MICHELLE LUJAN GRISHAM
GOVERNOR

ENTERED
JAMES C. KENNEY
CABINET SECRETARY

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July 1, 2022

Colonel Jason F. Vattioni
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117

Melissa Clark
377 MSG/CEIE
2050 Wyoming Blvd SE
Kirtland AFB, NM 87117

RE: DISAPPROVAL
TIER 1 SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT (SLERA) OPEN DETONATION TREATMENT UNIT, DECEMBER 2021
KIRTLAND AIR FORCE BASE, NEW MEXICO
EPA ID# NM9570024423
HWB-KAFB-19-004

Dear Colonel Vattioni and Ms. Clark,

The New Mexico Environment Department (NMED) received the U.S. Air Force (Permittee) Kirtland Air Force Base (Facility) *Tier 1 Screening Level Ecological Risk Assessment (SLERA) Open Detonation Treatment Unit, December 2021* (Report) dated December 14, 2021. NMED has reviewed the Report and hereby issues this Disapproval, the Permittee must address the following comments:

1. **Section 3.1.2, Constituents for Potential Ecological Concern (COPEC), Page 3-3**

Permittee Statement: "A COPEC is forwarded for further quantitative or qualitative exposure and risk evaluation in the Tier 1 SLERA if the maximum concentration of a given constituent is equal to, or higher than its ESL, as well as BTV where applicable."

NMED Comment: If the maximum detected concentration for a given constituent was equal to or less than the ecological screening level (ESL), the constituent was not retained for the quantitative risk assessment. The initial screening for elimination of constituents of potential ecological concern (COPECs) includes those constituents that are statistically the same as background, meaning the maximum detected concentration is less than the background upper tolerance level (UTL). If the maximum detected concentration is greater than background, a site attribution analysis may be conducted to show the site data are statistically similar to background. Removal of constituents based on being equal to or less than the ESL is not an appropriate screening technique and may result in eliminating

constituents that may significantly contribute to overall risk. For those COPECs greater than background, additional refinement of COPECs may include comparison of the maximum detected concentration to the lowest ESL, and only if the resulting hazard quotient (HQ) is less than 0.3, may the constituent be dropped as a COPEC as an insignificant contributor to overall risk. In the revised Report, revise the selection of COPECs and modify all subsequent calculations. In addition, provide a table showing the results of the screening HQs as a line of evidence to support elimination of a constituent as a COPEC.

Furthermore, in order to provide transparency of the selection of COPECs, a table summarizing all ESLs for the indicator species along with the selected minimal ESL must be provided. Revise the Report to include this table.

2. Table 3-1

NMED Comment: Section 1.2 of the report states that, "As such, the quantitative evaluation of the magnitude of exposures and risks related to the OD Unit ecological receptors focusses on surface (i.e., 0 to 1 feet below ground surface [bgs]) for non-burrowing receptors/shallow rooted plants and subsurface soil (i.e., 0 to 10 feet bgs) for burrowing receptors/deep rooted plants." From this it is assumed that surface soil is defined as 0-1 ft bgs and subsurface soil as 0-10 ft bgs. These exposure intervals are also defined in Section 4.2. However, in looking at the data summary provided in Table 3-1, the maximum detected concentration in subsurface soil is often less than that for surface soil. In addition, the table indicates that several constituents did not have subsurface data; the 0-1 interval was excluded. The footnote of Table 3-1 defined subsurface soil as 1-10 ft bgs; which also conflicts with the defined soil exposure intervals in Sections 1.2 and 4.2. The subsurface interval as defined in the report includes the surface soil interval. Further, when looking the calculations of risk, receptors such as the kit fox were only evaluated using a soil exposure interval of 1-10 feet, instead of the defined exposure interval of 0-10 (see NMED Risk Assessment Guidance for Site Investigations and Remediation, Vol. II). Review the data in Table 3-1 and revise the table to include all data defined as being part of the subsurface exposure interval. Revise all subsequent calculations as necessary.

3. Table 3-1

NMED Comment: The screening of COPECs as presented on Table 3-1 is not clear. As different datasets are being used for surface and subsurface soil, and different receptors are evaluated for the soil exposure intervals, the screening of COPECs should be conducted separately for surface and subsurface soil. Revise the report to clarify COPECs for both soil exposure intervals.

4. **Table 3-1**

   NMED Comment: Inclusion of the Residential Screening Levels (RSLs) for residential exposure are meaningless for the Tier 1 ecological screening assessment; remove these values in the revised Report. Note – the footnote indicates the RSLs are based on a cancer risk of 1E-06; the State of New Mexico applies a target cancer risk level of 1E-5, as such any carcinogenic RSL must be modified to reflect the NMED target risk level.

5. **Table 3-1**

   NMED Comment: The maximum detected concentration for beryllium is greater than the BTV. Provide evidence that beryllium is statistically equivalent to background or retain beryllium as a COPEC in a revised Report.

6. **Table 3-1**

   NMED Comment: The subsurface maximum concentration for thallium is greater than the BTV. Retain thallium as a COPEC in the revised Report.

7. **Table 3-1**

   NMED Comment: ESLs are listed as not available for 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. NMED concurs that ESLs could not be found for these COPECs. However, ESLs may be obtained for 3-nitrobenze (deer mouse and kit fox) and perchlorate (deer mouse, horned lark, kit fox, red-tailed hawk and plants). Update the table to include ESLs for 3-nitrobenzene and perchlorate.

8. **Section 5.1, Plant Community, Page 5-1**

   NMED Comment: The last sentence is incomplete. Further TRVs are not applicable to plants, but rather plants are evaluated using effect concentrations. Revise the Report accordingly.

9. **Table 5-1**

   NMED Comment: As defined in Section 3.3 of the NMED Risk Assessment Guidance for Site Investigations and Remediation, Vol. II, the Tier 1 HQs for the horned lark and red-tailed hawk should be based on surface soil (0-1 ft bgs). The calculations present in Table 5-1 are correct for these two receptors. However, for the deer mouse, kit fox, and plants, the HQs must be based on 0-10 ft bgs, not 1-10 ft bgs. The HQs as presented in Table 5-1 for these

three receptors exclude the 0-1 ft bgs interval and as such, risks are underestimated. Revise the Report with calculations to reflect all the data for the appropriate soil exposure interval.

The Permittee must submit a revised Report (two hard copies and two electronic copies) that corrects all the deficiencies identified in this Disapproval. The revised Report must be accompanied by a response letter (also included as an appendix) that details where NMED's comments were addressed and cross-references NMED's numbered comments. In addition, the Permittee must submit an electronic redline-strikeout version of the revised Report that shows where all changes were made to the Report. The revised Report must be submitted no later than **August 15, 2022**.

If you have any questions regarding this letter, please contact Cristina Eads at (505) 490-5808.

Sincerely,

Rick Shean Digitally signed by Rick Shean
Date: 2022.07.05 14:34:18 -06'00'

Rick Shean
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
C. Eads, NMED HWB
L. King, EPA Region 6 (6LCRRC)
S. Clark, KAFB

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