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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

October 28, 2015

Doug Hintze, Manager
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Michael Brandt, Associate Director
Environment, Safety, Health
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**RE: DISAPPROVAL
INVESTIGATION REPORT FOR TECHNICAL AREA 57
AGGREGATE AREA (FENTON HILL)
EPA ID #NM0890010515
HWB-LANL-15-007**

Dear Messrs. Hintze and Brandt:

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 Report for Technical Area 57 Aggregate Area (Fenton Hill)*, dated March, 2015 (IR), received on March 19, 2015 and referenced by LA-UR-15-20813/EP2015-0027. NMED has reviewed the IR and issues this Disapproval.

General Comments:

1. The last sentence of Section 5.1 states that "Organic chemicals that are clearly present from sources other than releases from a site (e.g., polycyclic aromatic hydrocarbons) may be eliminated as COPCs [constituents of potential concern]." While the statement is true, the exclusion of organic COPCs may be considered only if sufficient evidence (e.g., analytical data, trend analysis) and justification is provided to demonstrate that the contamination is not related to site activities and is from an off-site source. If it is determined and approved by NMED that an organic compound may be dropped as a COPC, the potential risks must still

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be addressed in the uncertainty section of the risk assessment. No response to this comment is necessary.

2. Population area use factors (PAUF) were used for refining the ecological risks. As noted in Tables G-5.5-1 and G-5.5-4, home ranges are cited (EPA 1993). However, the home ranges listed in these tables are not consistent with either the home ranges listed in EPA 1993 or the NMED guidance (Volume II). For example, the home range for the deer mouse is listed in the tables as 0.077 hectares (0.19 acres). The NMED guidance lists the home range for the deer mouse as 0.3 acres. None of the mean ranges listed in EPA 1993 are equivalent to the ranges listed in the Tables G-5.5-1 and G-5.5-4. Please clarify how the home ranges were derived and revise the IR for consistency with the NMED guidance.
3. For the vapor intrusion calculations, the Johnson and Ettinger model appears to be applying an out of date inhalation reference concentration (RfC_i) for trichloroethene. The output files list an RfC_i of 4.0E-02 milligrams per cubic meter (mg/m³), while Integrated Risk Information System (IRIS) lists the RfC_i as 2.0E-03 mg/m³. Please revise the Johnson and Ettinger calculations accordingly.

Specific Comments:

4. Section 1.1, General Site Information, page 1:

Permittees Statement: "The 5 AOCs [Areas of Concern] used to manage geothermal exploration wastes were not subject to regulation under the Resource Conservation and Recovery Act (RCRA). These sites were closed under a discharge plan issued by the New Mexico Oil Conservation Division (NMOCD). Following termination of the discharge plan by NMOCD, no additional corrective actions are required for NMOCD-regulated sites and activities."

NMED Comment: NMED acknowledges that solid waste associated with the exploration or production of geothermal energy is not considered hazardous because of the exemption provided at 40 CFR 261.4.b.5. However, release of the hazardous constituents to the environment is not exempt from RCRA requirements. NMOCD terminated the discharge plan GW-031 on August 29, 2003. These 5 AOCs located at TA-57 (i.e., AOC 57-001(b), AOC 57-001(c), AOC 57-002, AOC 57-004(a), and AOC 57-004(b)) were added on Table K-1, Appendix K of the Permittees' RCRA Permit in 2010 when the permit was renewed. The justification for adding these sites to the Permit was provided in the Factsheet issued with the public notice. The Permittees did not provide comments related to these sites during the public comment period indicating concurrence with listing of these sites in the Permit.

The Discharge Plan GW-031 was associated with 1-MG service pond (AOC 57-004(a)) and removal of the EE-2A well head. The February 14, 2003 letter from OCD to the Permittees states that "[N]MOCD approval does not relieve Los Alamos National Laboratory of responsibility for compliance with other federal, state, or local laws and/or regulations".

A RCRA Facility Investigation (RFI) Report for four of these sites was submitted to NMED in April, 1996. NMED could not locate any document that indicates these sites were approved for corrective action complete by either NMED or the U.S. Environmental Protection Agency (EPA). Based on the results of the investigations, the RFI Report proposed Phase II investigations for AOC 57-001(b) and a Voluntary Corrective Action (VCA) for AOC 57-002. No documents regarding these additional activities are included in NMED's Administrative Record. In addition, the ecological risk assessments were deferred at TA-57 until the sites could be assessed through the new Ecological Exposure Unit (Ecozone) approach. Please clarify whether the Phase II RFI, the VCA, and ecological risk assessments have been conducted for these sites. Pending evaluation of the information in the above-referenced documents, these sites will remain on the Permit until justification is provided that corrective action is complete at these sites and the sites do not pose unacceptable risk to the human health and the environment.

On a site visit on September 9, 2015, NMED staff noticed that the Milagro Pond (AOC 57-004(b)), the fifth AOC, still contains water and has not been closed. The site needs to be investigated, remediated as necessary, and confirmatory samples must be collected to demonstrate that corrective action is complete and the site does not pose unacceptable risk to the human health and the environment.

5. Section 6.3.3, Summary of Previous Investigations, page 21:

It is not clear from the text whether the drainline from the trailer to the leach field that was located in 1994 was removed or left in place. The investigation work plan proposed to collect samples beneath the drainline from three depth intervals. Deviations from the work plan (Appendix B, Section B-9.0, page B-5) indicate that the drainline could not be located and samples were collected from 0.0-1.0 feet below ground surface (ft bgs) instead of 0.0-1.0 feet beneath the drainline, as proposed in the work plan. Please provide information on the depth at which the drainline was located to ensure that the samples collected from three depth intervals targeted the potential contamination beneath the drainline.

6. Appendix G, Section G-2.3, Determination of COPCs, page G-2:

An exposure interval of 0-5 ft bgs was applied for the ecological risk screenings. In accordance with Section 3.3 of Volume II of the 2015 NMED Risk Assessment Guidance for Investigations and Remediation, the maximum detected concentration from the 0-10 feet bgs should be used as the exposure interval for the initial Tier 1 ecological screening assessment. As a result of using the smaller exposure interval, risks were not estimated for the following:

- AOC 57-006: barium, chromium, copper, selenium, and bis(2-ethylhexyl)phthalate, and
- AOC 57-007: perchlorate.

In addition, as a less conservative exposure interval was applied in the screening assessments, the initial hazards were underestimated for the following constituents:

- AOC 57-006: zinc (NMED notes that antimony and trichloroethene were only minimally underestimated and the difference would not change the results of the risk screen), and
- AOC 57-007: arsenic.

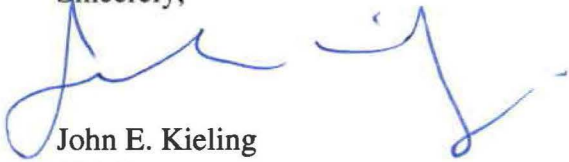
The Permittees must revise the screening level assessment to assess the correct exposure interval in accordance with the current NMED guidance.

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The Permittees must address all comments and submit a revised IR by **December 18, 2015**. As part of the response letter that accompanies the revised IR, include a table that details where all revisions have been made to the IR 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. In addition, please submit a redline-strikeout version that includes all changes and edits to the IR (electronic copy) with the response to this NOD.

Please contact Neelam Dhawan at (505) 476-6042, if you have any questions.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: K. Roberts, NMED-RPD
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