

Chemically Treating Your Water Supply

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Secondary Treatment

Secondary treatment means providing additional drinking water treatment to water received from a public water supply that may already be treated to meet all Safe Drinking Water Act requirements

- Why treat already treated water?
- Additional public health protection
 - Disinfection
 - Corrosion control
- Aesthetic
 - Softening
 - Iron Removal
- For business, processing, or other reasons
 - Boilers
 - Food or beverage processing

Waterborne Disease Outbreaks

- 32 disease outbreaks
- 21 outbreaks due to *Legionella* (66%)
- 17 of the 21 *Legionella* outbreaks occurred at hospitals, health care facilities, and one long term care facility
- All of the reported deaths were due to *Legionella* (14)
- 12 of the 14 deaths were cases associated with health care facilities (86%)
- The number of disease outbreaks remains stable, but the proportion due to *Legionella* has grown from 33% in 2007-2008 to 60% in 2009-2010 to 66% in 2011-2012
- "...improved *Legionella* control and mitigation are needed, especially in health care settings."

Data from Centers for Disease Control and Prevention, *Surveillance for Waterborne Disease Outbreaks Associated with Drinking Water—United States, 2011-2012*

Safe Drinking Water Act (SDWA)

- Roles and Responsibilities
- SDWA Definition - A public water system means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves at least 25 individuals.
- SDWA Applicability - Each and every public water supply (PWS) must comply with SDWA requirements unless it meets all of the following conditions:
 1. Obtains all of its water from, but is not owned or operated by, a PWS to which such regulations apply.
 2. Does not sell water to any person.
 3. Is not a carrier that conveys passengers in interstate commerce.
 4. Consists *only* of distribution and storage facilities (and does not have any collection and *treatment* facilities).

Michigan SDWA (Act 399) Public Water Supply Definition - A public water supply means a waterworks system that provides water for drinking or household purposes to persons other than the supplier of the water and does not include either of the following: 1) a waterworks system that supplies water to only 1 living unit; 2) a waterworks system that consists solely of customer site piping.

Act 399 Customer Site Piping Definition - Customer site piping means an underground piping system owned or controlled by the customer that conveys water from the customer service connection to building plumbing systems and other points of use on lands owned or controlled by the customer. Customer site piping does not include any system that incorporates treatment to protect public health.

Summary

- Facilities that secondarily treat are public water supplies and subject to all applicable regulations.
- No additional guidance expected from the US Environmental Protection Agency in the near future.
- Some states have robust regulatory programs, most do not.
- Michigan is considering regulating facilities that secondarily treat and inject chemicals. Passive treatment systems and certain business or processing treatment would be exempt.

Minimum Requirements under Consideration

- Construction permit
 - Water Management Program may be Required (ANSI/ASHRAE Standard 188-2015)
- Certified operator
- Required Monitoring
 - Disinfectant residuals
 - Disinfection byproducts
 - Lead and copper
 - Total coliforms
- Reporting
 - Monthly operation reports
- Public notification of violations
- Cross connection control
- Others

ANSI/ASHRAE Standard 188-2015

- Establishes minimum legionellosis risk management requirements for building water systems
- Intended for use by owners and managers of human-occupied buildings and those involved in the design, construction, installation, operation, maintenance and service of building water systems and components
- Requires survey of building water systems and determination of applicability
- Describes a Water Management Program (WMP)
- Centers for Disease Control recommends a WMP to reduce risk of Legionnaire's disease

At Increased Risk

- Buildings
 - Healthcare facilities
 - Housing for people over 65 years old
 - Multiple housing units with a centralized water-heater system
 - Over 10 stories high
- Devices
 - Cooling towers
 - Hot tub or spas
 - Decorative fountains
 - Centrally installed misters, atomizers, air washers or humidifiers

WMP Elements

Next Steps

- Development of policy
- Approval by DEQ Executive Division
- If approved, stakeholder review and comment period
- Implementation
- Outreach

Resources

- ANSI/ASHRAE Standard 188-2015 www.ashrae.org
- Centers for Disease Control www.cdc.gov/legionella
- Updated Guidelines for the Control of Legionella in Western Pennsylvania (Allegheny County Health Department) www.achd.net (Click Illness and Disease, then click Legionnaire's Disease, link is at bottom of Q&A page)