CURRENT AND EMERGING CONTAMINANTS UPDATE

CT Section AWWA Water Quality and Technology Symposium
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CONNECTICUT DEPARTMENT *of* PUBLIC HEALTH

Keeping Connecticut Healthy
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DRINKING WATER SECTION

DPH

Agenda

- Disinfection By Products
- Lead
- Manganese
- Chloride Work Group
- PFAS Task Force Action Plan

Drinking Water Section Responsibilities

DRINKING WATER SECTION

DPH

- Regulate over 2,550 Public Water Systems with over 4,000 sources
- CT DPH: Primacy over SDWA and State Public Health Laws that protect/provide for Public Drinking Water
  - 17 different Federal Rules
  - 13 distinct State PWS planning/permitting/ protection laws – High Quality Sources
- 2.9 million CT residents served
- 90 CWS serve over 1,000 people
- 460 CWS serve under 1,000 people
- 2,000 non-community PWS

Disinfection By Products

Stage 2 Disinfection By-Products (DBP) Rule

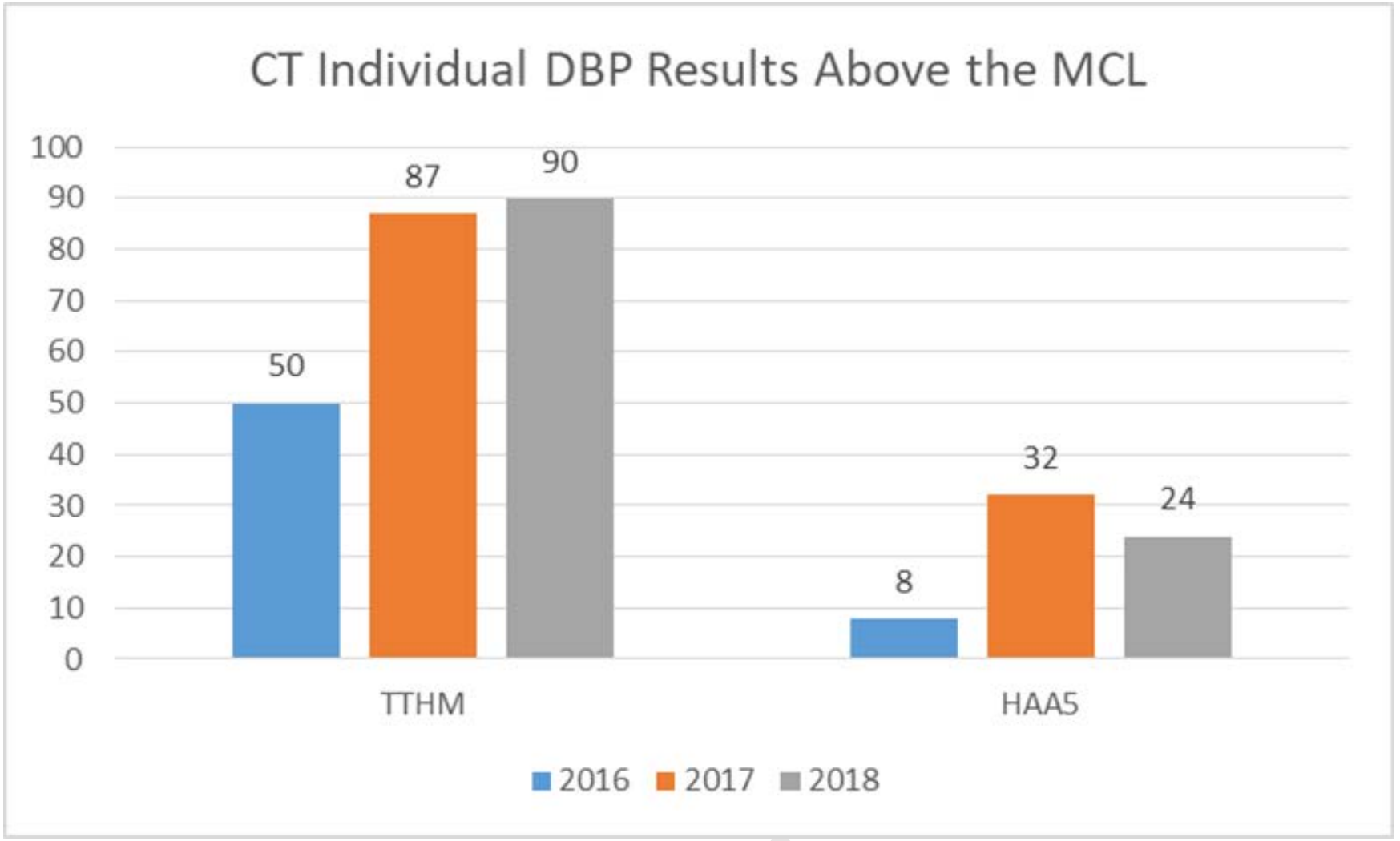
Applies to CWS & NTNC that deliver water treated with a primary disinfectant

Maximum Contaminant Levels
TTHM MCL = 0.080 mg/L
HAA5 MCL = 0.060 mg/L

Compliance with MCL based on Locational Running Annual Average (LRAA) at identified locations from approved compliance monitoring plans

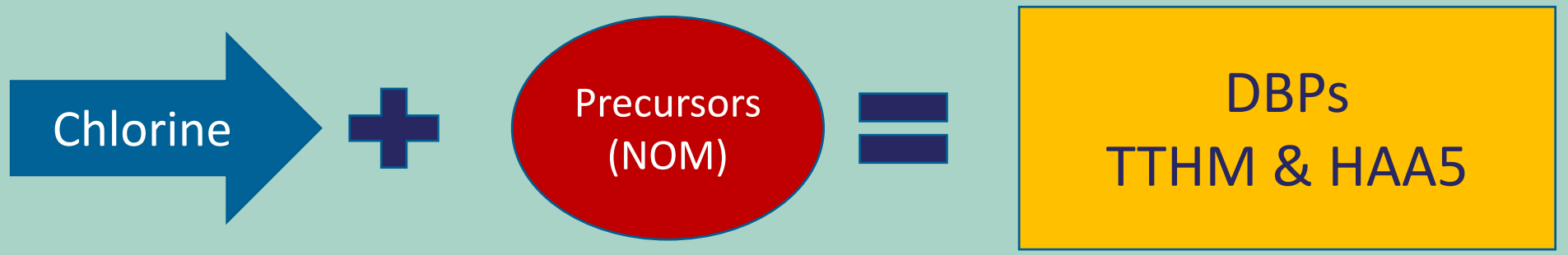
Each quarter requires LRAA MCL and OEL calculations!

Stage 2 DBP Rule – DBP Data Trend in CT



DBP Formation

DBPs are formed when chlorine (or another disinfectant) reacts with organics (DBP precursors – part of TOC) in the water.



Goal is to Remove TOC to reduce DBP formation

DBP Optimization Steps

Diagnose DBP Formation to Prioritize Efforts

More data than just compliance samples is necessary

Where Are DBPs forming?

- In Treatment Plant
- In Distribution System

Plant Effluent TTHMs > 30 ppb – start in plant

DBP Optimization Steps

If DBPs are forming In- Plant:

Optimize Oxidation/ Disinfection

Distribution System Influent Hold Study

In-plant Profile for DBPs, TOC, UV_{254}, chlorine, pH, temp

Optimize TOC Removal

Pre-Oxidant Demand Study

Jar testing to Assess TOC Removal

DBP Optimization Steps

If DBPs are forming Distribution:

Diagnostic Sampling Shows Significant TTHM Formation between DS EP and MRT
Plant effluent TTHMs <30 ppb
Hold Study shows disinfectant residual is fairly stable

Managing Tanks:
- Modify tank levels
- Change fill rate/duration
- Review tank maintenance

Implement Flushing Program
- Create demand
- Maintain adequate residual

Modify System Hydraulics
- Effective in areas with parallel lines or where flow can be redirected through low demand area

Treatment Changes
- Booster disinfection optimization

Lead and Copper Rule

LCR Current Initiatives

1. Required Materials Evaluation for all CWS and NTNC

2. DPH School/Childcare Lead Sampling Project under WIIN Grant

3. EPA Lead and Copper Rule Revisions

LCR Materials Evaluation

Required Materials Evaluation: due 8/30/19

Forms available on DWS LCR Webpage

https://portal.ct.gov/DPH/Drinking-Water/DWS/Lead-and-Copper-Rule

Page 1: Service Line Inventory
Page 2: Interior Plumbing Information

**Revise Sampling Site Plans as needed to include enough locations for baseline monitoring and ensure sample points are from appropriate tiered locations as identified through evaluation.

DPH School/Childcare Lead Sampling Project

DPH to assist local schools and child care facilities in testing for lead contamination utilizing EPA's 3Ts for Reducing Lead in Drinking Water guidance. Testing will be conducted with prioritization of:

- Facilities serving younger children (ages 6 and under),
- Underserved and low-income communities,
- and facilities that are older and more likely to contain lead plumbing.

DPH School/Childcare Lead Sampling Project

Throughout testing the EPA's 3Ts guidance will be used as a model to ensure:

1. **Communication** of results and important lead information to the public, parents, teachers, and larger community during the program;
2. **Training** on the risks of lead in drinking water and testing for lead, as well as developing key partnerships to support the program;
3. **Testing** using appropriate testing protocols and the certified CT DPH laboratory; and
4. **Taking Action** by developing a plan for responding to results of testing conducted and addressing potential elevated lead where necessary.

EPA Lead and Copper Rule Revisions

1. Identifying Areas Most Impacted
   - PWS follow up on individual high lead results
2. Strengthening Treatment Requirements
   - 10 ppb trigger level to re-evaluate existing corrosion control or conduct study to be proactive to respond quickly to an exceedance
3. Replacing Lead Service Lines
   - Mandated for locations > 15 ppb, min of 3% of known LSL annually
   - Goal to replace >10 ppb
   - Partial LSL replacements no longer allowed

EPA Lead and Copper Rule Revisions

4. Increasing Sampling Reliability
   - New sampling procedures to target locations with high lead levels
   - Systems with higher levels of lead will test more frequently
5. Improving Risk Communication
   - Homeowners will learn about elevated lead levels sooner and how to protect from exposure to lead
6. Protecting Children in Schools
   - PWS will be required to collect samples from 20% of schools and child care facilities in their service area every year.

EPA Lead and Copper Rule Revisions

EPA accepting Comments for 60 days- still time to comment

Please send your comments to EPA through the public docket, Docket ID No. EPA-HQ-OW-2017-0300, at http://www.regulations.gov

Manganese

Manganese

New Manganese Health Advisory Level 0.3 mg/L

DPH revised the Manganese Health Advisory Level to address health implications to infants and nursing mothers

Revised Manganese Fact Sheet on Website

DWS working on messaging and corrective actions for PWS that detect manganese above HAL. (UCMR4)

Chloride Stakeholder Group

Stakeholder Group Meeting June 11, 2019

Organized by the CT Environmental Health Association

Included:

- CTDPH-Drinking Water Section and Private Well Program
- CTDEEP
- CTDOT
- UCONN CLEAR, T2 Center, Academic
- ECSU
- Public/Private water treatment system operators
- Municipal Public Works
- Directors of Health
- Public Water Systems

Next Steps for the Group

- Understand that every stakeholder has a role
  - Best management Practices for deicing
  - Well location
  - Siting of water treatment wastewater dispersal systems
- Legislation to bring Green Snow Pro Concept to Connecticut
- Maintain partnerships

PFAS Action Plan

PFAS Action Plan

- Delivered to the Governor on November 1, 2019
- Contains numerous action items for the Governor to Consider
- Final Plan is available on the Governor's web page or at:

www.ct.gov/ctpfastaskforce

Human Health Committee

Key Take-Aways

- Communication-Clear and Understandable Information for all stake holders
- Science based decision making
- Need for testing drinking water, fish, consumer products, shellfish, dairy and other agricultural products
- Academia
- Laboratory capacity and standard methods

Action Plan: Strategic Focus 1 Human Health

Protect the Health of CT Citizens

- Drinking Water Testing
- Identification of Sources of Human Exposure
- Evaluation of Laboratory Capacity
- Effective Communication and Technical Assistance
- Safe Drinking Water Advisory Council for MCL

Action Plan: Strategic Focus 2

Minimizing Future Releases

- Determination of Universe of Potential Sources
- Initiatives to Minimize Future Releases of AFFF
- Establishment of Standards and Discharge Limits
- Evaluation of Wastewater Treatment Plants, Biosolids, and Compost
- Consideration of PFAS Free Consumer Products for State Contracts

Action Plan: Strategic Focus 3

Identify & Clean Up Releases

- Develop GIS Database of Source Sites and Receptors
- Develop Sampling Strategy for Environmental Media
- Landfill, Airport, Firefighting Facility Sampling
- Establish Standards for all media
- Collaborate with Stakeholders on Remediation Technology

Action Plan: Strategic Focus 4

Education, Outreach and Communication

- Share data in plain language
- Work with your Local Health Directors
- Share quickly and effectively with your customers and all stakeholders, CCR
- Norwalk and Greenwich are excellent examples

Questions?

Thank You!

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