Virginia PFAS Occurrence & Monitoring Subgroup
Virginia Department of Health Office of Drinking Water
April 1, 2021, 2 pm
Virtual Meeting by WebEx

1. Call to Order
   Bob Edelman with the Office of Drinking Water called the meeting to order at 2:00 p.m. The meeting was virtual via WebEx. Refer to the PowerPoint presentation along with these minutes.

2. Attendance
   Attendees entered their name and affiliation into the chat box.

   Members
   Jamie Hedges (Fairfax Water)
   Henry Bryndza (backup for Steve Risotto, ACC)
   Jessica Edwards-Brandt (Loudoun Water)
   David Jurgens (City of Chesapeake)
   Michael McEvoy (Western Virginia Water Authority) (Part-time)
   Jeff Steers (Virginia DEQ) (Part-time)
   Mark Estes (Halifax County Service Authority)

   VDH ODW
   Nelson Daniel
   Kris Latino
   Dwight Flammia

   Guests
   Susan Miller (Fairfax Water)
   Scott Powers (Fairfax Water)
   Audrey Brubeck (City of Richmond)
   William J. Mann Jr., MD (public)
   John DeRosa (Prince William County Service Authority)

3. Meeting Overview – Review Agenda
   Bob Edelman reviewed the agenda. No changes to the agenda were proposed.

4. Approve minutes from the April 4, 2021 subgroup meeting
   Bob Edelman asked if there were any changes or corrections to the last meeting minutes. No changes were proposed and the Subgroup approved the minutes.

5. Sampling Plan – Briefing – see slide 5
   ODW has finalized the *PFAS Sampling & Monitoring Study in Virginia Drinking Water*. This document is posted in the Workgroup SharePoint site. A member asked if the

document will be posted on the website and pointed out that the documents related to this subgroup are not posted on the website. Bob agreed to make an action item to post documents related to this subgroup to the website.

In addition, the water systems participating in the sampling study will receive a copy of the sampling plan document along with the letter requesting their participation.

6. Laboratory proposals – briefing – See slide 6
   ODW has selected and contracted with Advanced Environmental Laboratories, Inc. (AEL) in Jacksonville FL. The laboratory is willing to work with water utilities to complete additional sampling outside the scope of the study at the same price as obtained by ODW.

7. Sampling Procedure – briefing – See slides 7 and 8
   The laboratory is working on an instructional video for samplers this week. ODW will post the video on our website. The laboratory will put together a webinar for sampler training to feature the video and a session for Q&A to occur in the next few weeks.

8. Communications with Waterworks Owners – See slide 9
   This week, ODW field office staff reached out to waterworks owners via telephone to provide a heads-up and initial conversation about the request for PFAS monitoring at their waterworks. The vast majority of the responses have been positive. ODW will send formal written letters to the waterworks owners this week. The letter explains the sampling program and asks the owner to respond to indicate willingness to participate. The letter also requests a point of contact and shipping address for sample kits. The letter also includes a sample study document.

   A member asked if any utilities that were contacted and were less than positive, and if so, could you share any of their concerns? One nontransient noncommunity system indicated that it is not interested. This system is an industrial facility rather than a water utility, and Bob was not sure why they are not interested. All the other reports show interest, if not enthusiasm.

   Bob clarified that the letters will go out today or tomorrow. Bob will post an example letter on SharePoint.

9. Data handling – Briefing – See slides 10 through 17
   The Laboratory will email analytical reports (a PDF) to the waterworks and ODW simultaneously. The laboratory will also send an Electronic Data Deliverable (EDD) (a database or Excel spreadsheet) file with results to ODW. ODW will place the results in a database that will be searchable and will allow ODW to generate reports. The results will not be in SDWIS and Drinking Water Watch.

   ODW will compare laboratory reports to the database records or EDD to confirm they represent the same data. In addition, ODW will conduct in-depth validation activities on at least 5% of the samples. ODW will review all laboratory reports for data qualifiers, confirm field reagent blank samples are clean and surrogates are within tolerances. ODW will

conduct in-depth validation activities on all results with data qualifiers that indicate a quality problem. All data will go through data validation before it becomes public facing.

In-depth data validation – see slide 13 for a list items to be checked. These will help ODW understand if the data is usable.

Bob reviewed an example of a laboratory report in slide 17. Bob explained that the results column and the data qualifier (Q column) need to be reviewed together. For example, the first analyte shows a result of 1.8 and a qualifier of U. This means the result is less than 1.8 ng/L. The first circled result (PFBS) shows a result of 5.5 and no qualifier. This means the result is 5.5 ng/L. The second circled result (PFBA) is 3.1 with a qualifier of J. This means PFBA is detected below the Level of Quantification, which means there is uncertainty in the given result of 3.1 ng/L or this value is estimated.

Bob reviewed an example of an EDD report in slide in 18. Bob explained that the result for PFBS shows a result of 5.5 mg/L and no qualifier. This means the result is 5.5 ng/L. The result for PFHpA is 1.2 ng/L with a Qualifier of I. This means that PFHpA is detected at less than the reporting limit, which means there is uncertainty in the given result of 1.2 ng/L or this value is estimated.

A member suggested developing a guide or template to help the general public to read or interpret the laboratory reports. Bob agreed this is a great suggestion.

ODW is developing plans for how, where and when to share the sampling results. Bob raised the possibility of sharing the sampling data by means of a clickable map on the ODW website. ODW is working on fact sheets and resources for waterworks owners and messaging for customers.

A member expressed a need for messaging for customers. There needs to be a clear and consistent message from ODW, including putting the results into context, making sure that it is clear there is no EPA standard, and relating the results to the EPA's Health Advisory levels. Putting together the materials and messaging will be a significant effort, if utilities need to do this themselves. ODW needs to be clear and concise about explaining the meaning of the results.

A second member pointed out that sampling is a snapshot in time, a one-sample event, with no history, and may or may not be indicative of the water produced by the utilities. The fact sheets need to be in place before the data becomes available. The media will be looking to utilities and ODW to express the safety of the water.

A member commented that we don't want to scare the public about their drinking water unnecessarily, but want the public to understand that PFAS chemicals do exist in other places where customers come into contact on a daily basis. To the extent possible, ODW should have a central point of contact for inquiries from the public, status of regulations, and what the data means.

A member asked if ODW plans to share fact sheets in advance. Nelson responded that his subgroup is reviewing the New Jersey fact sheet and they are tasked with developing ideas for a Virginia fact sheet. Bob stated that Tony is working on messaging, but is unclear on the details. We should expect more information at the next PFAS Workgroup meeting at the end of April. Bob offered to share the New Jersey fact sheet with this subgroup.

A member pointed out that ATSDR has some fact sheets that are written plain English for the general public, that might be relevant. Website is: https://www.atsdr.cdc.gov/pfas/index.html

A member suggested ODW pull together a draft fact sheet, tailored for this sampling event, explaining the reason for the sampling, explain the need to develop a standard, and share it as a final draft before the sampling occurs, to allow time before the results come back.

Bob pointed are that there are two different audiences for fact sheets:

- Waterworks owners and operators, and
- Customers and the general public

Action item: ODW will share draft fact sheets with this subgroup when ready.

A member asked if the EDD be publicly available? ODW could publish an excel or PDF version of the EDD example in slide 18. Alternatively, ODW could publish the data on a GIS map application where the user would click on the map and the sample data would appear. As soon as ODW receives the data, the documents or files are subject to a Freedom of Information Act (FOIA) request. This is regardless of if ODW has completed the QA/QC review described in ODW's Quality Assurance Project Plan (QAPP).

A member recommended that if ODW receives a FOIA request, that ODW immediately notify the affected utilities of the request.

A member pointed out that that the map presentation of the data is not subject to FOIA until ODW creates it. Further, utilities need time before publishing a map (or other document) to review and prepare their communication plans. The member suggested 30 days delay to allow the utility to review and digest the data and related published document.

A member asked for clarification about sample results received from the laboratory – are they subject to FOIA immediately upon receipt? Yes, sample results are subject to FOIA immediately. Discussion that upon a FOIA request, ODW should notify the affected utilities that the data is "out there". Discussion that the fact sheets should be ready as soon as possible, before the data becomes available.

The PFAS Workgroup is obligated to report to the General Assembly by December 1, with a draft report due in August in order to complete internal review and approvals. This means the sampling program needs to move forward quickly.

A member asked about the sampling schedule. Bob explained that the first round of samples is expected to be taken in the next 30 to 45 days. There may be some follow up samples,

either due to detections or problems with samples. The sampling should be done by the end of June.

A visitor asked about the source water method, if there will be a schedule for utilities, and if the sample shipping back to the laboratory will be pre-paid. Bob will post the laboratory method in SharePoint. ODW will establish a schedule for the sampling to avoid bombarding the laboratory with too many samples and to prevent stragglers. The sample kits include return shipping back to the laboratory at no cost to the utility. The laboratory did request that samplers do not ship the samples on a Friday, since the samples will arrive on Monday; the ice will melt and the sample will be rejected due to high temperature.

10. Public Comments – There were no public comments.

11. Action Items
    Submit agenda items for PFAS Workgroup meeting later this month
    Watch out for the PFAS Workgroup meeting announcement
    ODW will:
    - Update the subgroup's external web pages
    - Post example notification letter in SharePoint
    - Share draft fact sheets with subgroup when available
    - Post laboratory SOP on SharePoint
    - Post PFAS Sampling Study Design
    - Post New Jersey fact sheet on SharePoint

12. Next Meeting – May 6, 2021, 2 – 4 pm.

Virginia PFAS Workgroup

Monitoring and Occurrence Subgroup

Bob Edelman
Virginia Department of Health
April 1, 2021

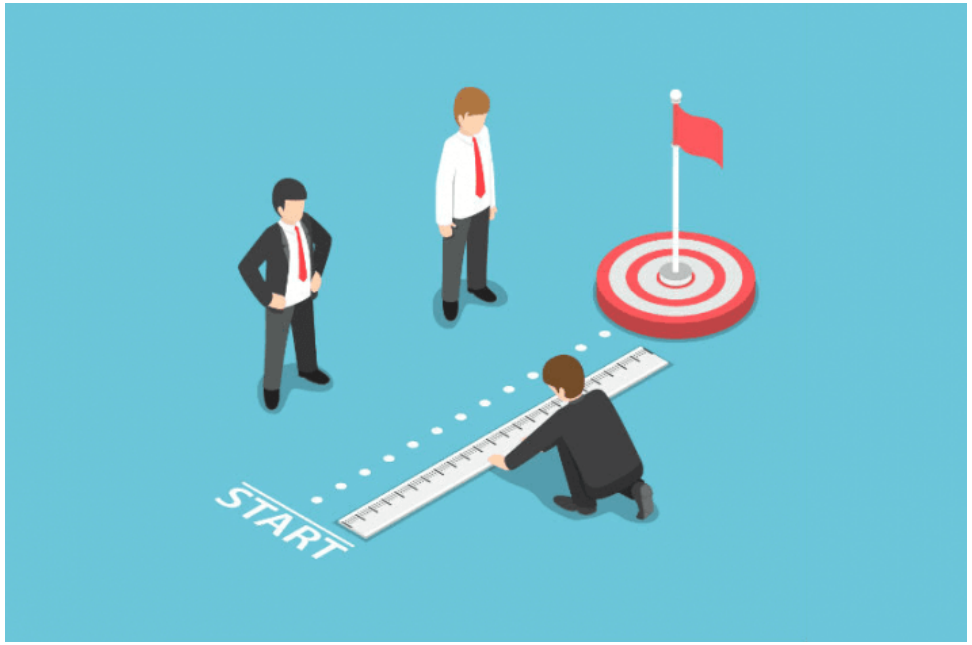
Subgroup Members

David Jurgens (City of Chesapeake)
Jamie Hedges (Fairfax Water)
Mark Estes (Halifax County Service Authority)
Jessica Edwards (Loudoun Water)
Mike McEvoy (Western Virginia Water Authority)
Henry Bryndza (Consultant, formerly with DuPont)
Jeff Steers (VDEQ)
Dwight Flammia (State Toxicologist)
Anna Killius (James River Assoc)
Tony Singh (VDH ODW)
Jack Hinshelwood (VDH ODW)
Bob Edelman (VDH ODW) - VDH Lead*

PFAS Workgroup Meeting Overview

Meeting Overview

- Call to Order
- Attendance
- Meeting Overview – Review Agenda
- Approve minutes from the previous subgroup meeting
- Sampling plan – briefing
- Laboratory – briefing
- Sampling Procedure - briefing
- Data handling approach – briefing and discussion
- Public Comments
- Action Item Review
- Adjourn



Meeting Minutes

Need to approve meeting minutes of March 4, 2021

Minutes are published on:

- Virginia Town Hall
- https://townhall.virginia.gov/ search for **PFAS**

Members receive email with minutes

Minutes saved on the PFAS Workgroup SharePoint

- PFAS Monitoring and Occurrence Subgroup > Meetings

Sampling Plan

- Finalized the *PFAS Sampling & Monitoring Study in Virginia Drinking Water*
  - Posted in SharePoint
  - Hybrid sample plan approach
  - Sample selection criteria
  - Identifies proposed sample sites
  - Number of samples per location
  - Confirmation samples
  - Logistics
  - Analytical Method Selection

Laboratory

- Selected and contracted laboratory
- Advanced Environmental Laboratories, Inc. (AEL), Jacksonville, FL
- AEL is certified for both EPA Method 533 and PFAS by LCMSMS Compliant w/ QSM 5.3 Table B-15 (DoD method)
- AEL reviewed ODW's Quality Assurance Project Plan (QAPP) and provided input.

Sampling Procedure

- Waterworks personnel are to collect PFAS samples from:
  - Entry points to the distribution system
  - Consecutive Connections
  - Intakes (raw water sample taps)
- ODW provided draft instructions – AEL recommended some revisions
- AEL is working on an instructional video for samplers (this week)
- Video to be posted on ODW's website
- Webinar for sampler training and Q&A to be scheduled

Typical Water Treatment Plant Sample Taps

Communications with Waterworks Owners

- Field office staff reached out to owners (this week, via telephone)
  - Heads-up, initial conversation
  - Majority of responses are positive
- Formal letter to owners (this week, via email)
  - Informs owners
  - Requests owners to indicate willingness to participate
  - Requests point of contact and shipping address for sample kits
  - Includes sample study design document

Data Handling

Sampling Results:

- Laboratory reports emailed to ODW and waterworks
- Electronic Data Deliverable (EDD) emailed to ODW

ODW will maintain results in a searchable database

- Reports for Subgroup Meetings
- Not in SDWIS
- Not available on Drinking Water Watch

Data Handling

Quality Assurance Project Plan (QAPP)

- Specifies project quality assurance requirements

Should not use data that fails method quality control criteria

- Evaluate if data meets Quality Control (QC) criteria
- Evaluate usability and bias of data not meeting criteria

Data Validation

Compare laboratory report to database records (Electronic Data Deliverable)

ODW will conduct in-depth validation activities on at least 5% of the samples.

Review all laboratory reports for:

- data qualifiers,
- confirm field reagent blanks are clean, and
- surrogates are within tolerances.

ODW will conduct validation activities on all results with data qualifiers.

All data will go through this data validation before it becomes public facing.

In-depth Data Validation

Reviewing laboratory records

Method 533 requirements:

- Preservation and holding times
- Instrument performance check
- Initial calibration
- Quality Control of Samples
- Continuing Calibration Check
- Field Duplicates
- Field Reagent Blanks
- Laboratory Fortified Sample Matrix
- Blanks
- Surrogate Analyte Standard percent recovery
- Laboratory Fortified Blank
- Matrix spike and matrix spike duplicate analysis
- Internal Standard
- Target Analyte Identification
- Target Analyte Quantification
- System Performance
- Performance Evaluation Sample
- Regional Quality Assurance and Quality Control
- Overall Assessment of Data

Data Reporting

EPA Method 533 – for each analyte:

Detection Limit (DL) = 1 ng/L The DL is an estimate of the minimum amount of a substance that an analytical process can readily detect.

Limit of Detection (LOD) = 2 ng/L The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect with a high level of confidence (99% Confidence; that is a false negative rate of 1%).

Limit of Quantification (LOQ) = 4 ng/L The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specific degree of confidence. It is also the lowest concentration that produces a quantitative result within specified limits of precision and bias.

Data Reporting

EPA Method 533 – for each analyte:

Minimum Reporting Level (MRL) – The minimum concentration that may be reported by a laboratory as a quantified value for a method analyte. For each method analyte, the concentration of the lowest calibration standard must be at or below the MRL and the laboratory must demonstrate its ability to meet the MRL per the criteria defined in this method.

LOQ = MRL for this project

Data Reporting

- Laboratory will use LOQ as MRL
- Results in the range of 2 to 4 ng/L will be “estimated” and will receive an I or J qualifier
- Results less than the LOD will receive a U qualifier
- Analyte in both sample and method blank will receive a V qualifier and is invalid

Laboratory Reports

Parameter	CAS Number	Results	Q	DL	LOD	LOQ	Units
11-Cl-PF3OUdS	763051-92-9	1.8	U	0.88	1.8	3.5	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	39108-34-4	1.8	U	0.88	1.8	3.5	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	757124-72-4	1.8	U	0.88	1.8	3.5	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	27619-97-2	1.8	U	0.88	1.8	3.5	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	1.8	U	0.88	1.8	3.5	ng/L
9Cl-PF3ONS	756426-58-1	1.8	U	0.88	1.8	3.5	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	113507-82-7	1.8	U	0.88	1.8	3.5	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	377-73-1	1.8	U	0.88	1.8	3.5	ng/L
Perfluoro-4-methoxybutanoic acid(PFMBA)	863090-89-5	1.8	U	0.88	1.8	3.5	ng/L
Perfluorobutanesulfonic acid (PFBS)	375-73-5	5.5		0.88	1.8	3.5	ng/L
Perfluorobutanoic acid (PFBA)	375-22-4	3.1	J	0.88	1.8	3.5	ng/L
Perfluorodecanoic acid (PFDA)	335-76-2	1.8	U	0.88	1.8	3.5	ng/L

Electronic Data Deliverable

	Method	CAS	Parameter	Dilution	Adjusted Detection Limit	Adjusted Reporting Limit	Final Result	Units	Qualifier_Only	Qualifiers	Spike
64	EPA 533	919005-14-4	ADONA	1	0.88	3.5	0.88	ng/L	U		
65	EPA 533	13252-13-6	HFPO-DA	1	0.88	3.5	0.88	ng/L	U		
66	EPA 533	151772-58-6	NFDHA	1	0.88	3.5	0.88	ng/L	U		
67	EPA 533	375-22-4	PFBA	1	0.88	3.5	3.103	ng/L	I		
68	EPA 533	375-73-5	PFBS	1	0.88	3.5	5.5	ng/L			
69	EPA 533	335-76-2	PFDA	1	0.88	3.5	0.88	ng/L	U		
70	EPA 533	307-55-1	PFDoA	1	0.88	3.5	0.88	ng/L	U		
71	EPA 533	113507-82-7	PFEESA	1	0.88	3.5	0.88	ng/L	U		
72	EPA 533	375-85-9	PFHpA	1	0.88	3.5	1.2	ng/L	I		
73	EPA 533	375-92-8	PFHpS	1	0.88	3.5	0.88	ng/L	U		
74	EPA 533	307-24-4	PFHxA	1	0.88	3.5	2.5	ng/L	I		
75	EPA 533	355-46-4	PFHxS	1	0.88	3.5	0.93	ng/L	I		
76	EPA 533	863090-89-5	PFMBA	1	0.88	3.5	0.88	ng/L	U		
77	EPA 533	377-73-1	PFMPA	1	0.88	3.5	0.88	ng/L	U		
78	EPA 533	375-95-1	PFNA	1	0.88	3.5	0.88	ng/L	U		
79	EPA 533	335-67-1	PFOA	1	0.88	3.5	2.3	ng/L	I		
80	EPA 533	1763-23-1	PFOS	1	0.88	3.5	3.2	ng/L	I		
81	EPA 533	2706-90-3	PFPeA	1	0.88	3.5	6	ng/L			
82	EPA 533	2706-91-4	PFPeS	1	0.88	3.5	0.88	ng/L	U		
83	EPA 533	2058-94-8	PFUnA	1	0.88	3.5	0.88	ng/L	U		
84	EPA 533	763051-92-9	11Cl-PF3OUdS	1	0.84	3.4	0.84	ng/L	U		
85	EPA 533	13C24:2FTS	13C2 4:2FTS	1							

G981655-26 Sheet1

Data Handling and Sharing

We are working on:

- Plans for how and when to share the results.
- Fact sheets and resources for waterworks owners
- Messaging for customers

What would you like to see?

Expect more information at the next PFAS Workgroup meeting (April)

We are obligated to report to the General Assembly (draft due August)

Public Comments

Action Items Review

Submit agenda items for PFAS Workgroup meeting later this month

Watch out for the PFAS Workgroup meeting announcement

Are we clear about action items and due dates?

Next Meeting: May 6, 2021, 2 - 4 pm

Have any Question, Comment or Suggestion, contact Us

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