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LANSING



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July 16, 2020

VIA E-MAIL

Dr. Stephen G. Termaath, GS-15, DAF
AFCEC/CIBE
Chief, BRAC Program Management Division
Installations Directorate
2261 Hughes Avenue, Suite 155
JBSA Lackland, Texas 78236-9853

Dear Dr. Termaath:

Subject: Dispute Resolution Concerning the Former Wurtsmith United States Air Force Base (AFB) and Response to Impacts to Drinking Water from Per- and Polyfluoroalkyl Substances (PFAS); Site ID No. 35000058

Your letter dated June 28, 2019, summarizes the United States Air Force's (USAF) understanding of the April 25, 2019, discussions between the Air Force and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to resolve the disputed items. In addition, your correspondence seeks agreement with the USAF's summary and proposed path forward to resolve any outstanding disputed items.

While this letter provides concurrences that all stated issues have been resolved, EGLE does this with some trepidation. This is due to the fact that much of the dispute resolution is based on stated future plans and the USAF has historically not provided timelines or milestones with expected completion dates associated with plans. We are requesting that this practice change for the process to move forward where EGLE can operate in good faith with the USAF. We request this be fulfilled no later than September 30, 2020.

The following paragraphs discuss the issues in this dispute, the USAF's June 28, 2019 summary, and EGLE's response.

ISSUE 1. Regularly monitor existing residential and Type I community wells for PFAS contamination. EGLE's February 8, 2018, letter to the USAF clarifying the issues in the Dispute Resolution, included the requirement for monitoring both the west and east sides of Van Etten Lake, and submittal of a work plan 45 days after receipt of EGLE's February 8, 2018, letter:

The work plan must include immediate, interim steps to install a groundwater monitoring well network to (1) serve as a sentinel for potable residential and Type I community wells, and (2) support the characterization, both vertically and horizontally, of the plumes in the areas east of Van Etten Lake and Van Etten Creek identified on Figure 1. The monitoring well network necessary to achieve this task must include vertical aquifer sampling for the complete depth of the aquifer. The resulting data must be sufficient to develop a predictive model of the plumes' potential impact on public health and the environment.

USAF's June 28, 2019 Summary: *"The USAF initiated residential/Type I 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 I 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 that the Air Force does not need to focus on the east side of Van Etten Lake. The Air Force agreed 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’s 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 I 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 I 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.”

STATUS: Resolved EGLE concurs that the proposed path is sufficient to resolve Issue 1. The USAF continues to monitor the drinking water wells located on the west side of Van Etten Lake on a quarterly basis and will continue to provide results to EGLE for review. USAF additionally plans to determine nature and extent of PFOS/PFOA contamination during the base wide Remedial Investigation. According to the December 2019 ESI report, the USAF plans to prepare a sentinel monitoring well plan to monitor PFOS+PFOA concentrations in groundwater downgradient of suspected source areas and upgradient of drinking water wells in areas where data confirms that the PFOS+PFOA concentrations are greater than the LHA and DWC and are not sufficiently protected by an existing groundwater extraction system. Install additional monitoring wells if needed.” In addition, in the course of dispute resolution, USAF has indicated that “[i]f the USAF’s future investigations indicate the plume extends to the east side of Van Etten Creek and Van Etten Lake, the USAF and MDEQ can discuss the needed frequency and duration of sampling on that side of the creek and lake.” (March 15, 2018 letter from TerMaath to Shirey).

ISSUE 2. Full characterization of the PFAS plumes in areas up gradient of the impacted residential and Type I community wells. EGLE’s February 8, 2018 letter to the USAF specified that the workplan identified in Item 1 must also include a plan to identify the individual plumes, the maximum concentration levels of contaminates, migration characteristics, and an implementation schedule. The USAF is to characterize impacted groundwater areas of high concern from a human health concern in the immediate, near term future. The areas identified in the letter are: Loud Island, Alert Apron, Defense Reutilization Management Office LF30/31, F41, Budziak, east of Van Etten Lake, and east of Van Etten Creek. The outcome of the study is to identify appropriate sentry well locations and depths, as well as sufficient monitoring frequency, to yield information that will provide warning of plume movement above Part 201 criteria into residential drinking water wells.

USAF’s June 28, 2019 Summary: *“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 Comprehensive Environmental Response, Compensation and Liability Act (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 prohibits 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's 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's concurrence that Issue 2 has been resolved."

STATUS: Resolved. EGLE concurs that Issue 2 is resolved with the path identified above. The USAF has submitted the ESI to EGLE by the end of the calendar year 2019 and plans to conduct a base wide RI to determine nature and extent of PFOS/PFOA contamination.

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.

USAF's June 28, 2019 Summary: "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."

STATUS: Resolved. EGLE concurs that Issue 3 is resolved. See EGLE's response to Issue 1.

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. The February 8, 2018, letter also asked for delineation of the hydraulic capture zone of the plumes impacted by the Mission, Benzene and Arrow Street pump systems. A plan for this delineation project was required to be submitted March 1, 2018. EGLE also requested that the USAF evaluate the feasibility of expanding the existing extraction systems or installing additional extraction systems to adequately intercept the PFAS plumes. The results of the feasibility study were due 45 days after the receipt of the February 8, 2018, letter.

USAF's June 28, 2019 Summary: *"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."*

STATUS: Resolved. EGLE concurs that Issue 4 is resolved with the path above. In the December 2019 ESI, the USAF further evaluated the existing PFOS/PFOA groundwater extraction systems and provided a PFOS/PFOA fate and transport model to allow for evaluation of interim actions.

ISSUE 5. Present a plan to EGLE providing for final remedial actions. The February 8, 2018, letter clarified that this issue was raised in the dispute to ensure that EGLE and the USAF agree that the development and analysis of investigations and feasibility studies to address the PFAS contamination released by the USAF must keep the goal of final remedial actions in mind and must be aimed at reaching a final remedial action in the future. If the USAF agrees with EGLE, this issue can be deemed resolved.

USAF's June 28, 2019 Summary: *"Referencing the February 8, 2018 letter from EGLE (then MDEQ) and the Air Force March 15, 2018 reply, the DRC agreed that this issue is resolved."*

STATUS: Resolved. EGLE concurs this Issue 5 is resolved as described above.

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

USAF's June 28, 2019 Summary: *"One private well which exceeded the Air Force 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 the 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."*

STATUS: Resolved. EGLE concurs that Issue 6 is resolved as described above.

ISSUE 7. (1) 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. (2) 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.

USAF's June 19, 2019 Summary: *"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."

STATUS: Resolved. EGLE concurs that Issue 7 is resolved. USAF has committed to a base wide RI, which will determine nature and extent of PFOS/PFOA contamination and evaluate risk to human health and the environment. An evaluation of ARARs will be conducted as part of the RI, including the GSI criteria for PFOA and PFOS. Additionally, in the July 1, 2019, press release, USAF agreed to use Michigan's GSI criteria for PFOS in its investigation and sampling.

EGLE concurs that the disputed Issues 1 through 7 are resolved as outlined above. However, nothing in this letter shall preclude or limit EGLE to initiate a future dispute resolution on these or other issues. Should you require further information of a technical nature, please contact Ms. Beth Place, Superfund Section, Remediation and Redevelopment Division, at 517-899-7524; PlaceB1@michigan.gov; or EGLE, P.O. Box 30473, Lansing, Michigan 48909-7973; or you may contact me.

Sincerely,



Mike Neller, Director
Remediation and Redevelopment Division
517-512-5859

cc: Ms. Sharon Butler, Defense State Memorandum of Agreement Grants Officer
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