

# Toxics Advisory Committee (TAC)

## Meeting Highlights

June 15, 2022

Delaware River Basin Commission

Remote via Zoom Webinar

### **Members and Alternates:**

#### **DNREC**

John Cargill

Tracey Carluccio

Diana Oviedo-Vargas

#### **NJDEP**

Roop Guha

Sandra Goodrow

Steve Seeberger

#### **Industry**

Scott Northey

Bart Ruiters

#### **NYDEC**

Jason Fagel

#### **Public Health**

Eric Bind

#### **PADEP**

Maria Schumack

#### **Municipal**

Matt Fritch

#### **Academia**

David Velinsky

#### **EPA Region 2**

Brent Gaylord

#### **Environmental/Watershed**

#### **EPA Region 3**

Kuo-Liang Lai

### **Other Attendees:**

Matt Miller (Aqua PA)

Amanda Obosenko (Aqua PA)

Craig Marleton (Aqua PA)

Jason Fry (CCMUA)

Caitlin Montgomery (CCMUA)

Irene Fitzgerald (DELCORA)

John Cargill (DNREC)

Laura Lockard (DNREC)

Steve Tambini (DRBC)

Kristen B. Kavanagh (DRBC)

John Yagecic (DRBC)

Namsoo Suk (DRBC)

Elaine Panuccio (DRBC)

Kevin Pregent (DRBC)

Jake Bransky (DRBC)

Ron MacGillivray (DRBC)

Bailey Adams (DRBC)

Kate Schmidt (DRBC)

Kyle McAllister (DRBC)

Pam Bush (DRBC)

Sarah Beganskas (DRBC)

Beth Brown (DRBC)

Sarah Kloss (EPA R3)

Chris Roe (Fox Rothschild)

Karen Davis (Fox Rothschild)

Kristian Fried (Integral Consulting Inc)

Dan Millemann (NJDEP)

Seetha Coleman-Kammula (PFAS Solutions)

Jessica Anton (PFAS Solutions)

Chuck Powley (PFAS Solutions)

Chris Higgins (Private)

Kelly Anderson (PWD)

Gangadhar Andaluri (Temple)

Micah Forbes (Tetra Tech)

Sue Huber (Tetra Tech)  
Mi-Ling Li (Udel)  
Emily Woodward (USGS)  
Drew Reif (USGS)

Preston Luitweiler (WRA)  
Pat Libbey (unidentified)  
Timothy Maguire (unidentified)  
Tom Reilly (unidentified)

## 1) Welcome and Opening Remarks

The DRBC Toxics Advisory Committee and Southeast Pennsylvania Regional PFAS Discussion Group held a joint virtual meeting, chaired by Eric Bind on June 15, 2022. The meeting was started by unanimously approving minutes from the last meeting. Other business included a reminder of openings for Academic, Environmental Watershed, Municipal and Agriculture membership as well as the need to task a new U.S. FWS member. The retirement of the committee liaison Dr. Ron MacGillivray was also announced.

## 2) Presentations:

### **PFNA in AFFF - Dr. Christopher Higgins of the Colorado School of Mines & Higgins Scientific Consulting, LL.**

- Presented his research that was conducted with the help of Solvay.
- Explained the use of Aqueous Film Forming Foams (AFFF) containing PFNA for firefighting and military uses.
- National Foam in West Chester, PA produced AFFF (NF-AFFF) that was used by refineries and local fire departments.
- The majority of NJDEP's PFAS survey respondents used NF-AFFF.
- Significant environmental PFNA concentrations have been detected in the region and in sites outside the region where NF-AFFF was used.
- Goose Creek, a tributary of Chester Creek was sampled and had the highest PFNA. It makes sense because they manufactured it and likely released it. There is legal action being taken from Aqua against National Foam.
- Discussion and online:
  - Seetha Coleman-Kammula: Is AFF the largest use of PFNA? Is PFNA still being used as a processing aid in PVDF production? Is Solvay producing PVDF using PFNA?
    - Chris Higgins: Explained he was not sure the answer to Seetha's question.
  - Eric Bind: Asked a question about the manufacturing waste.
    - Chris Higgins: It is flow dependent relating to the Delaware River. There can be direct releases of foam adjacent and upstream of the river.

### **Fingerprinting the Sources of PFAS Contamination in Delaware and Rural Pennsylvania - Dr Chuck Powley, PFAS Solutions**

**Abstract:** The recently released Draft EPA Method 1633 was used to evaluate per- and polyfluoroalkyl substance (PFAS) contamination in groundwater and surface water at different locations in Delaware. This method determines 40 different PFAS compounds using isotope dilution liquid chromatography with tandem mass spectrometry (LC-MS/MS), including precursors to the more commonly measured perfluorocarboxylic acids and sulfonates. High levels of PFAS contamination were found in wells in New Castle and Dover. The PFAS signature was highly indicative of aqueous film-forming foam (AFFF)

use at the Air National Guard and US Air Force bases in New Castle and Dover, respectively. Furthermore, the fingerprint was dominated by compounds that originated from the early generation AFFF products manufactured using the electrochemical fluorination (ECF) process. Minor contributions were observed from late-generation AFFF products manufactured using the telomer process. In contrast, surface water collected from sites on Red Clay Creek in New Castle County showed levels of a homologous series of perfluorinated carboxylic acids containing 4 to 14 carbon units. This is suggestive of a fluoropolymer production waste stream. Dr. Powley also examined biosolids from wastewater treatment plants that were used to fertilize farms in rural Pennsylvania. The biosolids showed high levels of PFAS compounds that migrated into soil core samples. Well water and surface runoff water collected from these farms also contained PFAS levels of concern. This adds to the growing body of evidence that biosolids should not be added to farmland unless they are known to contain negligible levels of PFAS Compounds.

- Discussion and online:
  - Jason Fagel: Requested information on the status of multi-laboratory validation of Draft EPA Method 1633
    - Chuck Powley: The study is ongoing with large commercial labs and state labs.
  - Pam Bush: Asked about the cost of PFAS treatment.
    - Kelly Anderson: Stated that the cost of treatment would be high for large facilities.
  - Pat Libbey: Asked if there are filters homeowners can use, such as a Brita, to filter out PFAS in their drinking water.
    - Chuck Powley: Carbon filters can take out long chains. Some new filters are being made. Reverse osmosis is the best at taking PFAS out, but it also removes the beneficial minerals, wastes water, and is high maintenance.
  - Pat Libbey: Anything affordable?
    - Chuck Powley: Some under-the-sink filters are effective for around 3 years.

Additional links

[PFAS-POU-Water-Treatment.pdf \(ohio.gov\)](#)

<https://epa.ohio.gov/static/Portals/28/documents/pfas/PFAS-POU-Water-Treatment.pdf>

### 3) PFAS monitoring round-robin for updates and links on PFAS

- DRBC: Dr. Ron MacGillivray updated the group on sampling and analysis for PFAS in fish, water and sediment ongoing in 2022 under NFWF DWCF and in surface water as part of the Estuary Monitoring Program.
- Temple University: Dr. Gangadhar Andaluri described the planned analysis of surface water samples at Temple University Water Environment and Technology (WET) Center for targeted PFAS analytes following Draft EPA Method 1633 and Time of Flight (TOF) analysis to tentatively identify non-target analytes.

- DNREC: John Cargill described monitoring that includes the collection and analysis of fish, agricultural and spray irrigation water, surface water in tributaries, TOP analysis, wastewater and biosolids in the future. They have been talking to the University of Delaware and the University of Rhode Island on a regular basis about the PFAS research within the basin.
- USGS: Drew Reif and Emily Woodward discussed several projects:
  - Sampling and analysis of 16 sites in PA for PFAS (Wissahickon, Perkiomen and Neshaminy Creeks and Schuylkill River sites in DRB).
  - 2023 study of WWTPs that take frack water (sampling upstream and downstream for PFAS), sampling in Chester Co. for PFAS in 2023.
  - A study of PFAS in natural foams including in Valley Creek, Neshaminy Creek and Wissahickon Creek.
    - Discussion and online:
      - Pam Bush: Why sample natural foams. Sandra Goodrow asked for clarification of natural foams versus foam fraction.
      - Chris Higgins: DOC is a major component of natural foams, and yes, the foams can be important for long-chain PFASs. Foaming technologies are quite effective at removing PFASs from water.
      - David Velinsky: Lots of natural foam is composed of proteins and carbohydrates.
      - Preston Luitweiler of WRA: There are functioning DAF water treatment plants. Has anyone looked at PFAS removal/partitioning in the foams from this treatment? An answer was not readily available.
- PWD: Matt Fritch discussed plans for monitoring of wastewater with Draft EPA Method 1633.
- NYDEC: Jason Fagel reported that NYDEC is using targeted and non-targeted analysis by QTOF to monitor PFAS on a 5 yr cycle.
- NJDEP:
  - Roop Guha shared information about an upcoming NJDEP meeting on PFAS surface water criteria.
  - Steve Seeberger told the group that NJDEP has a survey collecting PFAS data from facilities.
  - Sandra Goodrow
    - PFAS is included in routine NJDEP monitoring
    - NJDEP is in Phase 2 of a sediment, surface water and fish study.
    - A BAF study is also underway.
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- NJDOH: Eric Bind shared multiple initiatives
  - NJDOH is expanding their capability to run EPA Draft Method 16633 and is looking to analysis fish and food for PFAS.
  - Biomonitoring of population for 133 compounds including 16 PFAS is ongoing with 6000 firefighters included.
  - NJDOH is also working with John Hopkin on a PFAS study of prenatal exposure and PFAS in human placenta.

- Tetra Tech: Sue Herbert shared that data is available for surface water and sediment monitoring in Willow Grove area from 2019 to present. A Phase II remedial investigation includes 18 analytes and work is being conducted in the Neshaminy and Pennypack Creek watersheds.

Links to information and data from the Willow Grove area:

[https://www.usgs.gov/centers/pennsylvania-water-science-center/science/contaminants-groundwater-near-former-navy-bases?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/pennsylvania-water-science-center/science/contaminants-groundwater-near-former-navy-bases?qt-science_center_objects=0#qt-science_center_objects)

Former Naval Air Station Joint Reserve Base Willow Grove

[https://www.bracpmo.navy.mil/brac\\_bases/northeast/reserve\\_base\\_willow\\_grove.html](https://www.bracpmo.navy.mil/brac_bases/northeast/reserve_base_willow_grove.html)

Former Naval Air Warfare Center Warminster

[https://www.bracpmo.navy.mil/brac\\_bases/northeast/former\\_warfare\\_center\\_warminster.htm](https://www.bracpmo.navy.mil/brac_bases/northeast/former_warfare_center_warminster.htm)  
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