



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMCG)

ENTERED

DEC 30 2009

Colonel Michael S. Duvall
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5606

Mr. William C. Olson, Chief
Groundwater Quality Bureau
1190 St. Francis Drive,
PO Box 5469
Santa Fe, NM 87502

Dear Mr. Olson

This letter is in response to your letter dated 28 October 2009 (Atch 1) requesting Kirtland Air Force Base (KAFB) develop and submit an Interim Light Non-Aqueous Phase Liquid (LNAPL) Hydrocarbon Recovery Work Plan for the Bulk Fuels Facility Release (Site SS-111) in order to locate Vapor Extraction Units (SVEs) off installation within the Bullhead Park area. As you are aware, a draft interim plan to locate one of the current SVEs at an offsite location has been discussed with your office. Consideration for the most viable location for the unit, security, air quality permitting and timing must all be taken into account. KAFB considers immediate establishment of the off-base SVE a top priority in the remediation process, together with the unit being well secured and safely placed for the public.

While an estimate of the cost and infrastructure necessary for relocation of an SVE off-installation has been developed by KAFB, two specific complications remain with moving forward with the action. First of these issues centers around City of Albuquerque (COA) approval for a proposed sighting of the unit in Bullhead Park. Several specific site locations have been suggested and reviewed with the COA however, as of 16 December 2009, no preferred sighting has been identified. KAFB has inquired about expanding the current Right of Entry granted by the COA and has only been given verbal assurances that an additional SVE site located in the area should not pose a problem but no "specific site selection" has been authorized.

A second obstruction in proceeding with an off-installation placement lies with ongoing litigation between KAFB and the Albuquerque Environmental Health Department, Air Quality Division, over proper permitting of the SVE units. KAFB has moved to develop a comprehensive air dispersion model for the area to include the relocation of the SVE unit off-base. Preliminary indications from the model illustrate that the ambient air quality at Bullhead Park would not be negatively impacted by the action however, a determination regarding the proper type of permit required has yet to be resolved.

Although these obstructions have yet to be resolved, KAFB has been working closely with your office to develop the extensive Comprehensive Site Model (CSM) for SS-111. The site evaluation and interim remediation effort has presented several unexpected iterations of the CSM, not the least of which being the discovery of migration of fuel outside the installation boundary. KAFB expeditiously took action to modify the investigation work plan to address the permutation and installed fifteen additional

KAFB4005



monitoring/recovery wells and subsequently revised the known plume model as data derived from the sampling effort was obtained. Efforts in the last few months have centered on final delineation of the dissolved phase of the plume.

With regard to the schedule presented in the modified abatement plan, KAFB is committed to support its remedial activities plan as outlined in the original submission (Atch 2) and subsequent clarification (Atch 3). The schedule follows all regulatory requirements and in several cases thus far, has been accelerated through rapid funding and contract acquisition/execution. KAFB believes a complete characterization of the phase-separated hydrocarbons was completed in FY09 as proposed and the schedule for FY10 is currently on track without any foreseen delays. A CSM, to include the dissolved phase delineation, should be complete before the end of the second quarter FY10.

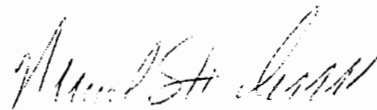
Subsequent to final delineation of both LNAPL and dissolved phases of the plume, KAFB will develop the Feasibility Study to identify the most appropriate final remedial technology or technologies. Consideration for potential competent technologies to be employed in the final remedial design has previously been initiated in discussions at both public and governmental meetings. Your office has been present at open public meetings and the Citizen's Advisory Board (CAB) when these discussions have occurred.

In addition to these ongoing and planned measures, KAFB will continue to support the COA with funding to accomplish monthly sampling of the Ridgecrest and Burton Well Fields and will continue quarterly monitoring of all wells in the affected area controlled by KAFB to ensure safe drinking water for the community. Despite what has been interpreted as an extended remediation plan, KAFB continues to move forward, and even accelerate, a well thought out approach to final remedy in place.

In addressing your comment with regard to the WQCC Regulation requirement for quarterly monitoring reports for all Stage I and II Abatement Plan activities, your letter of 14 February 2007 (Atch 4) previously authorized semiannual submissions within 60 days of monitoring activity in association with the Stage II Abatement Plan. Additionally, KAFB sent NMED a request on 9 December 2009 (Atch 5) to re-verify your prior approval of extending the data reporting requirement of 60 days to 90 days for submittal of the reports. KAFB would request that this practice be continued due to the large volume of data being produced during the sampling events and the need for additional time to properly assess and validate the data.

If you have any questions regarding these issues, please contact Mr. Wayne Bitner, Chief of Environmental Restoration, at 853-3484.

Sincerely



MICHAEL S. DUVALL, Colonel, USAF
Commander

5 Attachments:

1. NMED Ltr. "Requirement for an Interim LNAPL Hydrocarbon Recovery Work Plan" 28 October 2009
2. KAFB Memorandum "Completion of the Stage 2 Abatement Plan Modification at the Bulk Fuels Facility, Kirtland AFB" 12 Feb 2009
3. KAFB Ltr. "Responses to NMED 23 June 2009 Ltr." 30 July 2009
4. NMED Ltr. 14 February 2007 "Stage 2 Abatement Plan Monitoring Program Modification Approval for the Bulk Fuels Facility (ST-106), KAFB Albuquerque New Mexico
5. KAFB Ltr. "Request to Modify Current Monitoring Program" 9 Dec 2009

cc:

NMED GWQB, Mr. Swanson w/o Atchs
USEPA-Region 6 (6PD-N), Ms. King w/o Atchs
AFCEE/CMSE, Mr. Oyelowo w/o Atchs
AFCEE/ICE, Ms. Doll w/o Atchs
CH2MHill, Ms. Minchak w/ Atchs
Admin. Record, CNM, Montoya Campus w/o Atchs
File



BILL RICHARDSON
Governor
DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

1190 St. Francis Drive, P.O. Box 5469
Santa Fe, New Mexico 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965
www.nmenv.state.nm.us



RON CURRY
Secretary
JON GOLDSTEIN
Deputy Secretary

October 28, 2009

Colonel Michael S. Duvall
377 ABW/CC
2000 Wyoming Blvd. SE
Kirtland AFB
Albuquerque, New Mexico 87117-5606

Re: Requirement for an Interim LNAPL Hydrocarbon Recovery Work Plan

Dear Colonel Duvall:

The New Mexico Environment Department (NMED) has determined, based on information generated by Kirtland Air Force Base (KAFB) during its investigations, that the scale and observed impact of the Light Non-Aqueous Phase Liquid (LNAPL) hydrocarbon contamination of ground water associated with the SS-111 Bulk Fuels Facility constituting the majority of the KAFB ST-106 LNAPL plume has been largely defined. This plume of LNAPL hydrocarbons has been found to have contaminated ground water over a substantial area that is the source of drinking water supplies for the City of Albuquerque and is also located in the vicinity of several public water supply wells. The volume of LNAPL hydrocarbons on ground water, which has been estimated by KAFB to be in the millions of gallons, will take a substantial period of time to remediate. Currently, the majority of the LNAPL hydrocarbon plume is located off of KAFB property and is not being actively remediated.

Based upon these considerations, NMED requires that KAFB submit an interim LNAPL hydrocarbon removal work plan to address off-base LNAPL removal including a schedule to implement the work plan as soon as possible. This work plan should be submitted to NMED no later than November 30, 2009 concurrent with KAFB's semi-annual monitoring report. The work plan could include the relocation and operation of interim ICE SVE unit(s) to an off-base location, as recently proposed by KAFB. However, it must also include the installation of a sufficient number of LNAPL extraction wells for plume verification and extraction in all off-base areas affected by LNAPL.

NMED would like to point out that your letter, dated July 30, 2009, in response to the Notice of Deficiency (NOD) issued by NMED on June 23, 2009, referencing the "Modified Stage 2 Abatement Plan Schedule of Activities for Kirtland SS-111 Bulk Fuel Facility", fails to address the deficiencies noted in the NOD. Therefore, NMED reiterates that we expect that off-base

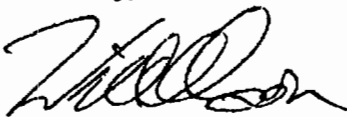
Colonel Michael S. Duvall
Page 2
October 28, 2009

remediation activities, both LNAPL recovery and dissolved-phase ground water remedial action, will be undertaken at the soonest practicable juncture. The schedule presented in the modified abatement plan does not reasonably accomplish this goal and KAFB's response remains deficient in its nonspecific references to "realistic time frames" and KAFB prescribed schedules for funding requests and receipt of funding. KAFB's response also proposes that the same schedule (still without specific dates) be pursued with reference to both full-scale remediation of dissolved-phase contamination, as well as LNAPL removal from ground water. NMED considers this an unnecessary linkage between the unfolding investigation of dissolved phase contamination that will take place over a longer period of time, and the goals of protecting City of Albuquerque water supplies by implementing LNAPL remediation immediately to reduce the mass of LNAPL hydrocarbons on ground water that can contribute to the spread of dissolved phase water contaminants.

The NMED's June 23, 2009 Notice of Deficiency also indicated that we cannot approve a three-year time horizon for implementation of a Stage II Abatement Plan for dissolved phase contamination at SS-111. In response, KAFB proposed to submit the results of its dissolved phase investigation as part of its semi-annual monitoring report on November 30, 2009 and to submit the dissolved Phase Abatement Plan within 120 days from NMED review and approval of that report. NMED looks forward to receiving this information on November 30, 2009 and the future submittal of an overall Stage II Abatement Plan for the complete remediation of all contaminated ground water. Please be advised that the WQCC Regulations require that all Stage I and II Abatement Plan activities include the submittal of quarterly monitoring reports and KAFB will be expected to meet this requirement in the future.

NMED thanks you for your on-going cooperation in this matter. If you have any questions about this letter, please contact Alex Puglisi, Program Manager at (505) 827-2754 or Baird Swanson, Project Manager at (505) 222-9520.

Sincerely,



William C. Olson, Chief
NMED Ground Water Quality Bureau

Cc: Wayne Bitner, KAFB. 377 ABW/EMR
Barbara Gastian, ABCWUA, P.O. Box 1293, Albuquerque, NM 87103
Alex Mora, AEHD, P.O. Box 1293, Albuquerque, NM 87103
Billy Gallegos, AEHD, P. O. Box 1293, Albuquerque, NM 87103
Mary Lou Leonard, AEHD, P. O. Box 1293, Albuquerque, NM 87103
Alex Puglisi, Program Manager, GWQB/ROS
Baird Swanson, NMED, District 1
ROS Read File



OVERNIGHT DELIVERY

W.B.
3/20/09
AR Doc # 3378

DEPARTMENT OF THE AIR FORCE
377th Civil Engineer Division (AFMC)

12 Feb 09


MEMORANDUM FOR MR. WILLIAM C. OLSON, CHIEF
GROUNDWATER QUALITY BUREAU (GWQB)
NEW MEXICO ENVIRONMENT DEPARTMENT (NMED)
PO BOX 26
SANTA FE, NM 87502

FROM: 377 MSG/CEANR
2050 Wyoming Blvd SE, Suite 116
Kirtland AFB NM 87117-5270

SUBJECT: Completion of the Stage 2 Abatement Plan Modification at the Bulk Fuels Facility,
Kirtland AFB

1. The Natural Resource Management Branch is planning future funding for completion of the approved Stage 2 Abatement Plan Modification (S2AP Mod) at the Kirtland AFB Bulk Fuels Facility. Because of the magnitude and extent of the contamination, the need to carefully and completely evaluate, select and design the abatement option, the fact that the contamination extends off of Kirtland AFB, which may require implementation of off-base abatement, the need for public input and approval for our abatement option, and the consequent large expense for completion of the S2AP Mod, we are proposing that the requirements for the Stage 2 Abatement Plan, 20.6.2 NMAC 4106.E. be completed in a phased approach.
2. Currently, we are investigating the extent of the phase-separated hydrocarbons, which we anticipate being completed in Fiscal Year (FY) 09. We are proposing completion of the site conceptual model and development, and assessment, justification and selection of the preferred abatement option required in 4106.E.(1)(2) and (3), in FY10. During selection of the preferred abatement option, we will assess the need for off-base remediation. We will complete design of the approved abatement option (cited within 4106.E.(3)) in FY11, with implementation of the selected abatement to be completed in FY12. Requirements outlined in 4106.E.(4-8) would be completed as required. The proposed schedule is subject to approval of proposed funding.
3. This approach is in line with our approved Stage 2 Abatement Plan Modification, which provided a step by step approach to investigation and abatement of the site.

4. Please contact Mark Holmes, at 505 846-9005 if you have any questions or comments on this request.



LUDIE W. BITNER, YF-02
Chief, Restoration Section

cc:

VA Hospital, Mr. Reichter
ABCWUA, Ms. Gastian
ABCWUA, Mr. Stomp
COA AEHD, Mr. Gallegos
NMED GWQB, Mr. Swanson
NMED HWB, Mr. Kieling
NMED HWB, Mr. McDonald
USEPA-Region 6 (6PD-N), Ms. King
AFCEE/CMSE, Mr. White
AFCEE/ICE, Ms. Doll
CH2MHill, Ms. Minchak
Admin. Record, CNM, Montoya Campus
AR/IR
File



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

AR Doc# 3410

JUL 30 2009

Colonel Michael S. Duvall
Commander
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117-5000

Mr. William C. Olsen
Groundwater Quality Bureau (GWQB)
New Mexico Environment Department (NMED)
PO Box 26110
Santa Fe NM 87502

Dear Mr. Olsen

Kirtland AFB is providing the following responses to your 23 Jun 09 letter notifying Kirtland AFB of a Notice of Deficiency for the *Modified Stage 2 Abatement Schedule of Activities for Kirtland SS-111, Bulk Fuels Facility, Kirtland AFB*, submitted to you in a memorandum dated 12 Feb 09. The three deficiencies cited (*italicized*) are stated below with response:

1. *In its proposal, KAFB uses "FY09, FY10, FY11, and FY12" in describing annual cycles for work to be completed. All work commitments need to cite the specific calendar dates by which they will be initiated and completed.*

KAFB will provide specific calendar dates for work activities to be proposed in the schedule for our Stage 2 Abatement Plan (S2AP) for abatement of the off-base dissolved phase groundwater contamination.

2. *KAFB proposes a three-year time horizon for implementing dissolved-phase Stage 2 Abatement Plan at SS-111. NMED does not approve the extended period of time proposed for this activity. NMED required that no more than 120 days shall pass between completion of the dissolved-phase investigation and submittal of a Stage 2 AP for the full-scale remediation of the off-base dissolved phase groundwater contamination.*

KAFB will submit a S2AP for the full-scale remediation of the off-base dissolved-phase groundwater contamination within 120 days of the completion of the dissolved-phase investigation. KAFB proposes the start of the 120-day period begin after NMED review and approval of the results of the dissolved-phase

investigation. KAFB proposes to submit the results of the dissolved-phase contamination in the next semi-annual report scheduled to be provided 30 Nov 09. This will permit initial monitoring of the three groundwater monitor wells installed in June 2009 (KAFBs-10621, 10622 and 10623) to be sampled as part of the scheduled July 2009 quarterly monitoring event and used to investigate the off-base dissolved-phase groundwater contamination. This data, in conjunction with data from the July 2009 monitoring of the other groundwater monitor wells installed to investigate the fuel plume, will provide the first complete evaluation of the off-base dissolved-phase groundwater contamination.

3. *NMED expects that off-base remediation activities, including both LNAPL recovery and dissolved-phase groundwater remedial action, will be undertaken at the soonest practicable juncture. The proposed schedule does not reasonably accomplish this goal.*

In the S2AP, KAFB will provide a schedule of the proposed remediation of both the LNAPL and dissolved-phase groundwater contamination. The schedule will propose realistic timeframes based on our prescribed schedule for funding requests and receipt, as well as public comment and NMED approval, of the proposed remedial activities. To expedite these timeframes, KAFB plans to submit accelerated funding requests, which will be subject to available funding.

If you have any questions with regard to this submittal, please contact Mr. Mark Holmes at (505) 846-9005.

Sincerely



MICHAEL S. DUVALL, Colonel, USAF
Commander

cc:

VA Hospital, Mr. Richter
ABCWUA, Ms. Gastian
COA AEHD, Mr. Soladay
NMED GWQB, Mr. Swanson
NMED HWB, Mr. Kieling
NMED HWB, Mr. McDonald
USEPA-Region 6 (6PD-N), Ms. King
AFCEE/CMSE, Mr. Oyelowo
AFCEE/ICE, Ms. Doll
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Admin. Record, CNM, Montoya Campus
AR/IR
File



BILL RICHARDSON
GOVERNOR

**State of New Mexico
ENVIRONMENT DEPARTMENT**

**Ground Water Quality Bureau
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RON CURRY
SECRETARY

CINDY PADILLA
DEPUTY SECRETARY

C.L.
3-12-07
AK Doc# 3133

February 14, 2007

Carl J. Lanz P.G.
US Air Force
377 MSG/CEVR
2050 Wyoming Blvd. SE
Building 20685, Suite 118
Kirtland AFB
Albuquerque, New Mexico 87117-5270

Re: Stage 2 Abatement Plan Monitoring Program Modification Approval for the Bulk Fuels Facility (ST-106), Kirtland Air Force Base (KAFB) Albuquerque, New Mexico

Dear Mr. Lanz:

The New Mexico Environment Department (NMED) approves a modification to the monitoring program for the Stage 2 Abatement Plan at the Bulk Fuels Facility (ST-106). The request for modification, dated January 12, 2007, proposed changes in reporting frequency and submittal dates. This approval is made by NMED pursuant to the Water Quality Control Commission (WQCC) Regulation 20.6.2.4109.A NMAC.

Monitoring reports will be submitted on a semiannual basis, and within 60 days after each sampling event. Semiannual monitoring reports will be due on May 30 and November 29 of each year. In approving this monitoring program modification, NMED has determined that the requirements of WQCC Regulation 20.6.2.4106.E and 4111 NMAC have been met. Upon request, please provide NMED with monitoring data in an electronic format when monitoring reports are submitted. Please provide NMED at least two (2) weeks advance notice of planned field activities.

Please be advised that this NMED approval does not relieve KAFB of its responsibility if the monitoring program fails to adequately monitor contamination related to its activities. In addition, NMED approval does not relieve KAFB of its responsibility for compliance with any other federal, state or local laws and regulations.

Mr. Carl J. Lanz
February 14, 2007
Page 2

If you have any questions, please contact Baird Swanson, Project Manager, at (505) 222-9520 or Christine Bynum, Program Manager (505) 827-2754. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'William C. Olson', written in a cursive style.

William C. Olson, Chief
Ground Water Quality Bureau

cc: Baird Swanson NMED Dist 1 Office, GWQB
ROS Reading File



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

AR Doc # 3435

DEC 9 2009

Colonel Michael S. Duvall
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5606

Mr. William C. Olsen, Chief
Groundwater Quality Bureau
New Mexico Environment Department
PO Box 26110
Santa Fe NM 87502

Dear Mr. Olsen

We are requesting a modification of the current monitoring program for the Bulk Fuels Facility project. The modification is requested in accordance with the New Mexico Water Quality Control Commission Regulation 20.6.2.4111.A, Abatement Plan Modification.

The requested modification is a change to the period of time after the end of the sampling event for report submission. The requested period of time for report submittal would change from 60 days to three months after the end of the sampling event. The frequency of data collection would be unchanged.

The basis for the request is to permit increased time to evaluate the larger number of data sets. In February 2007, fuel product was discovered on the groundwater. Since that time, 19 groundwater monitor wells have been installed to investigate the extent of the contamination and three soil vapor extraction systems installed to provide interim remediation. This has increased the amount of data requiring evaluation for complete report of the existing conditions. Analytical data would be available for the data collected during each quarter upon request by the New Mexico Environment Department (NMED). The proposed modification would be implemented immediately, with the next semi-annual report due by 31 December 2009. The report is currently due by 30 November 2009. The request was also proposed in both the May and June 2009 Stage 2 Abatement Plan Modification Addendum work plans, which were submitted to and approved by NMED.

If you have any questions regarding the results or my proposal for continued monitoring, please contact my POC Mr. Mark Holmes, 377 MSG/CEANR, at (505) 846-9005.

Sincerely

MICHAEL S. DUVALL, Colonel, USAF
Commander

cc:

ABCWUA, Ms. Gastian
COA AEHD, Mr. Soladay
NMED GWQB, Mr. Swanson
NMED HWB, Mr. Kieling
NMED HWB, Mr. McDonald
USEPA-Region 6 (6PD-N), Ms. King
AFCEE/CMSE, Mr. Oyelowo
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