Public Information Session
Firefighting Foam Release to the Farmington River

Windsor Town Hall
July 2, 2019
Overview

- Overview of PFAS chemicals
- Timeline of events
- DEEP and DPH response
- DEEP – Transition from Emergency Response Division to Remediation Division
- Health advisories
- Next steps
Over 4,700 “forever chemicals”

Developed in the 1940s

Ubiquitous in consumer products and industry

PFOA and PFOS most well-known

**PFAS** = Per- and Polyfluorinated Alkyl Substances

**PFOA**

**Perfluorooctanoic acid**

**PFOS**

**Perfluorooctane sulfonic acid**
GOOD
- Resist oil, grease, water, heat
- Stable

BUT....
- Extremely persistent – resist degradation
- Bioaccumulative
- Linked to health risks
- Migrate easily
  - High solubility, low volatility, mobile in soil, leach to groundwater
  - Air emissions a source of soil & groundwater pollution

BAD

Connecticut Department of Energy and Environmental Protection: Remediation Division
Some PFAS Uses
Places Where We Might Find PFAS

Connecticut Department of Energy and Environmental Protection: Remediation Division
Aqueous Film-Forming Foam (AFFF)
The Problems with PFAS

- Possible health effects
  - Developmental effects to fetuses and infants
  - Kidney and testicular cancer
  - Liver, thyroid, cholesterol, immune system effects

- Present in human blood worldwide
- Have polluted drinking water supplies worldwide
- Discovery in wastewater treatment plants, biosolids, landfills, soil, surface water, fish tissue, animals, cow’s milk, and plants
- Replacement chemicals also a problem (GenX)

Connecticut Department of Energy and Environmental Protection: Remediation Division
Timeline of Events: June 8th

- Approx. 2 pm, malfunctioning fire suppression system at a private hangar at Bradley Airport caused discharge of AFFF for 6 minutes
  - Total foam released: ~40,000 gallons
  - Total AFFF concentrate: ~1,500 gallons
- CT DEEP onsite within 45 minutes, Signature Flight immediately took responsibility
- Emergency Contractor onsite 40 minutes later
- ~15,000 gallons foam captured onsite
Timeline of Events: June 8th

- Path of remaining foam solution:
  - Floor Drain ➔ Oil-Water Separator ➔ Sewer System ➔ MDC Wastewater Treatment Plant ➔ Farmington River

- MDC notified of release

- Approx. 7:30 pm, foam observed exiting sewer manholes on Rainbow Road

- Emergency Contractor called to remove foam from 2 manholes
Timeline of Events: June 9th

- Foam entered MDC Plant and the Farmington River in the early morning (5:30-7:30 am)
- Booms deployed to contain as much foam as possible
- ~5,000 gallons of contained foam vacuum-pumped out of the river
- Surface water samples collected
- DPH advises no contact with foam/do not eat fish
Surface Water Sampling

- 3 sampling events
  - June 9
  - June 11 (outfall only)
  - June 21
- 4 locations
  - Upstream
  - Treatment plant outfall
  - Downstream-1 at I-91 (0.6 mi.)
  - Downstream-2 at boat launch/Palisado Ave. (3 mi.)
Surface Water Sampling Results

Summary of Total PFAS Concentrations

<table>
<thead>
<tr>
<th>Location</th>
<th>June 9</th>
<th>June 11</th>
<th>June 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream</td>
<td>38 ppt</td>
<td>--</td>
<td>18 ppt</td>
</tr>
<tr>
<td>Outfall</td>
<td>1,515,700 ppt</td>
<td>90,899 ppt</td>
<td>331 ppt</td>
</tr>
<tr>
<td>Downstream-1</td>
<td>13,300 ppt</td>
<td>--</td>
<td>50 ppt</td>
</tr>
<tr>
<td>Downstream-2</td>
<td>10,253 ppt</td>
<td>--</td>
<td>40 ppt</td>
</tr>
</tbody>
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- Total = sum of 18 individual PFAS
- Primary chemical is PFOS (1,300,000 ppt at outfall on 6/9, 86% of total PFAS)
- Total PFAS at the outfall decreased by more than 4,000 times over 12 days
Surface Water Sampling Results

Concentration at Plant Outfall

Connecticut Department of Energy and Environmental Protection: Remediation Division
Surface Water Sampling

Latest Concentrations (6/21)

Drinking Water Action Level (70 ppt for 5 PFAS)

Connecticut Department of Energy and Environmental Protection: Remediation Division
Farmington River Health Advisories

- Initially – no contact with foam, no fishing
- The Farmington River is safe for recreational uses (swimming/boating).
- **DO NOT EAT FISH** caught between MDC wastewater treatment plant outfall near Phelps Brook, downstream to the Connecticut River.
- Catch & release fishing is allowed.

- Note: there is an existing fish consumption advisory statewide based on mercury.
Next Steps for DEEP Response

Next 2 Weeks
- Testing at MDC – this week
- Fish testing planned for week of July 8
  - Downstream and upstream locations, 2 fish species
  - Additional sampling in September

Summer
- Additional ecological assessment of Farmington River – sediment
- Remediation at Signature Flight hangar and grounds
- Assessment of impact to sewer system and surrounding areas
PFAS Resources on the Web

- DPH Drinking Water Section PFAS webpage
- DEEP Emerging Contaminants webpage
- EPA PFAS webpage
- EPA PFAS Action Plan
- Interstate Technology and Regulatory Council (ITRC) PFAS Fact Sheets
Questions or Comments?

Thanks for your attention!

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