Drinking Water and HAA5
Introductions

• Joshua Schimmel, Executive Director
• James Laurila, Director of Water Operations
• Sue Tower, Laboratory and Regulatory Manager
• Jaimye Bartak, Communications Manager
Who We Are

We Serve 250,000 Customers in the Lower Pioneer Valley

- Established in **1996** out of Springfield DPW
- **250 Employees** stationed in Westfield, Agawam, Springfield, and Ludlow
- **Stewards** of the largest water and wastewater system in Western Massachusetts
Drinking Water Operations
Retail, Wholesale, and Peak/Emergency
Public Notification for HAA5

Issued January 18, 2019

• Public notification (PN) mailed to all retail customers
• PN required for exceedance of Maximum Contaminant Level (MCL) of haloacetic acid (HAA5)
• Public notification requirements
• Locational Running Annual Average (LRAA) exceeded MCL of 60 parts per billion (ppb) at 3 locations in Springfield
  ▪ 1400 State Street, Springfield: 66.8 ppb
  ▪ 833 Page Boulevard, Springfield: 63.8 ppb
  ▪ North Main Fire Station, Springfield: 63.5 ppb
Haloacetic Acids (HAA5)

What They Are

• Natural Dissolved Organic Matter (NOM) enters reservoir water through rain/snow runoff from the surrounding forest

• Formed when disinfectants (chlorine) react with NOM

• Regulation of HAA5 began in 1998, updated regulations implemented in 2012
HAA5 and Public Health
Why They Are Regulated

- *Not an immediate or short-term health hazard*

- Regulated due to potential long-term health risks if consumed at levels above regulatory limits for many years (decades)

- Health concerns related to elevated *long-term* (decades) consumption

- More HAA5 and health information:

  **MassDEP**
  https://www.mass.gov/service-details/haa5-in-drinking-water-information-for-consumers

  **EPA**
HAA5 Results

2018

- Above-average rainfall in 2018 increased NOM by 50%
- More NOM interacting with chlorine increased annual average of HAA5 levels above the MCL at 3 sampling stations in Springfield

### C. HAA5 COMPLIANCE

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Q1 (Jan - Mar)</th>
<th>Q2 (Apr - Jun)</th>
<th>Q3 (Jul - Sep)</th>
<th>Q4 (Oct - Dec)</th>
<th>OEL Q4</th>
<th>LRAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Street Fire Station</td>
<td>3/6/2018</td>
<td>6/5/2018</td>
<td>9/4/2018</td>
<td>12/31/2018</td>
<td>58.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

MCL = 60 (ppb)

Was OEL exceeded? YES

Was MCL exceeded? YES
Drinking Water Treatment Overview
West Parish Filters Water Treatment Plant, Westfield
Short Term Strategies
Optimize Current Treatment

- Optimize chlorine dosing
- Coagulant optimization trials
- Reduce water storage time
- Adding storage tank mixing
- Maximize NOM removal
- Flush distribution system to limit amount of chlorine needed
Long Term Plans

Add New Treatment Processes

• UMass bench study completed in 2018 for pre-oxidation to remove NOM
• UMass study moving to pilot phase in 2019
• Comprehensive facilities plan underway

$1M + spent on planning and process optimization

$38M spent annually on water treatment and delivery
Communications

HAA5 Sampling
• Next round of sampling in March
• If necessary, any additional PNs would be issued by early April

Communications
• PN issued via mail, website, press release/media coverage, postings in public venues, communication with public officials
• [http://waterandsewer.org/haa5-frequently-asked-questions/](http://waterandsewer.org/haa5-frequently-asked-questions/)
• All questions will receive a response: 413-452-1302 or jaimye.bartak@waterandsewer.org
• Keep an eye out for tour announcements!
Contacts and Information

Questions about HAA5
Jaimye Bartak, Communications Manager
jaimye.bartak@waterandsewer.org, 413-452-1302
http://waterandsewer.org
HAA5 FAQs: http://waterandsewer.org/haa5-frequently-asked-questions/

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EPA
Drinking Water: https://www.epa.gov/ground-water-and-drinking-water
HAA5 Regulations: https://www.epa.gov/dwreginfo/stage-1-and-stage-2-disinfectants-and-disinfection-byproducts-rules