Perfluoroalkyl Substances (PFAS)
Occurrence in Drinking Water Supplies

Drinking Water Advisory Committee
September 11, 2017

Scott Torpie
Office of Drinking Water’s Mission

We work with others to protect the health of the people of Washington State by ensuring safe and reliable drinking water.
Unregulated Contaminant Monitoring Rule (UCMR)

- If national regulation is needed, we must know if the contaminant occurs in Public Water Systems (PWS).
- Every five years, the Environmental Protection Agency (EPA) selects up to 30 contaminants to monitor in finished drinking water.
• Who samples?
  – All PWSs serving more than 10,000 people.
  – A representative sample of 800 PWSs serving 10,000 or less.
• EPA uses the results to assess occurrence of the contaminant.
Focusing on Washington State

• Water systems sampled under UCMR3 for six PFAS compounds in 2013–2015.

• Of the water systems that sampled:
  – All 113 systems serve more than 10,000 people.
  – Nineteen small systems serve 10,000 or fewer people.
  – Represents 94 percent of people on public water.
  – Missed 94 percent of Washington’s community water systems.
Focusing on Washington State

- PFAS samples results analyzed under UCMR3 in Washington.

<table>
<thead>
<tr>
<th>Public Water System</th>
<th>Pop.</th>
<th>PFOA &amp; PFOS (ppt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issaquah Water System</td>
<td>26,000</td>
<td>534*</td>
</tr>
<tr>
<td>City of DuPont Water System</td>
<td>11,500</td>
<td>30</td>
</tr>
<tr>
<td>JBLM Lewis</td>
<td>75,000</td>
<td>51</td>
</tr>
</tbody>
</table>

* ~100 parts per trillion (ppt) at entry to distribution (EPTDS); ~70ppt in distribution.
Subsequent (Voluntary) Sampling at Military Installations (Continued)

• Fairchild AFB (Spokane County).
  – PFOA/PFOS sample results from wells within ~five miles of FAFB.
    ▪ Ranged from no detection to 2,300 ppt (∑6 PFAS compounds measured up to > 4,400 ppt).
  – City of Airway Heights issued a 24-day bottled water advisory due to PFOA/PFOS contamination of two wells and its distribution system.
    ▪ Contamination as high as 1,250 ppt.
Subsequent (Voluntary) Sampling at Military Installations (Continued)

• NAS Whidbey (Island County).
  – ~210 drinking water wells within 1.5 miles of two naval air station facilities sampled for PFOA/PFOS.
    • Seven homes have PFOA 130 to 660ppt.
    • One home has PFOS 2,500-3,800ppt.
    • Six homes have PFOA < 70ppt.
  
• Coupeville sampled its sources: One well in its wellfield has PFOA at 60ppt (blending to 30ppt).

• Twelve other public water systems sampled independently, with no detections.
Subsequent (Voluntary) Sampling at Military Installations (Continued)

• Fort Lewis and McChord Field operate as a joint base but have separate water systems.

• Fort Lewis:
  – Shut down one well with PFOS/PFOA > 70 ppt.
  – Main water supply sources have PFOS/PFOA at 20ppt.
  – Two other smaller wells have PFOS/PFOA at 45-60ppt.

• McChord Field:
  – Shut down three wells with PFOS at 70 to 240ppt.
  – Two other wells have PFOS below 70 ppt.
Washington PFAS Occurrence in Drinking Water

- Whidbey NAS
- Fairchild AFB
- McChord Field and Fort Lewis

Map showing PFAS detections above 70 ppt for Whidbey NAS, Fairchild AFB, and McChord Field and Fort Lewis.
Next Steps for DOH

• Coordinate PFAS occurrences with local health jurisdictions and support impacted communities.

• Consider PFAS drinking water standard.
  – State Advisory Level, MCL, or Other.
Next Steps for DOH (Continued)

• Fund up to 500 PFAS samples with grant funds.
  – Market sampling program to known at-risk public drinking water supplies.
  – Acquire greater spacial distribution of sampling data.

• Develop with others a PFAS Chemical Action Plan.