

**Former Pease Air Force Base (AFB)
Restoration Advisory Board (RAB)**

March 22, 2017

6:30-8:30 p.m.

NH Department of Environmental Services (DES) Conference Room
222 International Drive, Suite 175 Portsmouth, New Hampshire

Meeting Summary

RAB members present: Susan Chamberlin (Portsmouth resident), Ted Connors (Newington resident), Dr. Courtney Carignan (Portsmouth resident), Mike Daly (USEPA), Peggy Lamson (Newington resident), Peter Forbes (Air Force and Department of Defense Co-Chair), Brian Goetz (City of Portsmouth), Scott Hilton (NHDES), Kim McNamara (City of Portsmouth), Christine Miller (Dover resident), Jameson “Jamie” Paine (community member and Community Co-Chair), Gene Schragger (Portsmouth resident), Andy Smith (community member), Maria Stowell (Pease Development Authority).

Meeting support staff present: Ona Ferguson (RAB Facilitator), Linda Geissinger (AFCEC, Public Affairs), Scott Johnston (Sytsma Group, Public Affairs support contractor), Mike Quinlan (CB&I), Rob Singer (Amec Foster Wheeler, AFCEC remediation contractor).

Others attending: Libby Bowen (Amec Foster Wheeler, AFCEC remediation contractor), Alayna Davis (Dover resident), Andrea Amico (Portsmouth resident), Michelle Dalton (local resident), Al Pratt (City of Portsmouth), Marilyn St. Fleur (EPA, CIC), Kyle Hay (Weston and Sampson, City of Portsmouth), Michael Self (AFCEC/CIB), Peter Sandin (NHDES), Blake Martin (Weston and Sampson, City of Portsmouth), Liz Wester (Senator Shaheen office), Lisa Moll (local resident), James Belanger (Newington resident), Lindsey Carmichael (Portsmouth resident), Josh Bradford (photojournalist, WLBZ CH2), Jeff McMenemy (Seacoast Online), Karen Jackson (Greenland resident), Lisa Griffith (Dover resident), Mindy Messmer (State Representative, District 2 - Rye, Cushing and Hampton), Val de la Fuente (AFCEC/CIB).

Next Meeting: Likely in June 2017

Action Items:

- Air Force staff – respond to any unanswered questions.
- Co-chairs – plan the next RAB meeting agenda.

Welcome, Introductions and RAB Administrative Items

The facilitator welcomed everyone to the Pease Restoration Advisory Board and got RAB member approval of the October meeting summary. The RAB Operating Procedures are finalized. Co-chairs Jameson Paine and Peter Forbes have signed the document, and it will be posted on the Pease AFB website and Administrative Record. All meeting participants introduced themselves. The facilitator indicated where and how to provide public comment

later in the meeting. RAB members were provided copies of the presentation slides. All RAB meeting materials can be found online at <http://www.afcec.af.mil/Home/BRAC/Pease>

Pease 2016 Fieldwork Activities Snapshot

Mr. Forbes, Air Force, began the review of 2016 fieldwork by presenting a brief history of environmental restoration at Pease, which has been underway since the 1980s. He provided a broad overview of fieldwork performed by CB&I under the restoration program, including 83 Installation Restoration Program (IRP) sites, of which 51 sites are closed (cleanup finished, unrestricted use). Of the remaining 32 sites:

- 11 have cleanup activities complete (monitoring continues)
- 21 have active cleanup ongoing, including: groundwater treatment, air sparging/soil vapor extraction, permeable reactive barriers, monitored natural attenuation, and long-term monitoring.

Mike Quinlan, CB&I, presented an update on the restoration program underway at Pease. He discussed some of the fieldwork conducted in 2016, showing Site 39 (Building 227, “Pan-Am” Hangar, slides 6-18).

RAB members’ comments and questions about the restoration program focused on future use of the hangar. They asked if the building can be used now, or if mitigation work needs to be completed before a tenant moves in. They also asked if the general public could safely use the hangar. Mr. Quinlan responded that the vapor intrusion from beneath the hangar through the floor, doesn’t preclude use of the property now for the industrial or commercial use it is zoned for. The team doing the mitigation would provide any tenants with full information and potential tenants would need to be aware of effective approaches to reduce risk to occupants for the time being. Tenants might want to do some indoor air sampling. HVAC systems and other controls can often effectively mitigate issues like this. Mitigation work could continue beneath the floor with a tenant in the building.

RAB members also asked about the exceedance on slide 15. Mr. Quinlan said it is important for any potential user to note that exceedance, but that the numbers are relatively low overall. Of the three times they’ve sampled the indoor air at that location, the other two times the number was an order of magnitude lower, so it is not likely to be a significant concern.

Other environmental issues at Pease

Peter Forbes, Air Force, Mike Quinlan, CB&I, and Rob Singer, Amec Foster Wheeler and AFCEC remediation contractor, presented an update on the PFC cleanup program in place at Pease and recent progress. Since the last RAB meeting, the Air Force continued to develop the designs for the groundwater treatment systems that will prevent further movement of PFCs towards drinking water wells. The Air Force also continued to sample the Smith, Harrison, Collins and Portsmouth wells and the private wells in Newington.

Mr. Forbes provided an update on some non-RAB topics of interest to RAB members:

- *Wildlife sampling:* People are interested in following the exposure pathways of the contaminants as they travel through the environment, including into wildlife. The AF is working with USEPA and NHDES to develop appropriate standards and methods for evaluating the risks to human health.
- *Old Water:* Some community members are interested in finding and testing “old” water, preserved in pipes or tanks, from before the base was closed to estimate the level of PFCs in the water at that time. The AF, USEPA, and NHDES have collected information from PDA and NHANG. To date, no one has managed to find a sample of “old” water for which the age and origin of the water can be verified.
- *Coakley Landfill:* There has been community interest in the Coakley Landfill due to an investigation of private wells near the landfill and recent detections of PFOS in a brook near the landfill. Mr. Forbes noted the Air Force contracted with a waste hauler to transport household waste to the Coakley Landfill when it was open. The AF did not send any industrial waste. The Air Force is not a member of the Coakley Landfill Group and the Pease RAB has no role in the Coakley Landfill program.

Portsmouth Drinking Water Treatment System Update

Brian Goetz, Deputy Director of Public Works and Blake Martin a contractor for the City of Portsmouth, presented a detailed overview about the Portsmouth Water Treatment System (see Attachment 2). Their presentation addressed system specifications, treatment progress, Harrison/Smith Well filter performance, and what to expect from the system in the future. Questions submitted prior to the meeting.

RAB members shared comments and asked clarifying questions about the restoration program, summarized here, with answers provided by Mr. Martin (unless otherwise indicated) in italics:

- What is a B value? *B, or blank, values are chemicals that were detected in a blank sample. For example, a bottle is filled with pure water from a source that is known to be free of contaminants (blank) and it is packed in the same shipping container so that it travels with the samples to the lab to enable the staff to ensure there isn't something else going on during shipping and handling to contaminate the water. It provides a quality reference point.*
- Use an open circle at the LOD to more clearly depict the results.
- What PFCs were in the AFFF mixture that was used at Pease in the past and what PFCs are in the AFFF mixture that is being used there now?
- Is there a pilot study testing the use of resin? *Yes, ECT2 is taking a bit of water coming in to the big filters and running them through several resins to see how they perform.*
- What sampling methods are being used? *Mr. Goetz: Method 537, which is the same sampling method the Air Force has been using.*
- As we learn new information and standards change, will we be able to continue to use our equipment and change out the treatment media in the filters? *In general, yes, many media are interchangeable, though the size of the filter vessel provides some limitations.*

- It is important to consider all the inputs and outputs of this process, including things like filter media that could produce a significant quantity of waste over decades of treatment. Is coconut carbon versus other media more environmentally friendly? *Our design criteria is drinking water quality (best quality at the best cost). We do not take into account the source or waste stream of the materials we use.*
- Many people are anxious and do not like the idea of continuing to drink the water from the Haven Well, given its location on a Superfund site and concern that other contaminants might be found in the future. Might it make more sense to find a different well than to clean up this one, including looking beyond the boundary of Portsmouth for potential water sources? Is the technical team looking at other options or conducting an alternatives analysis to see if there are alternative sources of water that might work for the city? This is such a long-term investment of 25-50 years, lets be sure we are smart and consider all our options. Mr. Goetz, Mr. Hilton, and Mr. Daly (EPA) responded: *it isn't just up to the city to decide, EPA has ordered the Air Force to clean it up so it can become drinking water again. This aquifer is sand and gravel, which is unusual, as is its abundance (it is one of the most productive aquifers in southern New Hampshire). That plus existing infrastructure make it of value. Other aquifers in Portsmouth would likely be in bedrock, which poses different challenges. Cleaning up this abundant source of water is also essential given future population growth in this area. There is a strategy that should improve the water quality of the Haven well over time. It will, also, be monitored very often.*
- It is impressive to see the data coming in and seeing what a difference it is making.
- Are marshes and wetlands helping clean up the PFCs? Mr. Singer responded: *The TOC in the groundwater in the gravel aquifer has stayed very consistent.*
- Are there other risk pathways for the PFCs? For those of us who work in gardens or kids who play in the woods or mud, is there increased risk? Mr. Daly responded: *EPA is following the CERCLA (Superfund) process, beginning with addressing the greatest risk (here that is people drinking the water). They have sampled the supply wells and treated water at some of the homes, as well as on the Smith and Harrison wells. They are addressing the water supply, which is an interim measure, an expedited action. The next phase under CERCLA is to evaluate other exposure pathways (off-site migration, could there be a risk of playing in the soil, what about uptake by other species, etc.). This project is one of the first to do extensive testing.*
- Why is Well 4, the Madbury Well, being replaced? Mr. Goetz replied: *maintenance is being done; it was a good but old well.*
- Members want to understand and be comfortable with the work and the water quality improvements and to minimize any future surprises.

Air Force PFC Update

Rob Singer, Amec Foster Wheeler and AFCEC remediation contractor, presented an update on the PFC cleanup program in place at Pease that focuses on groundwater. Included was an update on progress on the Site 8 Interim Mitigation System and the Airfield Interim Mitigation System. The Site 8 system will use a first-of-its kind, reusable resin technology that will result in

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very little waste material requiring disposal (incineration). The Airfield Interim Mitigation System will use granular activated carbon, similar to the City's treatment system. Additionally, Mr. Singer reviewed the ongoing drinking water sampling results, which have been very stable at concentrations well below the EPA HA since sampling first began in 2014. RAB members shared comments and asked clarifying questions about the restoration program, with answers provided by project team members indicated here in italics:

- Consider using an open circle at the LOD for visual clarity (rather than a zero).
- Do we know that the resins are not endocrine disruptors? Mr. Singer responded: *We don't know, but this is not a plastic resin.*
- We want to be sure that the materials being used are safe. Mr. Geotz: *Drinking water DES staff have to approve all of the treatment processes before they are implemented.* Mr. Martin added: *These are very different treatment systems. Media used on the municipal side is NSF approved. It's food grade. This is material that is used for drinking water. What is used in the groundwater clean up does not have to be approved for drinking water; they just have to treat the material. The criteria for drinking water are different.*
- Does destruction mean incineration? Mr. Singer: *Yes.*
- It is very important that we not introduce other harmful compounds as we try to solve this particular contamination problem.
- Why are resins effective in one case but not in the other? Mr. Singer: *Resin is expensive, but it's very effective at removing PFOS and PFOA.* Mr. Martin: *For example: Carbon is very effective, but the higher the concentrations, the shorter it lasts and the more often it must be replaced. In drinking water systems, treatment materials like resin or carbon can only be used one time. Once they lose their effectiveness, they have to be disposed and replaced with new, unused media.* Mr. Singer: *All water is different, but this resin has been shown to be extremely effective at removing the PFCs from Pease groundwater. The concentrations in the AIMS system are low enough that, from a cost/benefit standpoint, you can get the same level of treatment for a much lower cost.*

Public Comments

Members of the public were provided the opportunity to share thoughts with the RAB. Two people had comments to share and one submitted hers in writing beforehand to Mr. Paine.

Andrea Amico

- Does the Air Force plan to test the water at Pease at the tap? The Air Force has done this in the past at a day care on Pease. Parents sending their infants to daycare here, at a Superfund site, are worried about their kids, who drink the water in their formula. They see the Air Force spending millions of dollars on a treatment system and would like to know if it is effective, and they want you to test the tap water. Mr. Forbes: *We are not going to be sampling at the tap. It isn't necessary, because the water is tested at the well.* Would you consider another tap sample to give people peace of mind? I think that

would be a good neighbor thing to do. Mr. de la Fuente (Air Force): *Our response at Pease has been intensive and unique, so we'll take up this question.*

- I want to echo Jamie's comments about considering alternative wells instead of reopening the Haven Well. I appreciate that the Haven Well is a valuable resource; sadly it wasn't very well taken care of. We know the contamination has included TCE in addition to the PFCs. I personally have concerns about it opening in the future even with aggressive monitoring. We didn't know about PFCs until 2014, so what else don't we know about? Are we going to be in the same boat ten years from now? It just seems risky.
- We've known about PFCs for three years now and, while following the CERCLA process, we should know more about other exposure pathways by this time. People live in these communities and want to know if it's safe to play outside. We should have answers to that question. There needs to be more urgency to answer those questions.
Mr. Hilton: *The Air Force has done a huge amount of work, including a lot of surface water and soil sampling. We do know a lot about what is there. We are following a specific process. We already have treatment for the Harrison and Smith Wells. I sympathize with the public asking why it isn't already fixed. It seems like a long time, but is very complicated work and so takes time* Mr. Hilton: *We've done some soil sampling, and we know where they sprayed AFFF is where there are going to be problems. But there's a formal process to go through to answer the questions you raise. Right now we're focused on surface water, but in the remedial investigation we'll look at these questions.*
- Where is the surface water data? I don't think I've seen it. Mr. Hilton: *It's in the Air Force reports.*
- Is the top slide 6 influent data, then the levels drop to non-detect? Mr. Goetz: *Yes.*

Mindy Messmer

- Have you looked for all the sources for PFCs potentially to the south of the Haven Well between the Harrison and Haven Wells? It doesn't look the capture zone for the Haven Well is going to capture anything south of the Haven Well, so there's probably some gradient of concentrations for PFCs between the Haven and the Harrison Wells. Is that being considered and are there other sources identified? Mr. Daly: *The Air Force has done a lot of sampling. We understand the distribution and the PFC concentrations throughout the Pease aquifer. We have no known source area to the south.* Mr. Singer: *We did a full record search to identify potential areas where AFFF was used.*
- Are you confident the carbon will be able to treat higher concentrations of PFCs? Mr. Hilton: *Yes. I'm very pleased with the results so far.*

Dr. James Blanchard

- With all the millions of dollars that have been spent so far and with the federal political climate (including threats to close down the EPA), will there be funding to continue to

clean up this site? Mr. de la Fuente: *My responsibility is putting the contracts in place and requesting the funding for these projects at the Pentagon level. In BRAC communities, the base is closed and the Air Force has the obligation to never walk away from our responsibility. It's been determined that the Air Force caused this contamination. We have everything funded that we've discussed, and we budget for 30 years at a time. We've put in requests for additional funding. We're planning to fund the remedial investigation, monitoring operations and maintenance, carbon filter change outs for 30 years. We're going to operate these systems indefinitely, as long as they need to be operated. The remedial investigation process costs millions of dollars and results in a big report that describes where all the different compounds are going and at what concentrations. In this case, we have identified very quickly, where all the higher concentrations are and what's going on with PFCs. That's why we're putting in these mitigation systems, and that's why we called them mitigation systems. They're like a tourniquet. This is the only base the Air Force is responsible for where anything like this is being done. We are actually doing mitigation systems with the carbon point of use treatment in addition to treatment systems, so we are the cutting edge. We are doing this because this water resource was determined to be valuable to the community. It's a tremendous commitment of Air Force and taxpayer's dollars. And we hope these systems work. My engineering team tells me it will. We are making a tremendous commitment, we've put in the funding request for the out years. Usually those get approved. We have always been 100% funded and we've never had Congress or any of the staffers cut our budget. Instead, they have always asked if we have enough funding and if our communities are being taken care of because they're very sensitive to communities for closed bases.*

RAB Member questions and comments:

- Before the start of the interim mitigation system design the Air Force went through the whole area of looking at the soil and groundwater concentrations and they have a map that would be highly useful for you to see the concentrations, it looks like Swiss cheese over this whole place, it's really comprehensive. Also, Peter, you had said previously there are intercept wells that you are monitoring for contamination flow going toward the Harrison and Smith Wells. Are those still in operation and are you still monitoring those? Because that would also alleviate her concern about that contamination going down into those wells.

Mr. Forbes responded: *Yes, the monitoring network, or sentry wells, are still in place and monitored regularly. That information is available.*

Attachment 1: SLIDES