DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

28 Jun 19

AFCEC/CIB
2261 Hughes Avenue, Ste 155
JBSA Lackland, TX 78236-9853

Ms. Sue Leeming, Director
Michigan Department of Environmental, Great Lakes, and Energy
Remediation and Redevelopment Division
Constitution Hall
525 West Allegan Street
P.O. Box 30426
Lansing, MI 48909-7926

RE: Dispute Resolution (DR) Concerning the Former Wurtsmith Air Force Base and Response to Impacts to Drinking Water from PFOS/PFOA Substances, Site ID No. 35000058.

Dear Ms. Leeming:

This letter serves to update the discussion for each of the seven dispute resolution issues, which were last discussed in writing in the 15 March 2018 Air Force response letter. The Air Force and Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly Michigan Department of Environmental Quality (MDEQ) met on 25 April 2019 in Lansing, MI, to discuss how to resolve each issue. Attachment 1 is a listing of the attendees. The following provides a summary of the Dispute Resolution Committee's discussions on 25 April 2019 to resolve each dispute issue. Members of the Dispute Resolution Committee from Michigan and the Air Force are Ms. Sue Leeming, Director, Remediation and Redevelopment Division and Dr. Stephen TerMaath, Chief, BRAC Program Management Division, respectively.

ISSUE 1. Regularly monitor existing residential and Type I community wells for PFAS contamination. (Includes an 8 Feb 18 request from MDEQ to prepare a work plan to investigate conditions on the east side of Van Etten Lake and Van Etten Creek.)

The Air Force initiated residential/Type 1 well sampling in the fall of 2015. A total of six rounds of private well sampling has been completed with the most recent sampling conducted in May 2019. One private well exceeded the USEPA lifetime health advisory (LHA) for PFOS/PFOA and was connected to the municipal drinking water supply. There have been no additional exceedances of the LHA. The statistical evaluation of the data set for these

residential/Type 1 wells do not show an increasing trend in PFOS/PFOA concentration (trend analysis in Attachment 2).

Drinking water wells on the east side of the lake remain below the LHA and drinking water wells, except one, on the west side are also below the LHA. Consequently, EGLE agreed the Air Force does not need to focus on the east side of Van Etten Lake. The Air Force will continue to monitor the drinking water wells located on the west side of Van Etten Lake on a quarterly basis through the remainder of calendar year 2019 and will continue to provide the sampling results to EGLE for review.

In order to resolve Item 1 of the DR, the Air Force will develop a sentinel well monitoring plan for EGLE review and approval which identifies the number, location, screened interval and sampling/reporting frequency for monitoring the concentration of PFOS/PFOA in groundwater located up-gradient of residential/Type 1 community wells on the west side of Van Etten Lake. The sentinel wells are expected to provide data which can be used to evaluate PFOS/PFOA concentrations immediately up-gradient of the residential/Type 1 community wells and identify the potential for migration of concentrations above the LHA towards these wells. The Air Force believes this proposed path forward is sufficient to close Issue 1 of the DR and requests EGLE concurrence that Issue 1 has been resolved.

ISSUE 2: Full characterization of the PFAS plumes in areas upgradient of the impacted residential and type I community wells.

An Expanded Site Investigation (ESI) was initiated and is nearing completion. Phase II of the ESI included additional vertical aquifer sampling (VAS), monitoring well installation, groundwater sampling of new and existing monitoring wells, and initiation of a transducer study to better understand the hydrogeologic conceptual site model on west side of Van Etten Lake, including evaluation of groundwater flow directions and potential seasonal fluctuations within the aquifer. AFFF Areas 4, 6 and 7 were included in the Phase II ESI to improve the understanding of source areas upgradient of the residential and Type I community wells impacted by PFOS/PFOA. The Air Force completed the installation of monitoring wells both up-gradient and within the vicinity of the residential and Type I community wells impacted by PFOS/PFOA. Quarterly sampling of monitoring wells to better understand the potential for seasonal variation in PFOS/PFOA concentrations is ongoing with the final round of quarterly monitoring well sampling scheduled to be completed in August 2019. The ESI Report will also include an updated fate and transport model and will further evaluate the effectiveness of the existing groundwater extraction systems in controlling migration of PFOS/PFOA contaminated groundwater. The Air Force anticipates that the ESI Report will be submitted to EGLE for review before the end of calendar year 2019.

The Air Force is committed to following the CERCLA process at the former Wurtsmith AFB, and consistent with CERCLA, the next phase of the process is the completion of a Remedial Investigation (RI). The RI will fully characterize the vertical and lateral extent of PFOS/PFOA in all affected media on a base-wide approach. As part of the RI, an evaluation of applicable or relevant and appropriate requirements (ARARs) will be completed, and the Air Force will evaluate risk pathways and exposures as part of the risk assessment process under CERCLA. While the Air Force is committed to completing an RI, the Federal Acquisition

Regulations prohibit federal agencies from committing to spend funds which have not been appropriated. As such, the timing of submission of the RI work plan for EGLE review will be dependent upon securing the required funding and the award of a contract for the RI. The Air Force is hopeful that a contract for the RI will be awarded in fiscal year 2021. The Air Force believes this proposed path forward is sufficient to close Issue 2 of the DR and requests EGLE concurrence that Issue 2 has been resolved.

ISSUE 3: Implement a sentinel monitoring well system to assure that higher level PFAS contamination is not moving toward the portion of the aquifer that is used as a drinking water source.

See the discussion for Issue 1. The Air Force believes this proposed path forward is sufficient to close Issue 3 of the DR and requests EGLE concurrence that Issue 3 has been resolved.

ISSUE 4: Evaluate the existing groundwater extraction systems as an interim remedial action to control the PFAS plume migration toward the impacted residential and Type I community wells.

See the discussion for Issue 2. The ESI Report will include an updated fate and transport model, and will further evaluate the effectiveness of the existing groundwater extractions systems in controlling migration of PFOS/PFOA contaminated groundwater. Seasonal monitoring is in progress to better document concentrations downgradient of pump and treat capture areas and concentrations outside of the capture areas. The improved understanding of source and capture areas will allow for the evaluation of interim response actions. The Air Force believes this proposed path forward is sufficient to close Issue 4 of the DR and requests EGLE concurrence that Issue 4 has been resolved.

ISSUE 5: Present a plan to MDEQ providing for final remedial actions.

Referencing the 8 February 18 letter from EGLE (then MDEQ) and the Air Force 15 March 18 reply, the DRC agreed that this issue is resolved.

ISSUE 6: Provide an alternative drinking water source to affected well users.

One private well which exceeded the USEPA LHA for PFOS/PFOA was connected to the municipal drinking water supply. There have been no additional exceedances of the LHA in private drinking water wells. Whenever a private or municipal drinking water well is discovered to have PFOS/PFOA concentrations above the LHA, the Air Force provides alternate water to users of the well normally within 24 hours. After initially providing bottled water, the Air Force installs a treatment system on the well or connects users of private wells to a municipal water supply. EGLE appreciated use of this approach in the past and Air Force restatement of the approach if other drinking water wells are found with levels above the LHA. The DRC agreed this issue is resolved.

ISSUE 7: Additional sampling is needed to evaluate compliance with Michigan's statewide criteria for groundwater-surface water interface (GSI) locations as set forth in Part 201.

The USAF must move more aggressively and more quickly to define and remove the ongoing threat to public health and the environment, starting with the USAF action to provide a long-term potable water supply to affected well users and followed by response actions to remediate impacted ecosystems, including surface waters, groundwater, fish, birds, and mammals.

See the discussions for Item 2 and Item 6. EGLE agreed that the cleanup level for groundwater that is not venting to surface water is 70 ppt. The next phase of the CERCLA process will be the completion of a base-wide RI to fully characterize the vertical and lateral extent of PFOS/PFOA in all affected media, and will evaluate risk pathways and exposures as part of the risk assessment process under CERCLA. As part of the RI, an evaluation of ARARs will be completed. The Air Force has previously acknowledged that the state's GSI cleanup criteria for PFOA and PFOS will be potential ARARs when the Air Force reaches the cleanup phase of CERCLA. If the RI determines that a remedial action is required in order to protect human health and the environment, then remedial action alternatives are evaluated during the feasibility study (FS) phase of the CERCLA process. Compliance with ARARs is one of the criteria used to evaluate alternatives during the FS. The Air Force believes this proposed path forward is sufficient to close Issue 7 of the DR and requests EGLE concurrence that Issue 7 has been resolved.

We ask your agreement with the summary of the DRC meeting, and in those cases where the Air Force proposes a path forward, we ask whether EGLE agrees. I look forward to receiving your response. Please let me know if you have any questions or require additional information.

Sincerely,

for

STEPHEN G. TERMAATH, GS-15, DAF
Chief, BRAC Program Management Division
Installations Directorate

Attachments:
1. List of Attendees
2. PFOS/PFOA Trend Analysis

cc:
Ms. Felicia M. McBride, DSMOA Grants Officer
Mr. John Bradley, EGLE
Mr. Matt Marrs, AFCEC/CIBE
Mr. Daniel Medina, AFCEC/CIBE

April 25, 2019
Wurtsmith Air Force Base

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East - Van Etten Dam Rd | South-Forest/Bissonnette | Southeast | Public Wells

PFOA+PFOS concentrations (ppt)

2015/2016
Aug-17
1st Qrt (Jun-18)
2nd Qrt (Sep-18)
3rd Qrt (Jan-19)

Sample Location

Air Force Civil Engineer Center
2261 Hughes Avenue
Building 171, Ste 155
JBSA Lackland, Texas 78236

N

Project: 775329301

By: DGJ | Date: 03/29/2019

0 380 760 Feet

SYMBOL KEY

2015/2016 | Aug-17 | 1st Qrt (Jun-18) | 2nd Qrt (Sep-18) | 3rd Qrt (Jan-19)

Note:

All other locations without concentrations displayed are either not sampled or non-detect.

FIGURE 3
Private/Public Drinking Water Supply Monitoring
2015-2019 PFOA/PFOS Analytical Results
Former Wurtsmith Air Force Base, Oscoda, Michigan

Document Path: G:\Wurtsmith ANGB\mxd pdf\ResidentialWellSampling\2019Well Survey Graph Fall2019Results.mxd