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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

September 18, 2018

Mr. Adam Kusmak  
Chief, Installation Management Flight  
49<sup>th</sup> CES/CEI  
550 Tabosa Avenue  
Holloman AFB, NM 88330-8458

**RE: DISAPPROVAL  
FINAL SS-039 – MISSILE FUEL SPILL AREA (SWMUs 165, 177, 179 & 181),  
RESOURCE CONSERVATION AND RECOVERY ACT FACILITY  
INVESTIGATION REPORT, OCTOBER 2017  
HOLLOMAN AIR FORCE BASE, EPA ID# NM6572124422  
HWB-HAFB-17-019**

Dear Mr. Kusmak:

On June 19, 2018, the New Mexico Environment Department (NMED) received the Holloman Air Force Base (Permittee/HAFB) response to NMED's February 9, 2018 Notice of Disapproval (NOD) for the above referenced Resource Conservation and Recovery Act Facility Investigation Report (RFI Report). The response included the submission of a revised RFI Report addressing NMED's NOD comments. The revised RFI Report recommends that Site SS039 be granted corrective action complete without controls status (CAC). The NMED disagrees with this recommendation at this time and issues this disapproval of the revised RFI Report, dated June 2018, with the following comments:

1. Site SS039 consists of Solid Waste Management Units (SWMUs) 165, 177, 179 and 181. The RFI Report adequately addresses soil remediation activities that were conducted at SWMUs 177 and 179, but it does not address any activities useful for determining whether SWMU 181 (Building 1176 Drainage Troughs) is acceptable for a finding of CAC. Section 2.2 of the RFI Report indicates that SWMU 181 consists of two concrete lined drainage troughs extending

southeast and southwestward from Building 1176 and discharging into one of two separate sumps (SWMU 177). In addition, Figure 3-1 of the September 2012 *Accelerated Corrective Measures Completion Report, SS039 Missile Fuel Spill Area (SWMUs 165, 177, 179 and 181)* (ACM Report) depicts a third drainage trough labelled SWMU 181 extending eastward from Building 1176 and discharging into a third sump (SWMU 177). No further information regarding SWMU 181 is presented in the RFI Report. Since the RFI Report is proposing CAC for the entirety of Site SS039, the Permittee shall revise the RFI Report to provide rationale for granting CAC status for SWMU 181.

In addition, Section 2.0 of the RFI Report states that SWMU 165 (Building 1176 Pond) is a pond located between Building 1176 and the Lost River, but no evidence of the pond has ever been found. No further information regarding this SWMU is presented in the RFI Report. In response to a separate submittal, NMED recently determined that SWMU 165 is eligible for CAC without controls status. This determination will be finalized soon. The Permittee shall revise the RFI Report to discuss this forthcoming change in status.

2. Section 2.1, *Groundwater Impacts*, of the RFI Report regarding the source of perchlorate in groundwater at Site SS039 states “[T]he Lost River drainage basin receives surface water flow and groundwater discharge from a large portion of Holloman AFB and other DoD facilities; consequently, the source of perchlorate is not considered attributable to Site SS039”. NMED does not necessarily agree with this assertion.

The Lost River Basin (Area of Concern [AOC]-U) was granted CAC without controls status in a letter from NMED dated May 14, 2015. This approval letter stated that a determination of CAC for AOC-U does not preclude the need for future remedial activities at Site SS039, should the site have the potential to contaminate soil, groundwater or surface water at AOC-U. Site SS039 is located adjacent to the Lost River just down-slope of the active launch area for the rocket sled High-Speed Test Track (HSTT). Section 7.1.5.2, *Perchlorate*, of the *RCRA Facility Investigation Report, AOC-U, Lost River Basin* (March 2013) provides a discussion regarding the presence of perchlorate in the groundwater in the Basin, which states “[T]he widespread nature of perchlorate exceedances could be attributable to voluminous vapor clouds [such as occurs at the HSTT] containing by-products of rocket propellants produced during repeated launch exercises which were dispersed by the prevailing winds to areas surrounding launch facilities”. Furthermore, Section 4.10, *Recommendations*, of the *Supplemental RCRA Facility Investigation, DP-30/SD-33, SS-39 and SD-27* (July 2007) stated “[B]ased on the supplemental RFI results, improved operations and maintenance (O&M) of the concrete catch basin and drainage box [which are at the base of the HSTT launch area] will need to be adopted to prohibit future releases of hazardous materials to the downgradient media”. Additionally, Section 2.2.8, *Source of Contamination*, of the RFI Report for SS039 states “...operations continue in the area that have the potential for releases that could adversely impact surrounding soils resulting in leaching of constituents to the shallow groundwater”.

During the March 2011 investigation for the AOC-U RFI Report, perchlorate was detected in thirty-nine of fifty groundwater sampling points located throughout the Basin. Seven of those thirty-nine detections exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) for perchlorate and four of those seven monitoring points were located at Site SS039. During the April 2017 sampling event for the RFI Report, seven of thirteen Site SS039 monitoring wells contained concentrations of perchlorate exceeding the MCL. NMED has been provided with the preliminary results for the groundwater sampling event conducted in April 2018. These results will be reported in the forthcoming *Fiscal Year 2018 Groundwater Monitoring Report, Site SS039*. Although perchlorate concentrations decreased from March 2011 to April 2017, they showed an increasing trend in twelve of the thirteen monitoring wells in April 2018. NMED notes that concentrations of trichloroethylene (TCE) and 1,4-dioxane in groundwater samples collected from six of the thirteen monitoring wells exceeded their respective groundwater cleanup levels.

Given the issues stated above and the fact that a majority of the groundwater contamination exceeding MCLs at Site SS039 occurs within the designated Essential Habitat for the White Sands Pupfish, NMED cannot make a determination of CAC complete without controls for Site SS039. In support of such a determination, the Permittee shall conduct two additional annual groundwater sampling events in accordance with the December 2016 *Groundwater Monitoring Plan, SS039 – Missile Fuel Spill Area (SWMUs 165, 177, 179 & 181)*, approved by NMED in a letter dated March 29, 2017. In addition to the suite of analytes provided in Table 4 of this monitoring plan, all groundwater samples collected during the next two sampling events shall continue to be analyzed for the presence of 1,4-dioxane using EPA Method 8270 (SIM) as well as for the presence of N-Nitroso-dimethylamine (NDMA) using EPA Method 521 with a minimum detection limit of 4.0 parts per trillion (nanograms per liter). NDMA was formerly used in the production of rocket fuels like those used in HSST operations and is listed as a priority pollutant by the EPA. Additionally, as noted above, operations continue in the area that have the potential for releases that could adversely impact surrounding soils resulting in leaching of constituents to the shallow groundwater.

The Permittee shall revise the RFI Report to recommend an additional two years of annual groundwater sampling as described above and to provide a discussion on proposed improvements to the operations and maintenance of the HSTT launch area that will need to be adopted to prohibit future releases of hazardous materials to the downgradient media.

3. Revise Section 4.2, Page 4-4, Last Paragraph, 2<sup>nd</sup> Sentence as follows: “26 milligrams per cubic feet” should read “26 milligrams per cubic meter”.
4. Section 7.3.2 of the RFI Report indicated that the ACM Report (September 2012) documented soil excavation activities that were conducted at six locations at Site SS039. However, the locations of the soil excavation activities and their corresponding SWMU numbers are not provided. As the RFI Report is proposing CAC for the entirety of Site SS039, the Permittee must revise the RFI Report to include a figure(s) showing the locations of the soil excavations and provide the corresponding SWMU numbers.

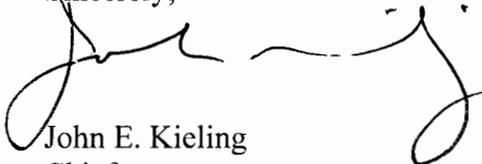
Mr. Kusmak  
September 18, 2018  
Page 4

5. Revise Section 7.4, Page 7-6, 2<sup>nd</sup> Sentence as follows: "Volume I – Soil Screening Guidance for Human Health Risk Assessments" should read "Volume II – Soil Screening Guidance for Ecological Risk Assessments".

The Permittee must submit a revised RFI Report that addresses all comments contained in this Disapproval. In addition, the Permittee must include a response letter that cross-references where NMED's numbered comments were addressed. The Permittee must also submit an electronic redline-strikeout version of the revised RFI Report showing where all changes have been made to the Report. The revised RFI Report must be submitted no later than **December 3, 2018**.

This approval is based on the information presented in the document as it relates to the objectives of the work identified by NMED at the time of review. Approval of this document does not constitute agreement with all information or every statement presented in the document. If you have any questions regarding this letter, please contact Mr. David Strasser of my staff at (505) 222-9526.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
C. Amindyas, NMED HWB  
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