PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN DRINKING WATER

LSI Conference on PFAS
September 14, 2020
PFAS in the News

Whidbey Island drinking-water wells polluted with firefighting chemicals near Navy airstrips

Washington state to test drinking water for PFAS contamination linked to firefighting foam

Neighbors of Fairchild Air Force Base sue makers of toxic fire retardant, including 3M Co.

Fairchild partners with Airway Heights to provide water to residents affected by water advisory

3 JBLM wells shut after unacceptable levels of chemicals found in the water
Potential Sources of PFAS in Drinking Water

Aqueous film-forming foams (AFFF): Military sites, fire training centers, AFFF spill sites, civilian airports

Manufacturing plants, industrial use sites, waste water treatment plants, land fills
Known Occurrence of PFAS in Drinking Water Supplies

- Naval Air Station Whidbey Island (two PWS and private wells off base)
- Naval Base Bangor-Kitsap (private wells off-base)
- Issaquah PWS
- Joint Base Lewis-McChord (also off-base PWSs in Dupont, Lakewood, Tacoma and Parkland with PFAS detections in at least 1 production well)
- Fairchild Air Force Base (also City of Airway Heights PWS, private wells off-base)
- Moses Lake Wellfield Superfund site (monitoring wells)

Legend:
- Group A water sources not tested (UCMR3)
- PFAS level below lab reporting limit (UCMR3)
- PFOA + PFOS <70 ppt
- PFOA + PFOS 70 - 500 ppt
- PFOA + PFOS >500 ppt
PFAS Chemical Action Plan (CAP) Advisory Committee
Statewide Chemical Action Plan for PFAS
Draft Recommendations

- Ensure safe drinking water
- Manage environmental contamination
- Reduce PFAS in products
- Understand and manage PFAS in waste
Statewide Chemical Action Plan (CAP) for PFAS

Department of Ecology Schedule Update

On Schedule for 60-day comment period in September 2020

Final recommendations at high level remain same

Final CAP in early 2021

DOH will review final recommendations prior to CAP formal comment period
**Washington State Action**

- **2014**: EWAG begins PFAS rule making ECY begins work on PFAS clean up standard
- **2016**: EPA issues Lifetime HAL for PFOS & PFOA
- **2017**: WA SBOH begins PFAS rule making ECY begins work on PFAS clean up standard
- **2018**: ECY/DOH issues interim CAP
  - WA State Legislature passes bills restricting PFAS in AFFF, food packaging
- **2019**: ECY/DOH implement new laws & CAP
  - DOH seeks input on draft drinking water rule
- **2020**: COVID-19 Delays rule making process

**Unregulated Contaminant Monitoring Rule data:** PFAS in some Washington systems

**ECY & DOH begin work on PFAS Chemical Action Plan (CAP)**
State Board of Health: Rulemaking

Petition to set state PFAS drinking water standards
SBOH accepted petition Oct 2017

Considerations
- SAL vs. MCL
- Which PFAS to include?
- Action levels?
- Addressing PFAS mixtures
- Update the Lab Rule
State Action Levels (SALs) are Health Protective Levels

A level in water expected to be without appreciable health effects over a lifetime of exposure, this includes sensitive groups.
### Draft SALs for PFAS in Drinking Water

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Draft SAL (parts per trillion)</th>
<th>Revised SAL (parts per trillion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFOA</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>PFOS</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>PFNA</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>PFHxS</td>
<td>70</td>
<td>70</td>
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<tr>
<td>PFBS</td>
<td>1,300</td>
<td>850</td>
</tr>
</tbody>
</table>
Initial Monitoring Requirements

Community & nontransient noncommunity water systems

Initial and ongoing monitoring requirements for PFAS once every three years

Transient noncommunity water systems (i.e. campsite, corner store)

Monitor only if located near known or suspected sites of PFAS contamination as directed by DOH
Increase Monitoring Requirements
(AKA: You had your first detection)

If quarterly results are:

**Low**
- 2 total quarters of increased monitoring

**Medium**
- 3 total quarters of increased monitoring

**High**
- 4 total quarters of increased monitoring
Ongoing Monitoring Frequency
(Following increased monitoring)

If results from last year are:

- **Low**
  - 1 time every 3 years

- **Medium**
  - Annually

- **High**
  - Quarterly
Public Notice Requirements

**Water Systems that exceed a SAL**

- Inform customers about the health effects of the contaminant
- What they are doing to address the issue
- What consumers can do to reduce their exposure

**Community water systems w/a detection**

- Include information on detected PFAS in their annual consumer confidence report
Types of comments received

- DOH should develop an MCL—not an SAL
- Treatment is expensive and funding should be addressed
- Technical comments related to monitoring descriptions, definitions, references
- Need to update Lab Rule
- Regulate as a mixture not individually
- What if/when a federal MCL is adopted
- Differing requirements based on size and type of system
- Public notification concerns
- Need for guidance documents
- 3M comments (200 or so pages)
MCL Considerations

- Concerns that an MCL is needed for funding
- Want the certainty of an MCL
- SBOH considerations for starting with SAL
- Want the process of MCL development in rule
Funding Treatment for PFAS

PFAS contamination is an eligible condition for State Revolving Fund (SRF) Loan Program funding.

Ecology continues to work on grant funding and will move forward with cleanup standards once SAL is in rule.

This imposes both state and federal requirements for responsible parties to address contamination.
What happens when EPA adopts MCL

State SAL is superseded

DOH evaluation to determine if MCL is protective enough for SBOH decision

SBOH will start rulemaking for State MCL if determined necessary
Lab Rule Update

Coordinating for both rules at once

Addresses approved test methods

Establishes test panels

Does not preclude systems from sampling for more analytes
<table>
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<tr>
<th>Draft Rule Changes Based on Comments</th>
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<tbody>
<tr>
<td>Changed PFBS SAL to include new model w/infant exposure</td>
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<tr>
<td>Included process to adopt MCLs</td>
</tr>
<tr>
<td>Addressed what happens if/when EPA sets MCL</td>
</tr>
<tr>
<td>Made technical corrections &amp; clarifications in rule</td>
</tr>
<tr>
<td>Clarified Public Notice to be more like a Tier 2 (within 30 days)”</td>
</tr>
<tr>
<td>Developed draft Lab Rule language</td>
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</table>
Next Steps

1. Update SBOH on recommendations
2. Outreach on 2nd Draft of Group A rule – Sept 2020
3. Outreach on Draft Lab Rule – Sept 2020

Develop
Implementation Plan and guidance materials

Respond to Comments

Formal Public Comment Period and Public Hearing

Develop Regulatory Analyses

Rule Adoption

Rule Effective

Coordination with Ecology on cleanup standards and Ecology grants

Utilities begin sampling
Contact Information

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