

# RAB Questions

13 Feb 18 Wurtsmith RAB meeting

Requests/Comments:

**1. Can you provide more information on effectiveness of Resin and other technologies compared to GAC?**

Ion Exchange (IX), often referred to as “resin,” because the IX media are typically derived from organic polymers or plastics, is a technology that demonstrated success in treating PFOS/PFOA during pilot studies. Full-scale treatment systems are currently in operation in Australia, but the use of IX to treat PFOS/PFOA in the United States is still in the initial stages of testing.

Currently, the USAF is conducting a pilot study on the uses of IX resins at the former Pease Air Force Base, New Hampshire, and the USAF is installing water treatment systems that contain IX resins in private homes near former Reese AFB, Texas.

Information related to PFOS/PFOA treatment technologies can be found at the following link: [Interstate Technology Regulatory Council’s \(ITRC\) Remediation Technologies and Methods Fact Sheet](#)

**2. Updates/stats on effectiveness of current mitigation system at Wurtsmith?**

The GAC pump and treat system installed downgradient of FT-02 in April 2015 intercepts and treats groundwater and cuts off contamination discharges from entering Clark’s Marsh and other waterways. See attached map for more information.

<b>Average INTAKE concentrations at wells downgradient of the P&amp;TS:</b>		In its first year of operation the FT-02 GAC system reduced PFOS/PFOA concentrations an average of 83% and 84%, respectively, based on samples pulled from select monitoring wells down-gradient of the intercepting extraction well network.
<b>2015</b>	<b>2017</b>	
PFOS: 7.40 ppb	PFOS: 3.97 ppb	
PFOA: 1.52 ppb	PFOA: 0.911 ppb	

**3. Please provide more info on Air Force plan and progress to remediate Clark’s Marsh**

The groundwater recovery system and the associated GAC treatment plant installed at FT-02 intercepts and treats PFOS/PFOA-contaminated groundwater before reaching Clark’s Marsh. The Air Force will continue to work through the CERCLA process to ensure thorough investigation work is done and remedial alternatives are evaluated. Part of that process is conducting a feasibility study that will take into account the marsh’s ecosystem and other variables.

**4. What’s the Air Force doing to expedite cleanup?**

Please see the response to question 3, above. In addition, the Air Force has begun construction for the new Arrow Street and Benzene treatment system.

**5. How can political action help facilitate restoration funding?**

State representatives can ask Congress to increase funding allocated for the Defense Environmental Restoration Program in the National Defense Authorization Act.

**6. Please provide timeline for follow-on actions**

In accordance with CERCLA, at the conclusion of the SSI the USAF will determine whether further action is warranted. Final remedial actions will be determined under the CERCLA process and these will come after a remedial investigation (RI), including risk assessments, and feasibility study (FS) are completed.

**7. I want to understand more about the Air Force's role in not only expediting GAC facilities, but taking full responsibility for clean-up of lakes, removal of foam and providing whole-house filters to homeowners affected, or funding the tie in to municipal water, immediately.**

The USAF follows CERCLA to address all unacceptable risks to human health and the environment. CERCLA has a structured process for determining what risks are unacceptable and choosing the best way of remediating those unacceptable risks.

**Drinking Water:** The Air Force is committed to identifying occurrences of PFOS and PFOA in drinking water sources and implementing mitigation actions, like installing whole house filters or tying into the municipal water supply, where drinking water affected by USAF releases has exceeded the U.S. Environmental Protection Agency's Lifetime Health Advisories for PFOS and/or PFOA. We will continue to evaluate potential impacts to drinking water and will work with our local and state partners to protect drinking water sources.

**Van Etten Lake:** The new GAC treatment system, currently under construction, will use activated carbon to remove PFOS/PFOA in the discharge of an existing groundwater treatment system. This system, originally installed to capture solvent contaminants, has been capturing a portion of the PFOS/PFOA plume entering Van Etten Lake. We recognize additional work may be needed to clean up the plume; we've completed the first round of groundwater sampling to further evaluate the extent of PFOS/PFOA groundwater contamination. This data will be used to evaluate the effectiveness of the existing groundwater remediation systems and determine whether additional mitigation systems are required.

If PFOS/PFOA remediation is required for this site, the public will have a chance to weigh in on the USAF's remediation process during the RAB meetings and when the Air Force issues its proposed plan for remediating the site.

**Foam:** The Air Force is focusing its efforts on protecting drinking water supplies and does not plan to study the foam. The Michigan Department of Health and Human Services evaluated PFOS/PFOA in the foam and determined skin contact does not pose a health hazard. MDHHS recommended not eating or drinking the foam. Here is the link to that letter: [MDHHS Letter](#)

The Air Force plans to have the new GAC system online by Summer 2018 to treat effluent from pump and treat systems and prevent discharging PFOS/PFOA contamination into surface water.

**8. Does the Air Force have plans to re-test drinking water wells again? Will the Air Force re-sample twice a year?**

The USAF plans to sample potable wells within the USAF study area once per quarter beginning May 2018 and then annually for two additional years.

**9. Can you send presentations and materials AHEAD of RAB meetings?**

We will make an effort to provide presentations and materials the week of the RAB. Products will also continue to be distributed in hard copy at the RAB, and in the IR.

**10. When will we know the outcome from the dispute resolution process? How long is that process?**

The Air Force and MDEQ will meet in Lansing in April to attempt to resolve the dispute. The Air Force will not discuss details of the dispute resolution negotiations because those are considered confidential. However, details on the process length and next steps are described in the 1992 Defense and State Memorandum of Agreement (DSMOA) between the Air Force and Michigan. A copy of that DSMOA has been placed in the IR.

**11. Has the AF officially determined it isn't responsible for off base contamination stemming from AFFF use during a mutual aid fire response event? If not, when/how will that be determined?**

The Air Force is still looking into the facts and circumstances surrounding the use of AFFF during a response to an off-base fire.

**12. Will the Air Force expand the new GAC system "curtain" to the north and south to capture more PFAS?**

If the CERCLA process determines that a remedial action is required that would include adding additional extraction wells to the current Arrow and Benzene pump and treat systems (PTS), the design of the new GAC plant associated with treating recovered groundwater from these two PTS allows for an increased treatment capacity at the GAC plant from 500 GPM to 1,000 GPM. The new facility is designed to accommodate the space required to add additional GAC treatment vessels should the treatment capacity be increased. The ongoing Supplemental Site Inspection work and following the CERCLA process will help us further evaluate the extent of groundwater contamination and evaluate the effectiveness of the treatment system. This will help us determine the priority of expanding treatment capacity as well as help us identify where additional extraction wells might be required.

**13. Can you clarify two contradictory statements from the Nov. 1 RAB? During the AMEC brief Beth Flynn stated that no interviewee recalled use of AFFF on Wurtsmith runways, when there was a conflicting statement at the same meeting from Dr. TerMaath that the USAF doesn't have specific records of purchase or use of AFFF?**

Ms. Flynn was referring to the use of AFFF to fight a fire and interviewing people and researching for records of crashes and other scenarios where AFFF may have been used. Dr. TerMaath was referring to procurement of AFFF and tracking how much and where it was used; the Air Force does not have records documenting the purchase or use of AFFF.

The preliminary assessment was an exhaustive, good faith effort to track down records of the things the Air Force did track—like crashes—and track down and interview people with information we could use to identify other potential AFFF release locations.

We will forward the anecdotes pulled from the "Veterans and Civilians Clean Water Alliance" social media site to AMEC to see if these, or similar accounts, were explored during the PA and follow up with what we learn.