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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

December 12, 2016

Colonel Eric. H. Froelich
Base Commander
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2000 Wyoming Blvd SE
Kirtland AFB, NM 87117-5606

Mr. John Pike
Director, Environmental Management Services
377 MSG
2050 Wyoming Blvd SE, Suite 116
Kirtland AFB, NM 87117-5270

RE: OPERATIONS AND MAINTENANCE PLAN, GROUNDWATER TREATMENT SYSTEM, BULK FUELS FACILITY
SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE
EPA ID# NM9570024423, HWB-KAFB-13-MISC

Dear Colonel Froelich and Mr. Pike:

The New Mexico Environment Department (NMED) received the Kirtland Air Force Base (KAFB) (the Permittee) *Operations and Maintenance Plan, Groundwater Treatment System*, dated August 18, 2016. The Operations and Maintenance Plan (O&M Plan) is a reference document for site personnel and includes:

- Equipment information (e.g., manufacturer-supplied O&M Plans and cut sheets);
- Operational procedures;
- Inspections and maintenance;
- Repairs;
- Recordkeeping; and
- Waste management.

The NMED has reviewed the O&M Plan and approves the document with the following modifications.

General Comments:

1. The document shall be revised to reference NMED Ground Water Quality Bureau (GWQB), where applicable, or simply reference NMED. Issues related to failures of the treatment system to treat water to appropriate standards and issues associated with discharges of inappropriate water will be of concern to both the GWQB and Hazardous Waste Bureau (HWB).
2. The document must be revised to include a reference to Discharge Permit (DP) 1839 as finalized, where appropriate, particularly in association with the Contingency Plan and the Sampling and Analysis Plan.
3. Condition 3 of DP 1839 states, "The Permittee shall ensure that the most recent versions of the O&M Plan and the Work Plan for Dissolve-Phase Treatment System design are consistent with the requirements of [the] Discharge Permit." The Permittee shall revise the O&M Plan accordingly.
4. The O&M Plan does not identify the contaminants of concern for the Groundwater Treatment System (GWTS) and incorrectly references the Hazardous Waste Treatment Facility (HWTF) Permit in multiple locations. The document must be revised to include the list of COCs (listed below) and reference the appropriate regulatory document throughout:

    Ethylene dibromide (EDB) – 0.05 micrograms per liter (µg/L)
    Benzene – 5 µg/L
    Ethylbenzene – 700 µg/L
    Toluene – 750 µg/L
    Total xylenes – 620 µg/L
    Iron (Dissolved) – 1 milligram per liter (mg/L)
    Manganese (Dissolved) – 0.2 mg/L.

Specific Comments:

1. **Section 1, Introduction**

    The Introduction needs to be revised to reference all associated regulatory requirements, including the KAFB HWTF Permit and DP 1839.

2. **Section 1.3 Discharge Requirements**

    Permittee's Statement: "The treated groundwater discharged from the GWTS must meet the human health standard for contaminants that are listed in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC), other requirements of the NMED Ground and Surface Water Protection regulations (NMAC 20.6.2) and must comply with any additional approved federal, state, or local permits."

NMED's Comment: The O&M Plan must be revised to reference the specific standards in the HWTF Permit. The HWTF Permit, Section 6.2.3.1, *Cleanup Levels for Contaminants in Groundwater (other than Perchlorate)*, states: "The cleanup levels for groundwater shall be the New Mexico Water Quality Control Commission (WQCC) water quality standards (20.6.2.3103 and 20.6.2.4103 NMAC) and the drinking water maximum contaminant levels (MCLs) adopted by EPA under the Federal Safe Drinking Water Act (42 U.S.C. §§ 300f to 300j-26). If both a WQCC standard and a Maximum Contaminant Level (MCL) have been established for a contaminant, then the most stringent of the two levels shall be the cleanup level for that contaminant."

3. **Section 2.1 Operational Approach**

Permittee's Statement: "The flow rate of groundwater from each of the three extraction wells will be dynamic. As the groundwater elevations rise in the aquifer or EDB concentrations change, adjustments to the extraction well flow rates will be made to ensure plume capture."

NMED's Comment: It is not clear what data will be utilized to evaluate and confirm ethylene dibromide (EDB) plume capture or how the Permittee is defining plume capture in the context of adjustment to extraction rates. The Permittee shall revise the O&M Plan to provide additional detail to clearly explain how plume capture will be determined and how adjustments will be made to the extraction rates. Additionally, NMED must be notified of the planned adjustments, with supporting documentation, a minimum of 2-weeks prior to such changes being implemented.

4. **Section 4, Process Monitoring**

Permittee's Statement: "Analytical results will be reported to the NMED Hazardous Waste Bureau as required in any approved permit."

NMED's Comment: Both the NMED HWB and GWQB will need to receive the analytical results for review. The Permittee shall revise the document to reference NMED or specify both HWB and GWQB.

5. **Section 4.1, Extraction Wells**

NMED's Comment: In addition to monitoring the water level in the well casing, the pump status, and the groundwater flow rate, the Permittee should also monitor the height of the filter pack at each of the extraction wells, at least annually.

6. **Section 5.1, Reporting**

NMED's Comment: The first paragraph in Section 5.1 addresses quarterly and annual reports to NMED and lists the information to be included. These reports must include the

effluent discharge volumes to each discharge location. The O&M Plan must be revised accordingly.

The fourth paragraph in the section addresses the evaluation of the system performance associated with the extraction and injection systems. The evaluation and reporting must also address the discharge (i.e., injection of the treated water); the Underground Injection Control (UIC) well performance parameters; flow rates; any observed changes in groundwater chemistry; groundwater mounding; and any changes in groundwater flow direction. The O&M Plan must be revised accordingly.

7. **Section 6.2, Monitoring Well Purge Water**

Permittee's Statement: "Groundwater generated during either well development or routine groundwater monitoring events … that is non-hazardous water … will be discharged to the GWTS through the sump in the building floor."

NMED's Comment: The Permittee's application for discharge via UIC injection well(s) makes the commitment to treating and discharging groundwater from the EDB-only portion of the contaminant plume (See Part I, Subsection 6). Additionally, this limitation is a requirement in the finalized DP 1839 (See Permit Condition #8). The O&M Plan must be revised to include the same limitation in the waste management of monitoring well purge water.

8. **Section 6.3, Backwash Water**

NMED's Comment: This Section addresses the backwashing of various components of the GWTS and after settling and pre-filtration, putting the water back into the GWTS. Backwash water may contain a significant amount of undissolved manganese and iron that could, after settling and pre-filtration, result in elevated dissolved concentrations of these metals. This Section of the O&M Plan must be revised to include the sampling and analysis of filtered backwash water for dissolved phase manganese and iron, prior to adding the water into the GWTS for treatment.

9. **Section 6.4, Depleted Granulated Activated Carbon (GAC)**

Permittee's Statement: "Depleted GAC will be removed from the GAC tanks and regenerated or disposed of off-site in accordance with the NMED RCRA permit."

NMED's Comment: As stated in Section 6.5.7, *Collection and Management of Investigation Derived Waste* of the HWTF Permit, "The Permittee shall include a description of the anticipated IDW waste management process as part of any work plan submitted to the Department for approval." The amount of information provided in Section 6.4 for waste management of depleted GAC is insufficient for NMED approval. The O&M Plan must be revised to include details on the management of depleted GAC,

specifically for off-site disposal of if the GAC is not regenerated. The O&M Plan must be revised accordingly.

10. Section 6.5., GAC Adjustment Solutions

Permittee Statement: "Spent or unused agents used to condition the GAC will be characterized and handled/packaged as hazardous waste in accordance with the Kirtland AFB RCRA Permit."

NMED 's Comment: As stated in Section 6.5.7, *Collection and Management of Investigation Derived Waste* of the HWTF Permit, "The Permittee shall include a description of the anticipated IDW waste management process as part of any work plan submitted to the Department for approval." The amount of information provided in Section 6.4 for management of the GAC adjustment solutions is insufficient for NMED approval. The O&M Plan must be revised to include details on the management of the adjustment solution waste stream.

11. Appendix D, Description of GWTS, Section D.5, Treated Water Discharge

NMED 's Comment: Appendix D addresses the leak detection associated with the conveyance system between the extraction wells and the GWTS. Section D.5 in Appendix D must be revised to include the Permittee's procedures for demonstrating the structural integrity of the effluent conveyance system (Conditions 11 and 16 in DP 1839).

12. Appendix K, Contingency Plan, Section K.2, Notification Procedures

Permittee Statement: "As soon as Kirtland AFB has knowledge that effluent water quality exceeds the discharge criteria for one or more of the contaminants listed in approved permits, the NMED HWB must be notified in writing within 24 hours of discovery in accordance with Section 1.27 of the RCRA Permit."

NMED 's Comment: Issues associated with failures of the treatment system to treat water to appropriate standards and issues associated with discharges of inappropriate water will be of concern to both the GWQB and the HWB. Please revise the document to reference both GWQB and HWB or simply reference NMED.

13. Appendix K, Contingency Plan, Section K.6, Spills and Notification Procedures

Permittee Statement: "If the release or leak results in a release to the environment (outside the secondary containment area), the system will be immediately shutdown, and NMED will be notified. Notification procedures and corrective actions in accordance with Section 1.27 and 1.28 of the RCRA Permit are summarized below."

NMED 's Comment: Reference to Section 1.28 of the HWTF Permit is not appropriate in this instance. HWTF Permit Section 1.28 references Permit Attachment F, Contingency

Plan, which states, "This Contingency Plan has been prepared for the Open Detonation (OD) Unit located at the Explosive Ordnance Detonation Disposal (EOD) Range at the Kirtland Air Force Base (KAFB) Facility in compliance with 40 C.F.R. Part 264, Subpart D, as applicable" The O&M Plan must be revised to remove reference to Section 1.28 of the HWTF Permit as Attachment F is not applicable to the BFF project site.

Permittee Statement: "In the event that a release or unauthorized discharge occurs, the Kirtland AFB Compliance Coordinator will complete the following notifications:

1. NMED will be verbally notified via the Environmental Emergencies hot line (505-827-9329) within 24 hours of discovery with the following information: a. Information concerning release of any hazardous waste or constituents that may cause an endangerment to public drinking water supplies."

NMED 's Comment: The Permittee must revise the O&M Plan to state that the NMED will be notified of a release or unauthorized discharge as soon as possible after learning of a discharge but no more than 24 hours thereafter.

Reference to the hot line should be clarified that the number is only to be used during non-business hours and on weekends and holidays. The hot line contacts the New Mexico State Police Dispatch Center, which will in turn call an NMED employee tasked with responding to an after-hours phone. During business hours, the Permittee should contact an employee of either the HWB or GWQB, depending on the nature of the emergency. For spills associated with DP 1839, contact should be made with the permit reviewer directly or the GWQB can be contacted directly at 505-827-2900. The Permittee shall revise the O&M Plan accordingly.

Finally, reference to "hazardous waste or constituents" is not sufficient. The O&M Plan must be revised to include the constituents associated with the standards referenced in HWTF Permit Section 6.2.3.1 as well as those contaminants listed in Table A-1 and the toxic pollutants defined in Subsection WW of 20.6.2.7 NMAC.

14. Appendix L, Sampling and Analysis Plan, Section L.1, Discharge Requirements

Permittee Statement: "Treated groundwater discharged from the GWTS must meet the human health standard for contaminants that are listed in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC), requirements of the New Mexico Environment Department (NMED) Ground and Surface Water Protection regulations (NMAC 20.6.2), and must comply with any additional approved federal, state, or local permits. Effluent discharged from the GWTS must not exceed the following criteria as currently stipulated in permits from the aforementioned regulations:

Ethylene dibromide (EDB) – 0.05 micrograms per liter (µg/L)
Benzene – 5 µg/L
Ethylbenzene – 700 µg/L
Toluene – 750 µg/L
Total xylenes – 620 µg/L

Iron (Dissolved) – 1 milligram per liter (mg/L)
Manganese (Dissolved) – 0.2 mg/L."

NMED 's Comment: In addition to referencing the standards in NMAC 20.6.2.3103, the quoted paragraph must be revised to reference the Federal MCLs, as referenced in HWTF Permit Section 6.2.3.1, *Cleanup Levels for Contaminants in Groundwater (other than Perchlorate).*

15. Appendix L, Sampling and Analysis Plan, Section L.2.3, Effluent Monitoring

Permittee Statement: "Additional effluent monitoring following any significant change to the treatment train (e.g. addition of a new extraction well) will consist of samples taken from the outlet of the post-filters. During the first month of operation, the samples will be collected daily for 7 days and then weekly until the end of the month."

NMED 's Comment: The Permittee must revise this section to reflect the sampling requirements of the finalized DP 1839.

16. Appendix L, Sampling and Analysis Plan, Table L-1, Groundwater Treatment System Monitoring Requirements

NMED 's Comment: The Permittee must revise this table to include the annual and five-year monitoring requirements in the finalized DP 1839.

NMED understands that this is a dynamic document that will be revised at least annually to reflect actual operations and maintenance at the GWTS for the dissolve-phase EDB plume collapse. The modifications in this letter must be incorporated into the next version of the O&M Plan for submittal to the NMED. NMED requires that a revised O&M Plan be submitted within 120-days of significant changes to the GWTS, including addition of pre-treatment, new extraction well(s), new injection well(s), and expansion of the treatment capacity.

Should you have any questions, please contact Ms. Diane Agnew of my staff at 505-222-9555 or via email at diane.agnew@state.nm.us.

Sincerely,

Kathryn Roberts
Director
Resource Protection Division

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File: KAFB 2016 Bulk Fuels Facility Spill