



# Department of Public Health

## Safe Drinking Water Act

### Lead & Copper Rule

# Public Drinking Water Systems in Connecticut

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DPH Drinking Water Section

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# Presentation

- DPH Drinking Water Section
- Connecticut's Public Water Systems
- Flint Michigan – Concerns & Timeline
- EPA SDWA Lead & Copper Rule
- Current Lead & Copper Rule compliance
- Drinking Water Section Actions
- Future



# Department of Public Health's

## *Drinking Water Section*



# CT DPH Drinking Water Section Responsibilities

- Regulate over 2,550 Public Water Systems with over 4,000 sources (public water system serves 25 or more people)
- DPH – Primacy over SDWA and State Public Health Laws that protect and provide for Public Drinking Water
  - 2.9 million CT residents served
  - 90 systems serve over 1,000 people
  - 460 systems serve under 1,000 people - small community systems
  - 2,000 non-community systems



# Drinking Water Section

## *Multi-Barrier Approach*

- Technical Field and Engineering Review/Approval
- Safe Drinking Water Act Rule Data Management
- Public Health Enforcement & Civil Penalty Issuance
- Planning, Permitting and Source Water Protection
- Public Water System Capacity and Transient System Review
- Drinking Water State Revolving Loan Fund Administration
- Grant and Contract Administration



# Drinking Water Section

## Regulation of 2,550 PWS in 2015

- 700 Engineering Technical Public Water System Sanitary Survey System Reviews
- 500,000 water quality samples review as submitted by water systems
- 17 separate SDWA Rules overseen
- 2,200 Certified Water Operators
- 400 Technical Engineering Public Water System approvals processed
- 13 distinct public water system planning/permitting/protection State Laws, 25-32d, 25-33c, 25-32, 22a-358, 16-262n, 25-43c, 25-34, 25-32f, 25-33l,k,m, 25-32b, 25-32n
- 250 enforcement actions taken
- \$25 million Drinking Water State Revolving Loans 12 projects
- 30 Emergency or acute water system issues
- 39 Staff



# EPA Federal Law Primacy

- Safe Drinking Water Act – regulates public drinking water
  - CT Dept. of Public Health
- Clean Water Act – regulates other uses of water (storm water, sewers, etc.)
  - CT DEEP



# Connecticut's 2,550 Public Water Systems





# Connecticut's Public Water Systems

- Public Water Systems (PWS) - Serve 25 or more people
- Community 550, Non-Community Non Transient 600, Non-Community 1,400
- Varying requirements based on type and size
- Approximately 80 PWS serve over 1,000 people
- 28 PWS serve over 10,000 people
- 10 serve over 50,000 people
- 4 serve over 100,000 people (Regional Water Authority, MDC, Aquarion Water Company and Waterbury)
- Required to follow the requirements under the SDWA
  - 17 separate SDWA Rules
- Required to follow numerous state statutory requirements that concern planning, source water protection, etc.
- 99% in compliance with Lead & Copper Rule





# Current EPA Lead & Copper Rule

- History - 1991
- Compliance – testing, reporting, exceedance, 15 ppb action level, treatment
- 1,150 Community and NTNC systems required to test under the Lead and Copper Rule
- 170 non-transient non-community systems - schools



# Flint Michigan

# Flint MI

- Change of Source – April 2014 - water chemistry and public health impact
- State Responsible for City of Flint water system due to declared state of financial emergency, not traditional role
- Treatment System – April 2014 – October 2015 - using surface water treatment plant without corrosion inhibitor
- Complaints – start Spring 2014 – resident's concerned, public health issue
- October 13, 2014 – GM announces it will stop using the water at it Flint plant because it is corroding engine parts
- October 2015 Flint changes source of supply back to the Detroit supply
- January 2016 – EPA Headquarters issues Order to State of Michigan and City of Flint



# **EPA Lead & Copper Rule**

## ***DPH Administration and Oversight***

### ***Public Water System Compliance***



# Current Lead and Copper Rule Compliance

- 17 public water systems actively out of compliance
- [DPH Webpage](#)
- Different stages of Rule compliance
- Treatment, technical review and approval
- Dynamic testing requirements



# Lead & Copper Rule Connecticut

- Senator Chris Murphy's Lead Roundtable, Congresswomen Esty
- High Quality Sources
- System Ownership
- Certified Operators
- DPH Drinking Water Section





# Safe Drinking Water Rule Implementation Unit Duties

Safe Drinking Water Rules	Implementation Unit Duties
Revised Total Coliform Rule	Level 1 & 2 Assessment Reviews
Groundwater Rule	Maximum Contaminant Level Violations
Surface Water Treatment Rule	Treatment Technique Violations
Lead and Copper Rule	Action Level Exceedances
Phase II/V Rules	Monitoring & Reporting Violations Reviews
Stage 2 Disinfection Byproducts Rule	Operational Evaluation Level Reviews
Radionuclides Rule	Sample Site Plan Approvals
Public Notifications Rule	Water Quality Sample Processing & Review of Treatment Logs
Consumer Confidence Reports Rule	DWS Website & Geographic Information System Maintenance

# Lead & Copper Rule

- **Purpose**: Protect Public Health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity.
- **Compliance**: Action level for lead (0.015 mg/L) and copper (1.3 mg/L) based on 90<sup>th</sup> percentile of tap water samples.
- **Applicability**: All community and non-transient, non-community public water systems.
- **Benefits**: Reduction in risk of exposure to lead that can cause damage to the brain, red blood cells and kidneys. Reduction in risk of exposure to copper that can cause stomach and intestinal distress, liver or kidney damage, and complications of Wilson's disease.



# Lead Action Level Exceedances

## Lead Action Level Exceedance Requirements:

- An exceedance of the lead action level triggers these additional requirements:
  - Water Quality Parameter (WQP) Monitoring
    - pH, alkalinity, calcium, conductivity, and water temperature (measured in field)
    - Include orthophosphate and/or silica if used in existing treatment system
  - Source Water Lead & Copper Monitoring/Treatment
  - Optimal Corrosion Control Treatment (OCCT) Evaluation and Installation



# Lead Action Level Exceedances

## Lead Action Level Exceedance Requirements:

- Increased Lead & Copper Monitoring Frequency to every 6 months
- Lead Public Education Materials Distribution
  - The lead public education materials are distributed to all customers after a lead exceedance
  - Educates customers about the health effects of lead and how to reduce exposure.
- Lead Consumer Notice Distribution
  - Lead consumer notice is sent to the specific locations that were tested for lead, which provides the customer with their lead sample result
- Lead Service Line Monitoring and/or Replacement  
(repeated lead exceedance only)



# Recent DWS Actions to Improve Compliance with LCR

- DWS issues Public Water Systems (PWS) with Lead Action Level Exceedances formal enforcement actions as soon as DWS learns of the exceedance
- PWS with Lead Action Level Exceedances are listed on the DWS Website
- Advised PWS of new EPA guidance on LCR sampling procedures ([Circular Letter #2016-07](#))
  - Do not recommend the removal or cleaning of aerators prior to sampling.
  - Do not recommend pre-stagnation flushing.
  - Use wide-mouth bottles to allow for higher flow rate.
- Requested Large PWS to post lead results for the last two monitoring periods and provide information on lead service line locations on their websites ([Circular Letter #2016-09](#))



# Recent DWS Actions to Improve Compliance with LCR

- Requested Lead Consumer Notice & Lead Public Education to be distributed to customers promptly and within 48 hours of learning of the lead results ([Circular Letter #2016-11](#))
- Required PWS with New Sources to test and evaluate their corrosivity potential and propose treatment if necessary.
- PWS with New Sources or Treatment Changes revert to standard (increased) monitoring ([Circular Letter #2016-11](#))
- Required PWS to provide justification that the recommended Optimal Corrosion Control Treatment (OCCT) is selected based on the system's water quality parameters (WQPs) results and the guidance from the EPA Technical Recommendations for Corrosion Control Treatment Evaluation. ([Circular Letter #2016-11](#))



# Recent DWS Actions to Improve Compliance with LCR

- Requested PWS to reevaluate their lead plumbing materials inventory and update their sampling site plan with as many Tier 1 sites (highest risk) as possible ([Circular Letter #2016-11](#))
- Working with PWS, local health departments, and school boards to identify and address lead risks at schools
- Sharing of high lead results with the CTDPH Childhood Lead Poisoning Prevention Program to ensure that children exposure to lead is evaluated and abated.
- Working to comprehensively address each and every complaint received



# CT DPH Enforcement Unit Responsibilities

- Preparation, Issuance and Tracking of Formal Enforcement Actions
  - Administrative Orders
  - Consent Orders
  - Consent Agreements
  - Notices of Violation with Civil Penalty
  - Memorandum of Understanding
- Monitoring and Reporting Violations
- EPA Enforcement Targeting Tool reports
- Attorney General Referrals
- Technical Assistance to public water systems





# Drinking Water Section

## Lead Exceedance Administrative Orders

- Thirty-three Administrative Orders have been issued to public water systems over the past 11 months.
- Twenty-six public water systems have returned to compliance and the Administrative Orders closed out.
- Seven Administrative Orders remain open and they are currently in compliance.



# New Lead Exceedances

- Administrative Orders issued to public water system once Lead Exceedance is confirmed at the end of the monitoring period. The following is required:
  - Issuance of Lead consumer notices to those consumers where the lead tap sampling was conducted within 48 hours of being notified of lead tap sampling results.
  - Issuance of Lead Public Education documents to all consumers on a monthly basis.
  - Submittal of Optimum Corrosion Control Treatment (OCCT) proposal within 45 days.
  - Installation of OCCT within 60 days of Department approval.



# Avoiding Flint MI

- Capable and Consistent State Agency DPH Oversight of the Safe Drinking Water Act
- Use only high quality sources of public drinking water
- Set clear public policy that humans deserve to consume high quality sources with an appropriate level of treatment
- Assure State DPH oversight of adequacy of public drinking water supply through existing planning mechanisms
- Assure strong public health policy in the protection of public health and the consumption of drinking water
- Assure Unique Laws that protect public drinking water in CT remain in effect
- Full fund the DPH concerning Public Drinking Water Oversight through appropriate levels of State and Federal funding



# Public Drinking Water

## *What Makes Connecticut Unique*

- 22a-417 Prohibits sewage treatment plant discharge and industrial discharges within public water drainage areas (1971)
- Water Company Owned Lands – DPH regulated over 100,000 acres, 25-32 & 25-37c (1970s)
- No swimming, bodily contact, only passive recreational use of water company land, 25-43 and 25-43c
- Broad DPH authority since early 1900s for public health protection of high quality drinking water sources, 25-32 & 25-34
- DPH overseen water supply plans and Water Utility Coordinating Plans since mid 1980, 25-32d & 25-33c-j
- Long-Standing DPH belief that water for human consumption should be from the highest quality raw water sources of supply with appropriate level of treatment,



# New Actions 2016/2017

- Lead Exceedance 48 hour notice and educational materials to customers
- Move Lead Exceedance solutions quicker
- Assure new sources have corrosion review prior to placing online
- Assure appropriate public notice until problem resolved
- Assure public notice is being delivered
- Assure treatment systems in place are working appropriately
- Complete follow-up on complaints received
- Address Small System Capacity
  - Asset management
  - Receivership
  - Takeover
- Regionalization/System Consolidation

# Future

- Revised Federal Lead Rule – draft by EPA in 2017
  - Testing
  - Locations
  - Health based standard
  - Transparent
  - Removal
  - Enforcement and consistency



# Thank you

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