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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 31, 2017

Colonel Eric. H. Froehlich
Base Commander
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117-5606

Lieutenant Colonel Wayne J. Acosta
Civil Engineer Office
377 Civil Engineering Division
2050 Wyoming Blvd SE, Suite 116
Kirtland AFB, NM 87117-5270

**RE: BULK FUELS FACILITY EXPANSION OF THE DISSOLVED-PHASE PLUME
GROUNDWATER TREATMENT SYSTEM DESIGN, REVISION 2
SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE
EPA ID# NM9570024423, HWB-KAFB-13-MISC**

Dear Colonel Froelich and Lt. Colonel Acosta:

The New Mexico Environment Department (“NMED”) received the Kirtland Air Force Base (“KAFB” or “the Permittee”) *Work Plan for Bulk Fuels Facility Expansion of the Dissolved-Phase Plume Groundwater Treatment System Design Revision 2* (“Work Plan”), dated January 31, 2017. The revisions to the Work Plan address the conditions in the NMED conditional approval letter dated November 16, 2016, as well as additional site activities to be performed at the Bulk Fuels Facility (“BFF”) site, including:

- Design and installation of pre-treatment sand filters at the groundwater treatment system (“GWTS”);
- Equipment changes to new pump skids;
- Change to passive diffusion sampling at select groundwater monitoring wells; and
- Rehabilitation and re-development of KAFB-106233.

KAFB4554



NMED is also in receipt of the KAFB *Technical Memorandum Maximum Concentration Limits for Kirtland BFF Groundwater Treatment System* ("Memo"), dated May 10, 2017. This Memo documents modeling completed by KAFB's contractor to determine maximum loading criteria for operations and maintenance of the groundwater treatment system, using a 6-month lead change out for the granulated activated carbon lead tank. The Memo also includes maximum concentrations of iron and manganese for the sand filter pre-treatment to be installed in Summer 2017. It is NMED's understanding that the influent criteria presented in the Memo will be part of the Operations and Maintenance Plan revisions anticipated to be formally submitted by December 31, 2017.

NMED understands that the intention of the Air Force is to make this a programmatic document and to submit revisions to add new or revised tasks. NMED's review of the current Work Plan, conducted with the Air Force, highlighted problems in making continuous revisions to an "original" document, including increased review times, inconsistencies, and a general lack of transparency. Consequently, and as discussed with the Air Force on several occasions, NMED will no longer accept revisions to the original document. Additional tasks will need to be submitted as new, stand-alone work plan documents or appendices. Changes to this Work Plan, including appendices and other Work Plan documents, made or added in response to the conditions in this letter, must be done as tracked changes and limited to the relevant text and sections.

The Work Plan, as revised, extends beyond the original scope approved in Section 1.2. Additionally, revisions to the Work Plan contain unnecessary documentation of work that has been completed which is not appropriate for a planning document such as this Work Plan. Work completed should be removed from this Work Plan and documented in the appropriate and applicable submittal document (e.g., quarterly and/or annual report, work plan, etc.).

The Work Plan tasks, procedures, and quality control are hereby approved with the following conditions:

1. The revisions to Section 3.1.5 delete what was originally proposed and approved for the groundwater monitoring well nests. Additionally, it is not clear what will be done for future groundwater monitoring wells and instead, the revised language in the Work Plan appears to document what was done for the already completed wells; the added text references specific depths and design details. This section of the Work Plan must be revised to keep the original well design language as well as details on what design will be used relative to the water table. Well completion discussion and detail should be included in the applicable and appropriate well completion report, quarterly and or annual report.
2. In Section 3.2.15.2, the Work Plan revisions indicate a deviation from KAFB Standard Operating Procedures ("SOPs") and previously approved metrics for well development specific to turbidity. The Permittee states turbidity stabilization at less than 100 NTUs is acceptable and that since "these wells were decided for passive sampling, the 0.010 slot size should minimize formation fines in these wells." There is no referenced technical justification for these statements. The Permittee must provide technical justification to

change the NTU goal for the development of groundwater monitoring well nests, particularly with respect to analysis of metals in groundwater samples using the passive sampling technique.

3. The change to the use of passive diffusion bags and dual membrane samplers is approved for the following groundwater monitoring wells located north of Ridgcrest Drive in residential areas:

KAFB-106015	KAFB-106070	KAFB-106212
KAFB-106021	KAFB-106071	KAFB-106213
KAFB-106022	KAFB-106072	KAFB-106214
KAFB-106023	KAFB-106085	KAFB-106215
KAFB-106025	KAFB-106086	KAFB-106216
KAFB-106026	KAFB-106087	KAFB-106217
KAFB-106029	KAFB-106088	KAFB-106218
KAFB-106030	KAFB-106089	KAFB-106219
KAFB-106031	KAFB-106090	KAFB-106220
KAFB-106032	KAFB-106091	KAFB-106221
KAFB-106033	KAFB-106092	KAFB-106222
KAFB-106034	KAFB-106093	KAFB-106223
KAFB-106035	KAFB-106103	KAFB-106224
KAFB-106036	KAFB-106104	KAFB-106225
KAFB-106037	KAFB-106105	KAFB-106226
KAFB-106042	KAFB-106106	KAFB-106227
KAFB-106043	KAFB-106107	KAFB-106230
KAFB-106049	KAFB-106201	KAFB-106231
KAFB-106050	KAFB-106202	KAFB-106232
KAFB-106051	KAFB-106203	KAFB-106235-463
KAFB-106052	KAFB-106204	KAFB-106235-492
KAFB-106053	KAFB-106205	KAFB-106235-521
KAFB-106054	KAFB-106206	KAFB-106236-461
KAFB-106055	KAFB-106207	KAFB-106236-490
KAFB-106057	KAFB-106208	KAFB-106236-519
KAFB-106058	KAFB-106209	

4. Appendix F appears to have been revised to include the actual well construction diagrams for completed groundwater monitoring well nests KAFB-106235 and KAFB-106236. These diagrams should be included in the applicable report(s). The Work Plan should only include the proposed well design for groundwater monitoring wells, as described in Section 3.1.5.
5. Appendix J includes an unidentified geophysical log. It is unclear if this is meant as an example of what may be generated by the proposed geophysical logging tools or if it is an

actual log from the BFF site. If the log is from the BFF site, it should be removed from this Work Plan and included in the applicable report. If the log is an example, the Permittee must revise Appendix J to clarify.

6. Appendix K, Section 2.5 details well inspection and equipment reinstallation at extraction well KAFB-106233 following completion of well rehabilitation and re-development. There is no indication on the planned sampling of influent at the GWTS following resumed operation of this extraction well. The Fourth Quarter 2016 Annual Report groundwater data shows a low-level detection of benzene (0.7 J µg/L) at groundwater monitoring well KAFB-106225, located approximately 1,500 feet northeast of extraction well KAFB-106233. Additionally, toluene was detected at a concentration of 2 µg/L in groundwater monitoring well KAFB-106025, located roughly 500 feet due north of the extraction well. These recent detections of benzene and toluene, combined with the existence of EPS in the rehabilitated extraction well, indicates a potential hydrocarbon source near the extraction well and therefore potentially changing groundwater concentrations for hydrocarbon constituents. The Permittee must therefore follow the sampling frequency for newly installed extraction wells which specifies daily sampling for 7 days, then weekly until the end of the first month, and monthly thereafter.

The following sections of the Work Plan are not approved:

1. Section 3.1.2 states that the Quality Assurance Project Plan ("QAPjP") has been updated to be a programmatic document, capturing "all activities performed by EA on the Kirtland BFF project under multiple contracts." The original QAPjP, as submitted and approved, was specific to "Expansion of the Dissolved-Phase Plume Groundwater Treatment System Design" and in Section 2.3 of the approved QAPjP the scope of the document is stated to be:

"The QAPjP addresses all the quality aspects of the following tasks: installation of groundwater extraction, observation, and monitoring wells in the area north of KAFB; installation of conveyance lines from extraction wellhead vaults to the GWTS building located on KAFB; expansion of the treatment train in the GWTS Building; and installation of regional injection wells and associated conveyance lines for discharge of the treated effluent on KAFB, as well as operation and maintenance of the GWTS and groundwater monitoring."

NMED sent an email, dated December 8, 2016, to the Air Force stating that vadose zone activities must be submitted under a separate work plan, which includes the QAPjP. Expansion of the QAPjP to a programmatic scale to include vadose zone activities is not approved.

2. Bullet 2 in Section 3.1.7 on Page 3-11 under Treatment Train #2 testing reads:

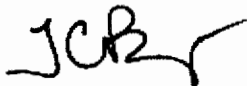
"Operational status of the Treatment Train #2 will be confirmed with weekly samples for one month, followed by monthly sampling specified in the O&M Plan (USACE, 2016a)."

This change is not approved. The Permittee must follow the sampling frequency for a new treatment train, as approved in Section L.2.2 of the Sampling and Analysis Plan (Appendix L of the O&M Plan [USACE, 2016]), which is daily sampling for 7 consecutive days, then sampling will occur once weekly until the end of the first month, and finally, sampling will occur once monthly thereafter.

3. Section 3.2.22 states that the Permittee will reduce data validation to 10 percent for all groundwater monitoring samples except for "newly installed wells," which will undergo 100 percent Stage 3 data validation for four quarters, and drinking water data which will maintain 100 percent Stage 3 data validation. This reduction of data validation is not approved.

If you have any questions regarding this letter, please contact Diane Agnew at (505) 222-9555.

Sincerely,



Juan Carlos Borrego
Deputy Secretary
Environment Department

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File: KAFB 2017 Bulk Fuels Facility Spill