



MAIL CERTIFIED-RETURN RECEIPT REQUESTED

January 30, 2024

Arturo Duran, Designated Agency Manager
U.S. Department of Energy
Environmental Management
Los Alamos Field Office
1200 Trinity Drive, Suite 400
Los Alamos, NM 87544

**RE: APPROVAL
REQUEST FOR CERTIFICATES OF COMPLETION WITHOUT CONTROLS
FOR SOLID WASTE MANAGEMENT UNITS 21-017 (A, B, AND C)
IN THE DELTA PRIME SITE AGGREGATE AREA
LOS ALAMOS NATIONAL LABORATORY
EPA ID#NM0890010515
LANL-23-072**

Dear Mr. Duran:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) *Request for Certificates of Completion Without Controls for Solid Waste Management Units 21-017 (a, b, and c) in the Delta Prime Site Aggregate Area* (Request), dated and received on October 2, 2023, and referenced by EMLA-23-BF312-2-1.

The Material Disposal Area U was investigated, and the results were reported in the *Investigation Report for Material Disposal Area U, Consolidated Unit 21-017(a)-99 at Technical Area 21 (IR)* dated and received February 6, 2006 (referenced by ER2005-0923). On September 18, 2006, NMED provided an *Approval for the Investigation Report for Material Disposal Area U, Consolidated Unit 21-017(a)-99, at Technical Area 21* and included comments that the residential human health risks had not been evaluated for the indoor vapor intrusion pathway for the presence of volatile organic carbons (VOCs) and polyaromatic hydrocarbons (PAHs) at the site.

NMED has reviewed the Request and is issuing certificates of completion (CoC) without controls for Solid Waste Management Units (SWMU) 21-017(a), 21-017(b), and 21-017(c).

SWMU 21-017(a), also known as western absorption bed, was an absorption bed that consisted of excavated trenches filled with fine sand, gravel, and cobblestones and was part material disposal area (MDA) U. The unit received liquid effluent from Building 21-152, 21-153, 21-155 (which was later known as the Tritium Systems Test Assembly (TSTA) facility). The unit also received oil from precipitrons which

were materials used in air filters to remove dust, dirt, smoke, soot, and other solids from buildings 21-152 and 21-153.

The unit received liquid effluent and precipitron wastes from 1945 to 1968. The unit continued to receive cooling tower waste from Building 21-155 until 1976 when the site became inactive. In 1985, removal activities and stabilization of the absorption beds were conducted. Soil contaminated with actinium-227, the distribution box and iron pipes were removed and disposed of at MDA G. The excavation area was lined with plastic sheeting material then the area was backfilled with the material from above the pipes, and with clean fill. In 1987, a ditch was constructed to divert surface water away from the absorption beds. In 1999, the absorption bed was consolidated into SWMU 21-017-(a)-99. The investigation and risk information is provided below for the consolidated unit 21-017-(a)-99.

SWMU 21-017(b), also known as eastern absorption bed, was an absorption bed that consisted of excavated trenches filled with fine sand, gravel, and cobbles and was part material disposal area (MDA) U. The unit received liquid effluent from Building 21-152, 21-153, 21-155 (which was later known as the Tritium Systems Test Assembly (TSTA) facility). The unit also received oil from precipitrons which were materials used in air filters to remove dust, dirt, smoke, soot, and other solids from buildings 21-152 and 21-153.

The unit received liquid effluent and precipitron wastes from 1945 to 1968. The unit continued to receive cooling tower waste from Building 21-155 until 1976 when the site became inactive. In 1985, removal activities and stabilization of the absorption beds were conducted. Soil contaminated with actinium-227, the distribution boxes and iron pipes were removed and disposed of at MDA G. The excavation area was lined with plastic sheeting material then the area was backfilled with the material from above the pipes, and with clean fill. In 1987, a ditch was constructed to divert surface water away from the absorption beds. In 1999, the absorption bed was consolidated into SWMU 21-017-(a)-99. The investigation and risk information is provided below for the consolidated unit 21-017-(a)-99.

SWMU 21-017(c), also known as Distribution Box OPE-164, was a former distribution box located between the two absorption beds (SWMUs 21-017(a) and 21-017(b)). The unit received effluent from Building 21-152 and discharged it into the two absorption beds (SWMUs 21-017(a) and 21-017(b)) from 1945 to 1968. The unit was removed in 1985. In 1999, the distribution box was consolidated into SWMU 21-017-(a)-99. The investigation and risk information is provided below for the consolidated unit 21-017(a)-99.

Consolidated Unit 21-017(a)-99

SWMUs 21-017(a), 21-017(b) and 21-017(c) were initially investigated in 1946, 1976, 1980, 1983, 1984, 1992, 1994, and 1998. In 1999, SWMUs 21-017(a), 21-017(b) and 21-017(c) were consolidated into SWMU 21-017-(a)-99. Decision-level data was collected in 2001 and 2005 for the consolidated unit 21-017(a)-99. In addition to sediment sampling, a total of 9 boreholes were drilled to define the vertical and lateral extent of contamination, with a maximum depth of 360 feet below the ground surface at one location in the center of MDA U.

Risks were calculated based on the NMED 2005 soil screening guidance but did not evaluate the vapor intrusion pathway nor the risk under the construction worker land use scenario. In 2006, NMED issued

an approval with modification for the 2005 Investigation Report for MDA U and issued a certificate of completion with controls under the industrial land use scenario.

In 2023, the DOE presented lines of evidence that arsenic should not be considered a constituent of potential concern (COPC) due to the fact that the background arsenic concentrations in soil and tuff in the Middle DP Road area are above the soil screening levels for arsenic. NMED concurred with this assessment via an email sent on August 17, 2023. DOE re-evaluated the residential risk without arsenic and determined that the consolidated unit 21-017(a)-99 does not pose a risk under a residential risk scenario. DOE provided a summary of residential risk and compared vapor intrusion screening levels (VISLs) to Environmental Protective Agency Region 6 (EPA R 6) VISL screening levels.

Based on the information provided for the consolidated unit in 2006, 21-017(a)-99 does not pose an unacceptable risk to human health under the industrial land use scenario nor to the ecological receptors. For the non-carcinogenic risk, a hazard index of 0.7 was assessed which is below the NMED target level of 1.0. However, based on the 2006 IR, the consolidated unit 21-017(a) posed a total excess cancer risk under the residential land use scenario, with a total excess cancer risk of $1.53E-05$, which is greater than the NMED target level of $1.0E-05$.

In the Request, the DOE stated that 2006 IR overestimated the residential risk since "arsenic was not detected above the background values (BVs) in any of the 75 soil and fill samples or 9 sediment samples collected at the site". In the Summary of the Request (page 3) the DOE recalculated the residential risk without arsenic and found the total excess cancer risk to be $7.67E-06$ which is less than the NMED target level of $1.0E-05$. NMED has reviewed this statement and concurs that arsenic is likely to be at or below BV and is not a constituent of potential concern (COPC) for the consolidated unit 21-017(a)-99.

As acknowledged by the DOE in the Request, at the time of the Phase II IR, the DOE was not required to evaluate the vapor intrusion (VI) pathway. NMED reviewed the evaluation of the VI pathway that was provided by DOE in Enclosure 1 of the Request and concurs that sufficient lines of evidence were provided to conclude that a quantitative evaluation VI pathway is not required for the consolidated unit 21-017(a)-99.

Since the DOE did not evaluate the construction worker risk scenario, consistent with the Request, the NMED calculated construction worker risk excluding arsenic as COPC. NMED has calculated the total excess cancer risk to be at $9.49E-06$ which is less than the NMED target level of $1.0E-05$. NMED has also calculated the hazard index to be at 1.

NMED hereby issues these certificates of completion without controls for SWMUs 21-017(a), 21-017(b), and 21-017(c). If new information becomes available that indicates that these sites may pose an unacceptable risk to human health or the environment, NMED may require additional investigations and/or corrective action at this site.

Arturo Duran

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If you have any questions regarding this letter, please contact Siona Briley at (505) 690-5160.

Sincerely,

Rick Shean

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Shean

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Rick Shean, Designated Agency Manager

Director, Resource Protection Division

New Mexico Environment Department

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