank."

**NMED Comment**: The sewer line that runs through the southern third of the UST (or excavated tank basin) must be included as part of the proposed survey of the AOC boundary. If the UST is in place, the Permittees must revise the statement to indicate it will be removed and that post-removal, confirmation samples will be collected to verify that a release has not occurred at this AOC. All samples must be analyzed for the same analytical suite discussed in the third paragraph of Section 5.78.3 regardless of whether the tank is present or not

If the tank is no longer present, the usefulness of a sample collected from four to five feet bgs within the basin is questionable, since the excavated basin would have been deeper than five feet and would likely have been backfilled with soil of unknown origin(s).

Alternatively, the Permittees may present sound technical or safety-related justification(s) for not removing the tank. Justification for collection of a soil sample from four to five feet bgs within the tank basin must also be provided whether or not the tank is, or will be, removed.

**50. Figure 5.27-1, Site features of AOC 16-022(b) and AOC 16-033(b), page 202, Figure 5.45-3, Organic chemicals detected at SWMU 16-026(u), page 238, and Figure 5.63-2, Proposed sampling locations for AOC 16-033(i) and AOC 16-033(j), page 274:**

**NMED Comment**: The SWMU is mislabeled on the figures as AOC 16-026(u). Review and edit all figures as needed. Note that NMED did not search all figures for this SWMU.

**51. Table 5.4-4, Organic Chemicals Detected at SWMU 16-026(v), page 318**

**NMED Comment**: Add a footnote to the table defining what "TATB" is. Alternatively, add TATB to the *Acronyms and Abbreviations* list in Plan Appendix A-1.0, pages A-1 and A-2. NMED noted that the *Acronyms and Abbreviations* list in the Plan is much shorter than the *Acronyms and Abbreviations* list in the Threemile Canyon Aggregate Area Investigation Report, which describes TATB.

As indicated in General Comment 4., the MWWP must be submitted by or before **December 30, 2010** and the MWWP must include a proposed schedule for monitoring well completion. The Permittees must address these comments and submit a revised Plan by or before **November 26, 2010.** *See* comment 4. As part of the response letter that accompanies the revised Plan, the Permittees must include a table that details where all revisions have been made to the revised Plan and that cross-references NMED's numbered comments. All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order. The Permittees must submit a redline-strikeout version that includes all changes and edits to the Plan (electronic copy) with the response to this NOD.

Please contact Daniel Comeau at (505) 476-6043 if you have any questions.

Sincerely,

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