U S EPA COMMENTS REGARDING DRAFT PRELIMINARY ASSESSMENT REPORT FOR POTENTIAL RELEASES OF PER AND POLYFLUOROALKYL SUBSTANCES NAS PATUXENT RIVER MD
03/22/2018
U S EPA REGION III

Approved for public release: distribution unlimited.
Date: March 22, 2018

Mr. David Steckler, PG
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1314 Harwood Street, SE
Washington Navy Yard, DC 20374-5018

Heidi Morgan
NAVFAC Environmental Department
Naval Air Station, Code 8.7.1.4
22445 Perry Road, Bldg. 504, Suite B232
Patuxent River, MD 20670

Re: Draft PA PFAS Releases Review
NAS Patuxent River, MD

Dear Mr. Steckler and Ms. Morgan:

The Environmental Protection Agency (EPA) has reviewed and Draft Preliminary Assessment Report for Potential Releases of Per- and Polyfluoroalkyl Substances (PFAS), Naval Air Station Patuxent River, St. Mary’s County, Maryland, January 2018. EPA is pleased to provide you the following comments.

EPA Review

1. All future sampling should include the requirements for PFC sampling identified in EPA Document #: EPA/600/R-08/092 METHOD 537. Determination of Selection of Perfluorinated Alkyl Acids In Drinking Water By Solid Phase Extraction And Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Version 1.1, September 2009.

2. Page 1-2, 1.2 Purpose and Objectives: Please include the objective to “Evaluate each site based upon the information collected and develop a conceptual site model (CSM) for each site.

3. Page 1-2, last paragraph: Please revise to “state the basis for the conclusions and recommendations is the site-specific CSM.

4. Page 1-4, 1.3.4 Human Receptors: This section should also include surface water and impact of ecological resources that may be digested by human receptors.
2. Section 7.1. Although the potential impact of PFAS releases on the surface water is likely low after extended periods of time since the releases, sediment sampling and analysis would be prudent to assure the surface water bodies have not been impacted by the releases.

Hydrogeologist Review
Herminio Concepcion, Geologist, Hazardous Site Cleanup Division has review the Expanded Remedial Investigation for PFAS in Soil, Sediment, and Groundwater Work Plan, Site 34-Drum Disposal Area, NAS Patuxent River, St. Mary’s County, Maryland document. If there are any questions or comments he can be contacted at (215) 814-3115. He has the following comments and concerns.

1. Summary: This Preliminary Assessment (PA) report presented the data and findings obtained to identify additional possible environmental releases of per- and polyfluoroalkyl substances (PFAS) from historic operations at Naval Air Station (NAS) Patuxent River.

- High and Medium Priority Sites Based on the known history of releases and other information gathered - **Nine high priority and three medium priority were identified.** These sites are likely impacted by PFAS from the use of AFFF. The sources of the PFAS were either through fire training, demonstrations, repeated equipment checks, intentional releases from AFFF fire suppression systems, or unintentional releases associated with AFFF systems. Sampling of environmental media as part of SIs is recommended at all high and medium priority sites (Table 1). SIs should be tailored to each site based upon the approximate location of reported releases, quantity, and nature of the release. The potential impact of the PFAS releases on the surface water is likely low after extended periods of time since the releases and impacts to this media would be hard to determine. Soil sampling should be considered if PFAS is found at high concentrations in the shallow groundwater and to help determine if any source areas in the soil are contributing to groundwater concentrations.

- Low Priority Sites - **Four sites were identified to have uncertainty** due to the timing and quantity of AFFF released (Table 1). Two of the sites are known to have occurred about the time the Station started using AFFF for emergency response and all sites were one-time releases of AFFF foam from crash trucks which were not contained and released unknown quantities of AFFF foam. However, impact to environmental media at these sites are estimated to be minimal for multiple reasons: majority of the releases occurred over 25 years ago, diluted AFFF foam was released instead of AFFF concentrate, crash truck response was to limited spatial areas, and releases were single incidents over short periods of time. The impact of the releases to environmental media may be minimal but is still unknown at this time; therefore, sampling is recommended as part of SIs contingent upon funding following the SIs for the high and medium priority sites.

- No Action Sites - **A total of 32 sites were designated No Action** (Table 1). Environmental media at these sites are not expected to be impacted by PFAS.

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5. Ecological receptors should also include the potential link for humans to consume receptors impacted by PFCs.

6. Page 2-1, 2.2 Site Prioritization should also be based upon the sites in the CERCLA process, priorities and planned remediation and closure.

7. It is unclear how priorities are determined. In addition, what high, medium and low ratings mean.

BTAG Review
The BTAG Reviewed the Draft Preliminary Assessment Potential Releases of Per- and Polyfluoroalkyl Substances (PFAS) at NAS Patuxent River. Please contact Bruce Pluta at 215-814-2380 or Matthew Taynor at 215-814-3351 if you have questions or wish to discuss these comments.

1. While no ecological screening values have been adopted by EPA, the following values should be considered. PFOA has low toxicity to aquatic biota tested thus far yielding a value of 2900 µg/L (Giesy et al. 2010). In contrast, PFOS is highly bioaccumulative and toxic to mammals with a value of 0.0026 µg/L (RIVM 2010). Data in this report and all subsequent samples should consider these values. With this, BTAG understands that while most of the sites should be considered for ecological risk in this assessment, it is not warranted for the initial PA for the sites.

2. Section 7, Conclusion and Recommendations: The section states that soil sampling will be considered if PFAS was found in shallow groundwater. BTAG does not agree with this sampling rationale. PFAS are readily bioavailable (Higgins et al. 2007). PFAS contaminants may be trapped or travel, as properties allow them to bind and/or migrate. PFOS “appears to adsorb strongly to soil and sediment, having distribution coefficients in soils of between 9.7 L/kg (clay loam) and 35 L/kg (sandy loam)” (3M 2001), “with organic carbon shown to be the predominant factor in sorption” (Higgins and Luthy 2006). Atmospheric PFASs likely adsorb to particles and then settle onto the ground through wet or dry deposition (Barton et al. 2007; Hurley et al. 2004). In their anionic forms, PFOA and PFOS are water-soluble and can migrate readily from soil to groundwater, where they can be transported long distances (Davis et al. 2007; Post et al. 2012).

Toxicologist Review
Linda Watson, EPA toxicologist has reviewed the Draft Preliminary Assessment Potential Releases of Per- and Polyfluoroalkyl Substances (PFAS) at NAS Patuxent River. If you have any questions regarding these comments, please contact Linda at 215-814-3116. We have reviewed the document and have the following comments.

1. Please keep in mind, both current and future risk will need to be evaluated. Therefore, although there are no current receptors (workers, residents, schools, daycares, medical facilities) at any of the locations, the potential for future development and receptors will need to be evaluated for risk.
As always, if you have any questions regarding this letter, you can contact me by e-mail or by telephone. My e-mail address is sochanski.andy@epa.gov and my telephone is 215-814-3370.

cc: Ms. Jenny E. Herman, MDE LMD/FF

Sincerely,

[Signature]

S. Andrew Sochanski, PG
Federal Facilities Branch (3HS11)

Customer Service Hotline: 1-800-438-2474