

# **DNR Drinking Water and Groundwater Study Group**

July 22, 2021

# Operation and Maintenance of Municipal Water System WPDES General Permit

Trevor Moen and Jason Knutson – DNR

# Member Roundtable

Scott Laeser, Clean Wisconsin

Chris Groh, Wisconsin Rural Water Association

David Webb, Wisconsin State Laboratory of Hygiene

John Steinbrink, American Water Works Association (AWWA) - Wisconsin Chapter

Lawrie Kobza, Municipal Environmental Group

Paul Junio, Northern Lake Service

Jeff Kramer, Wisconsin Water Well Association

Sarah Yang, Department of Health Services

Rick Wietersen, Wisconsin Association of Local Health Departments and Boards


Craig Summerfield, Wisconsin Manufacturers & Commerce

# LCRR Update

Ann Hirekatur– DNR

# Update on the Operator, Well driller and Pump Installer Exams

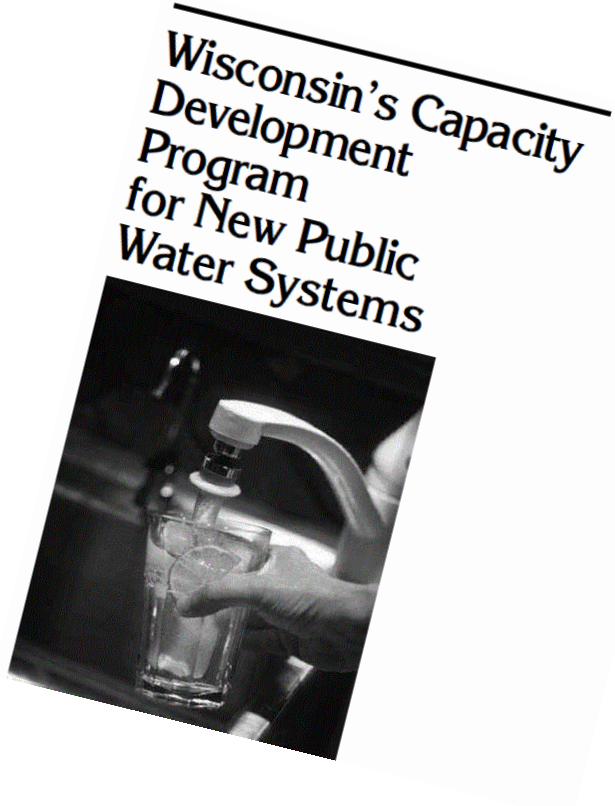
Cathy Wunderlich – DNR



# NR 114/146/524 Exam Update

- Online exam platform in final stages of development
  - Exam questions will be randomized in order and content
- DNR quality control review begins ~August 1<sup>st</sup>
- Exam administration activities in progress:
  - Registration portal, including ability to register for exam ‘packages’
  - Web page updates
  - New guidance documents and registration forms
- Improved data tracking
- Anticipated launch date – last week of **August 2021**

# Updating WI's Capacity Development Strategy



Nicholas Bertolas – DNR

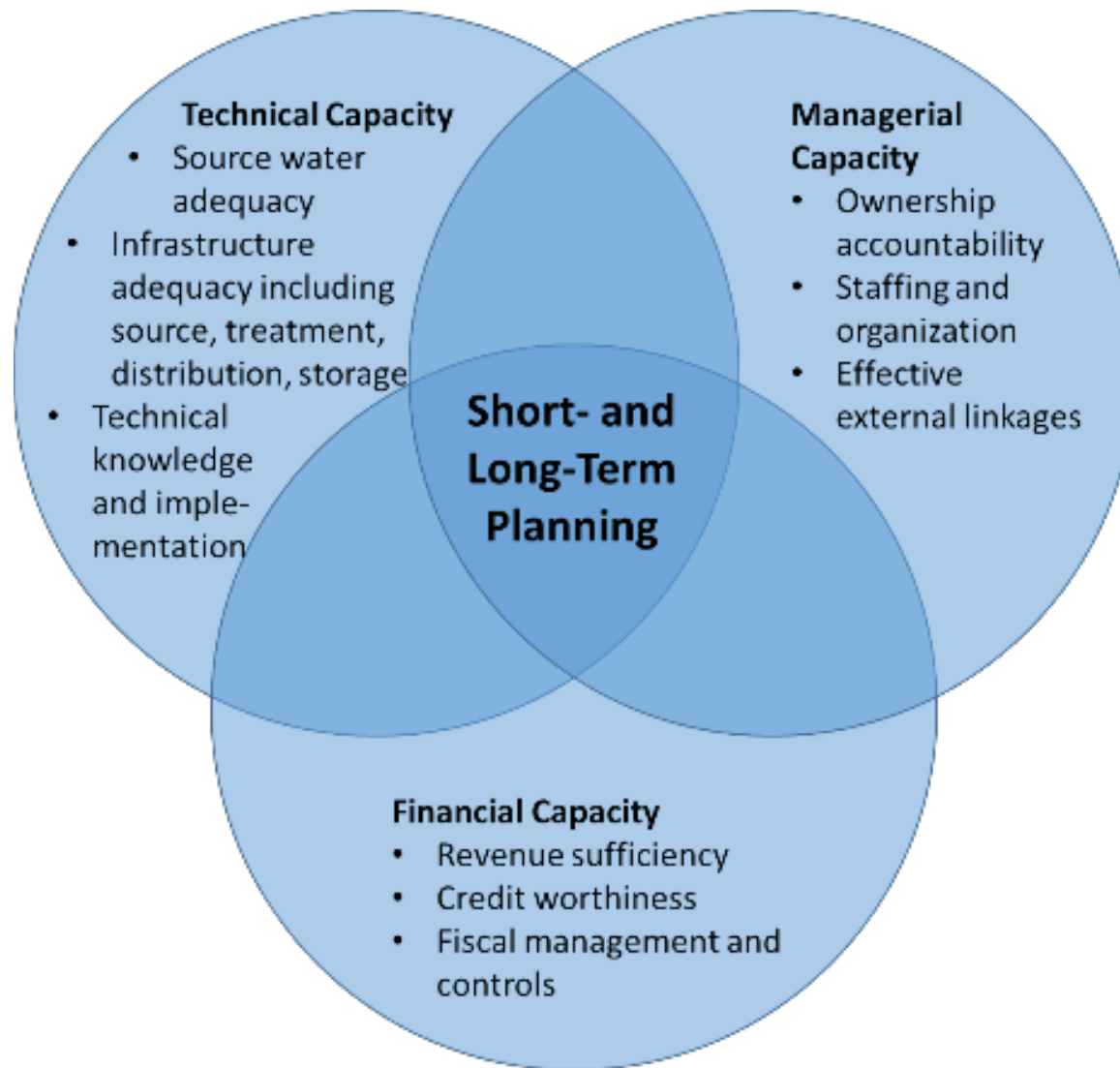
# WI's Capacity Development Program

## What is Capacity Development?

- Capacity development is a program that aims to help public water systems strengthen their ability to consistently supply safe drinking water to their customers.
- The program focuses on assisting system owners and operators, particularly small water systems, with improving their technical abilities, managerial skills, and financial resources to comply with the Safe Drinking Water Act (SDWA) requirements.



# WI's Capacity Development Program



# WI's Capacity Development Program

- WI Statute 281.17(9)

The department may require owners of water systems to demonstrate the technical, managerial and financial capacity to comply with national primary drinking water regulations under 42 USC 300g-1 and may assist owners of water systems to develop that capacity.

- NR 810.24, Wis. Adm. Code

Water system capacity. All new community and non-transient non-community water systems shall develop and maintain adequate financial, managerial and technical capacity to meet the requirements of this chapter and 42 USC 300f to 300j-26. New community and non-transient non-community water systems are defined as those constructed after September 1, 1999, or those that upgrade system type after that date to become a community or nontransient noncommunity water system.

# WI's Capacity Development Program - History

- One of the goals of the Capacity Development Program is to help water systems improve operations and, most importantly, avoid contamination. The Capacity Development Program was authorized by the 1996 amendments to the SDWA, which established a strong new emphasis on preventing contamination problems. Because it focuses on prevention, capacity development is a more **proactive** and positive program, rather than having an after-the-fact, “regulate and enforce” focus.
- In July 2000, the DNR submitted a Capacity Development Strategy to the U.S. Environmental Protection Agency (EPA) to meet the requirements of the 1996 amendments to the SDWA. The Strategy affects all existing public water systems in the state.
- The DNR has been implementing a program since October 1, 1999, to ensure that new public water systems demonstrate capacity

# EPA Requires States to Maintain a Capacity Development Program

## SDWA Section 1420(c) State Capacity Development Strategies

- Under penalty of 20% DWSRF withholding, the State must develop and implement a:  
*"strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity."*

# WI's Capacity Development Program

DNR:

- Reports on the program status and effectiveness to EPA annually in the *Annual Capacity Development Report* due by 12/31 each year
- Reports on the program in the *Triennial Governor's Report*
- Meets with EPA in quarterly calls and in-person annually to discuss program status, improvements, and efficacy
- Capacity Development Coordinator consults with other state CD coordinators regularly

# Updating WI's Capacity Development Strategy

- Under America's Water Infrastructure Act of 2018 (AWIA), several amendments were made to the Safe Drinking Water Act. One of those amendments, under Section 2012 of AWIA, established the following:

*“States must amend their state capacity development strategies to include a description of how the state will encourage the development of asset management plans that include best practices, training, technical assistance and other activities to help with implementation of those plans.”*

# Updating WI's Capacity Development Strategy

- The updated Strategy discusses the ways in which DNR encourages and supports asset management
- DNR is taking the opportunity to update the entire Strategy, which was drafted over 20 years ago
  - Substantially outdated language and topics needed revision
  - Much has changed in the drinking water realm since the initial drafting
    - Regulations, emerging contaminants, funding, infrastructure have evolved

# An Example of Encouraging Asset Management

- During SFY19, the DNR began incentivizing Principal Forgiveness (similar to federal grant money) points on Safe Drinking Water Loan Program (SDWLP) applications for municipalities that submitted approved asset management plans (AMPs) to the DNR
- In future SDWLP funding years, the DNR intends to award overall project scoring points to applicants who submit approved AMPs, to increase the weight or influence of submitting an AMP on a municipality's application



# Capacity Development Strategy - Timeline

- The updated draft Capacity Development Strategy anticipated to go out for public comment Fall 2021
- Updated Strategy due to EPA by 12/31/21
- For more information on WI's Capacity Development Program, visit DNR's Cap Dev webpage:  
<https://dnr.wisconsin.gov/topic/DrinkingWater/CapacityDevelopment.html>
  - ✓ DNR's Annual Cap Dev Report
  - ✓ Triennial Governor's Report
  - ✓ Original Cap Dev Strategy

# Questions?

## Contact:

Nicholas Bertolas

Capacity Development & Operator Certification Coordinator

Bureau of Drinking Water and Groundwater

Wisconsin Department of Natural Resources

[Nicholas.Bertolas@wisconsin.gov](mailto:Nicholas.Bertolas@wisconsin.gov)

Phone: (608) 800-2906

# Optimized Corrosion Control Treatment under the LCR

Cathy Wunderlich – DNR

# Definition of Optimized Corrosion Control Treatment

NR 809.04(59)

“*Optimal corrosion control treatment*” means the corrosion control treatment that minimizes the lead and copper concentrations at users’ taps while ensuring that the treatment does not cause the public water system to violate any national primary drinking water regulations...

# LCR Monitoring Progression

- Standard Monitoring
  - ✓ January 1 – June 30
  - ✓ July 1 – December 31
- Reduced Annual
  - ✓ June 30 – September 30
- Reduced Triennial
  - ✓ June 30 – September 30

Public Water System Size (# People Served)	# of sites (Standard Monitoring)	# of sites (Reduced Monitoring)
> 100,000	100	50
10,001–100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
≤ 100	5	5

Lead Action Level: **15 ug/L**  
Copper Action Level: **1300 ug/L**

# Review of Available Data for Water Systems

- Materials inventory
  - ✓ Date of first well construction and distribution system construction
  - ✓ Service line materials reported to PSC
- Treatments in place and objectives
  - ✓ pH adjustment
  - ✓ Sequestration
  - ✓ Corrosion Control Treatment
- Historical Monitoring Data
  - ✓ Trends in Pb and Cu 90<sup>th</sup> percentiles
  - ✓ Values of water quality parameters (iron, manganese, hardness, pH, ortho)
  - ✓ Electronic monthly operation report (eMOR) data



# Definition of Materials Inventory

## NR 809.119 Materials identification for corrosivity characteristics.

Suppliers of water for community water systems shall identify whether the following construction materials are present in their distribution system and report their findings to the department:

- (1) Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing.
- (2) Copper from piping and alloys, service lines and home plumbing.
- (3) Galvanized piping, service lines and home plumbing.
- (4) Ferrous piping materials such as cast iron and steel.
- (5) Asbestos cement pipe.
- (6) Vinyl lined asbestos cement pipe.
- (7) Coal tar lined pipes and tanks.

# Review of Available Data for Water Systems

- Well 1 constructed in 1930
- Well 2 constructed in 1951

## Utility-Owned Water Service Lines

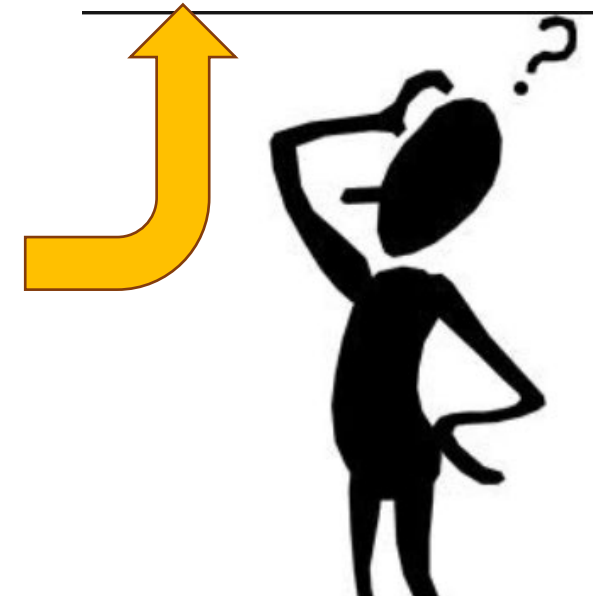
Pipe Material (a)	Diameter (inches) (b)	First of Year (c)	Added During Year (d)	Removed or Permanently Disconnected During Year (e)	Adjustments Increase or (Decrease) (f)	End of Year (g)
Other Plastic	0.750	970			(8)	962
Copper	1.000	558			(528)	30
Other Plastic	1.000				528	528
Copper	1.250	55				55
Copper	1.500	26				26
Other Plastic	1.500				3	3
						2

## Age of Water Mains

- If asset management, capital improvement, or other infrastructure-related documents are not available, the utility should consult other potential sources of information: the year the utility was formed, year of initial build-out area, year in which new developments, subdivisions, etc. were added. This information can be used to develop estimated figures.
- If pipe diameter value is between those offered in the column, choose the diameter that is closest to the actual value.
- Report all pipe larger than 72" in diameter in the 72" category.

Pipe Size (a)	Feet of Main										
	pre-1900 (b)	1901-1920 (c)	1920-1940 (d)	1941-1960 (e)	1961-1970 (f)	1971-1980 (g)	1981-1990 (h)	1991-2000 (i)	2001-2010 (j)	2011-2020 (k)	Total (l)
6.000			65,146	26,242							91,388
8.000			11,167	10,695		6,694		33,391		789	62,736
10.000					1,912	4,573		3,622			10,107
12.000										15,880	15,880
<b>Total</b>	<b>0</b>	<b>0</b>	<b>76,313</b>	<b>36,937</b>	<b>1,912</b>	<b>11,267</b>	<b>0</b>	<b>37,013</b>	<b>0</b>	<b>16,669</b>	<b>180,111</b>

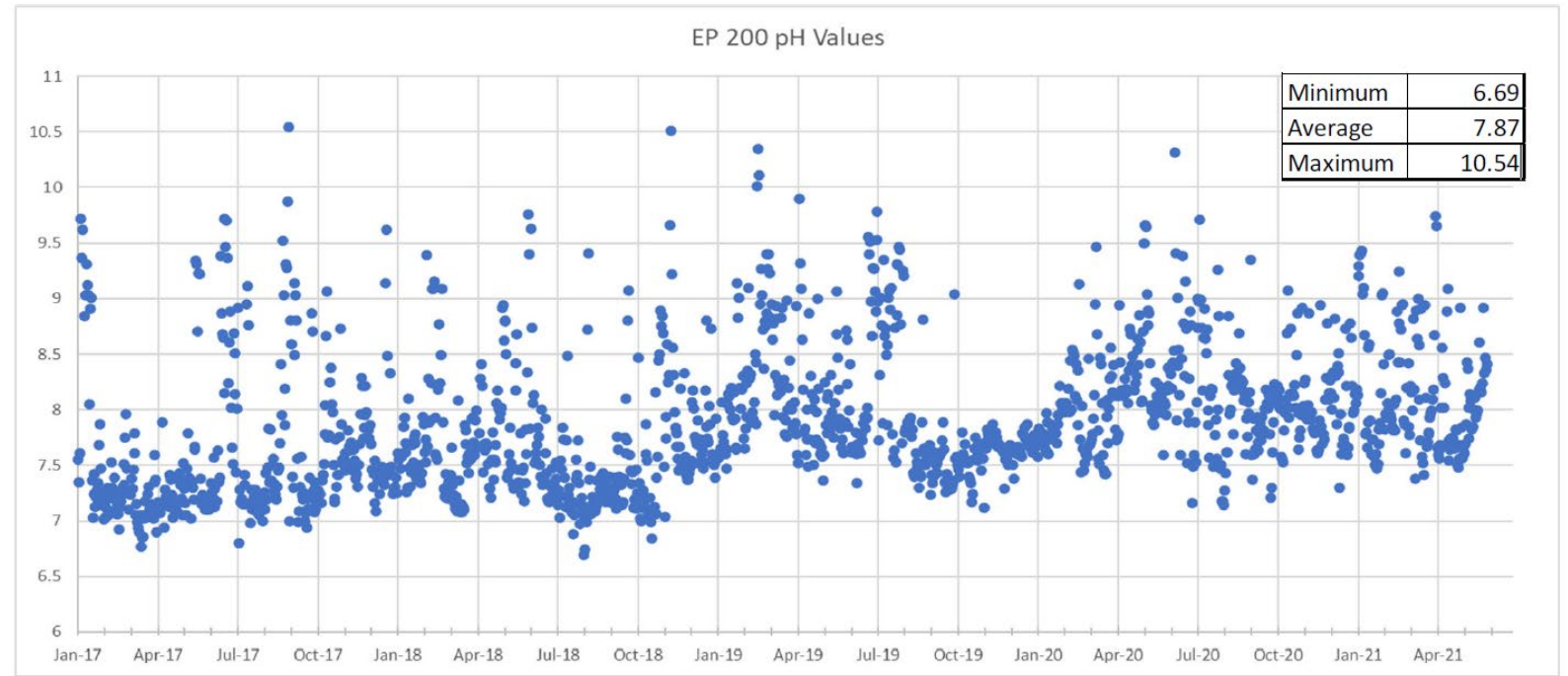
Describe source of information used to develop data:  
*Village records including GIS system were use to find the years, size and number of feet for mains.*





# Review of Available Data for Water Systems

Sample Date:	Lead 90th	Copper 90th
2020	2.3	490
2019	7.2	830
2018	7.4	930
2017	6	1100
2014	2.5	330
2011	2.4	290
2008	1.2	204
2005	2.1	502
2002	7.4	500
2002	7.4	500
1999	2.6	320
1998	2	680
1997	0.92	250
1996	5.8	260
1996	3	400



# Review of Available Data for Water Systems

- Reported materials inventory doesn't appear to be accurate
- Monitoring sites likely don't reflect worse case scenario
- Historical PbCu monitoring indicates:
  - “Dilution” of 90<sup>th</sup> percentile
  - Lead and copper levels above 5 ug/L and 650 mg/L, respectively
- Critical water quality parameters have significant fluctuations (pH)

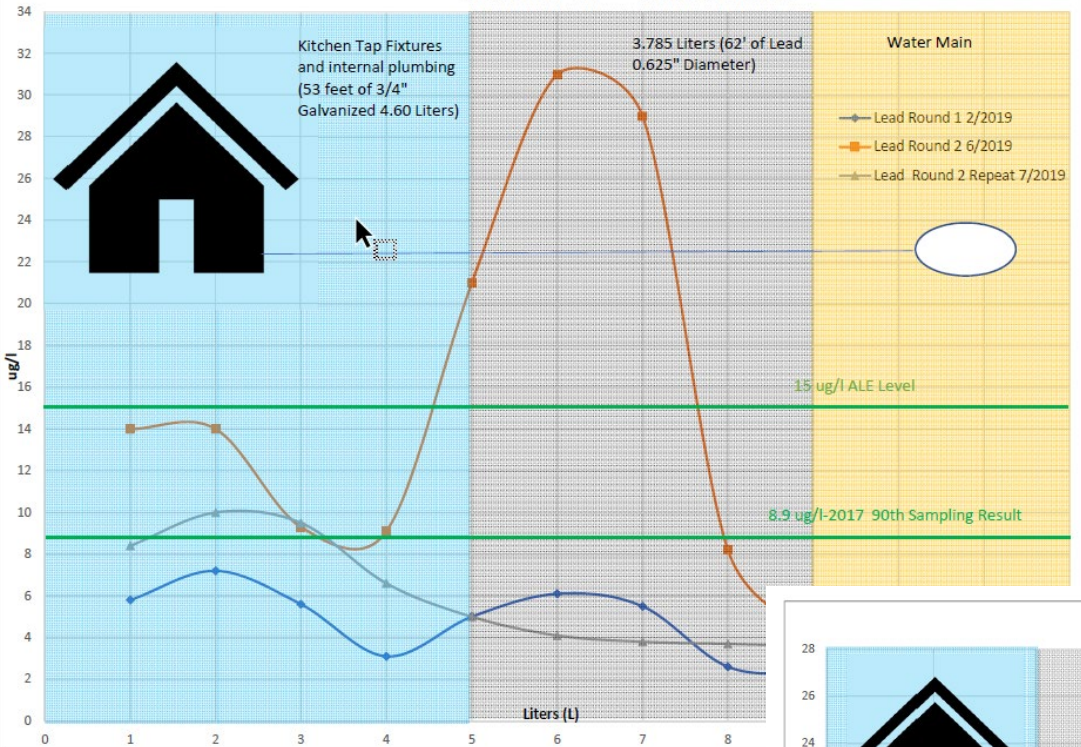
# Review of Available Data for Water Systems

## 'Modification' of Previous Optimal Corrosion Control Treatment Determinations

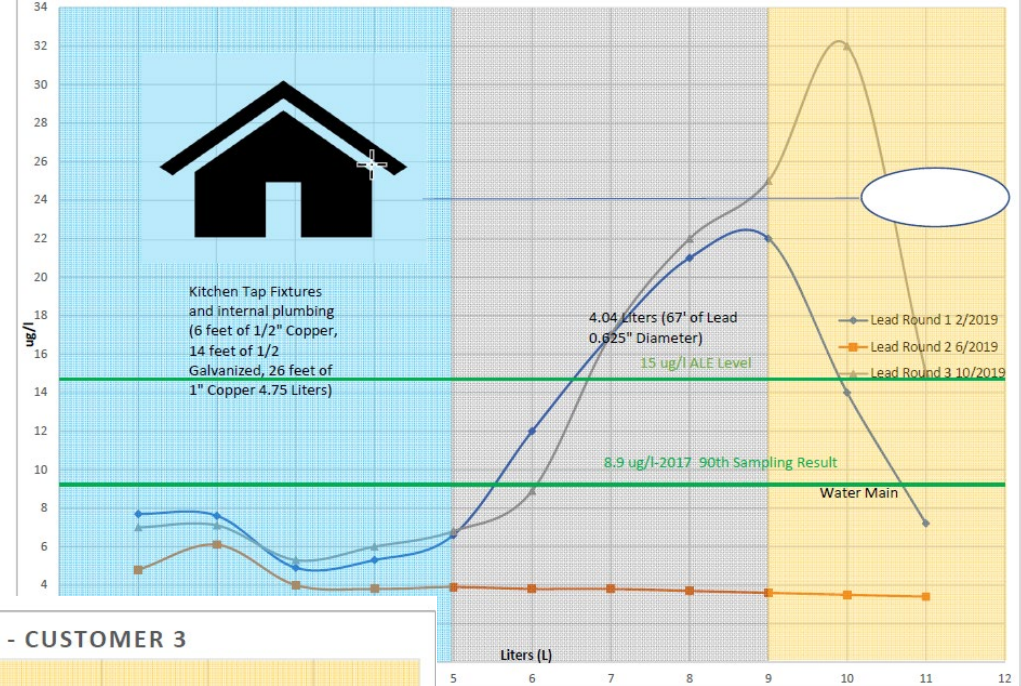
### 809.543(9) MODIFICATION OF DEPARTMENT TREATMENT DECISIONS.

*Upon its own initiative or in response to a request by a water supplier or other interested party, the department may modify its determination of the optimal corrosion control treatment under sub. (4) or optimal water quality control parameters under sub. (6). A request for modification by a water supplier or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The department may modify its determination if it concludes that a change is necessary to ensure that the water supplier continues to optimize corrosion control treatment. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the department's decision, and provide an implementation schedule for completing the treatment modifications.*

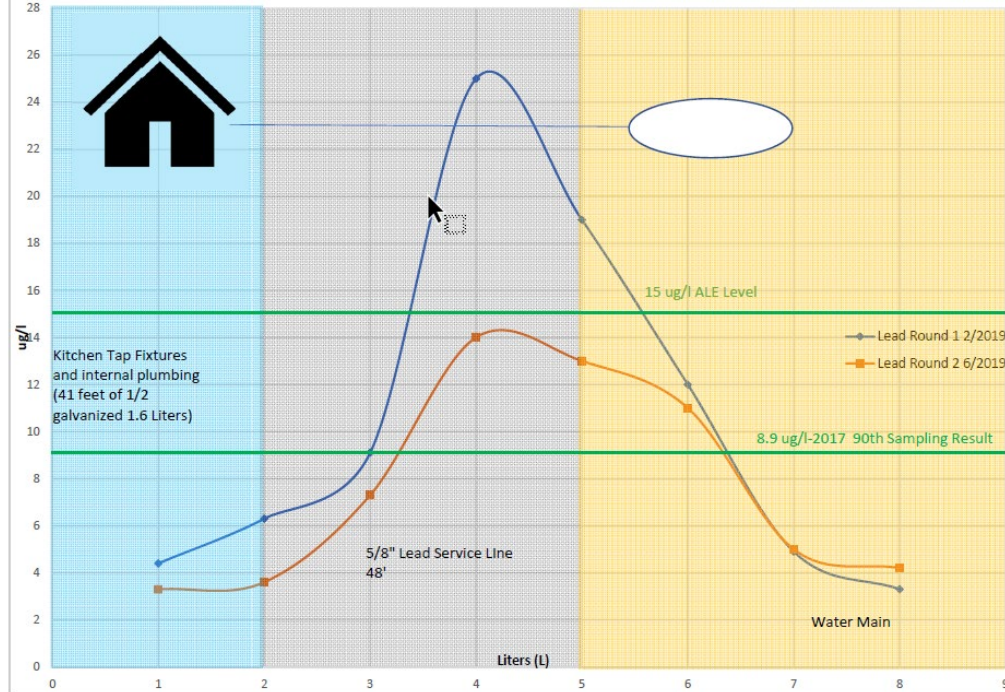
SYSTEM "A" - CUSTOMER 1



SYSTEM "A" - CUSTOMER 2



SYSTEM "A" - CUSTOMER 3



# Review of Available Data for Water Systems

In 2017, [REDACTED] triggered a copper action level exceedance (ALE), after which the system sampled from an additional 10 taps to reduce the system's lead and copper 90<sup>th</sup> percentiles. Since then, [REDACTED] has continued to have elevated levels of lead and copper. [REDACTED] is not providing a corrosion inhibitor and an evaluation of pH ranges indicates a fluctuation of nearly 4.0 S.U. in the majority of the quarters reported (see graph below). These elevated lead and copper results and varying WQPs indicate that further improvements are necessary to optimize CCT.

Due to the variability of WQPs and most recent ALE, the Department is modifying [REDACTED]'s previous optimal CCT determination in accordance with s. NR 809.543(9), Wis. Adm. Code. [REDACTED] **is required to conduct a CCT Study and submit a report to the Department no later than December 30, 2022.**

# Review of Available Data for Water Systems

A CCT Study includes a thorough evaluation of distribution system materials (water mains, service connections, and service lines including: lead goosenecks, lead services, and galvanized pipe formerly downstream of lead) and premise plumbing (lead piping and copper with lead solder), an evaluation of current CCT efficacy in minimizing lead and copper concentrations in the drinking water, consideration of other treatment options that may be more effective at reducing lead and copper, and an evaluation of WQPs that can impact lead and copper releases and CCT efficacy.

As part of your CCT Study your system must conduct sequential sampling at **three (3)** sites. These sampling results will be used to evaluate service line materials as well as provide lead and copper profile concentrations prior to optimization of CCT [s. NR 809.543(4)(b), Wis. Adm. Code]. The Department will work with you to identify appropriate single-family homes for sequential sampling, located on the original distribution system constructed with Well Nos. 1 or 2. **Sequential sampling must be conducted between June 1<sup>st</sup> and September 30<sup>th</sup>, 2021 or 2022.** Sequential sampling results must include one 250 mL sample, one 750 mL sample and nine additional 1-liter samples (for a total of 10-liters of sampling). The intent is to continue using these sites for sequential sampling following the implementation of CCT to track optimization progress over time. The frequency of sequential sampling at these sites following CCT installation is anticipated to be an additional 1-2 times until optimization has been demonstrated.

# Review of Available Data for Water Systems

- Annually review all monitoring results for ‘progression’ to reduced monitoring
  - Revise monitoring requirements –or-
  - ‘Modify’ previous determination of optimal CCT
- All plan review submittals that modify treatment or source water are ‘screened’ for impacts to PbCu
- Targeted projects in which water system infrastructure and treatment is reviewed and analyzed

# Internal Updates

Kyle Burton – DNR



# NR 114/146/524 Emergency & Permanent Rules

- Public comment period on EIA ends – July 24<sup>th</sup>, 2021
- Emergency Rule Effective Date – August 25<sup>th</sup>, 2021
- Public hearing for emergency and permanent rules – October 12<sup>th</sup>, 2021
- NRB meeting for permanent rule adoption – December 2021

Anticipated Permanent  
Rule Effective Date:  
**August 1<sup>st</sup>, 2022**

# Rule Updates – NR 140

- Cycle 10 - Proposes Groundwater Standards for PFOS+PFOA (with review of 11 existing and 14 other new standards)
  - The comment period for the EIA closed, Final EIA will be ready within a few weeks
  - Preparing to take the board order for the rule out for comment this fall
  - Rule to go to the December or January NRB for adoption (depends on potential additional NRB briefing in September)
  - Scope expires March 3, 2022

# Rule Updates – NR 140

- Cycle 11 - Proposes Groundwater Standards for 16 additional PFAS Compounds (as well as 6 pesticides)
  - The NRB approved the final Scope on 6/23/21 after the public comment period closed on 6/10/21
  - Next steps are the EIA and rule drafting
  - The EIA will go out for comment next spring/summer

<https://dnr.wisconsin.gov/topic/Groundwater/NR140.html>

# Rule Updates – NR 809

- Cycle 10 - Proposes MCL for PFOA + PFOS
  - The comment period for the Economic Impact Analysis (EIA) for the proposed MCLs for PFOA and PFOS opened on 7/2/21 and will close on 7/31/21
  - Comments can be sent to [DNRNR809Comments@wisconsin.gov](mailto:DNRNR809Comments@wisconsin.gov) or may be mailed to:

Adam D DeWeese – DG/5  
Wisconsin Dept. of Natural Resources  
P.O. Box 7921  
Madison, WI 53707

- A preliminary draft of the EIA and a draft of the board order are available for download under DG-24-19 on the DNR's [proposed permanent administrative rules webpage](#).

# Rule Updates – NR 809

- Cycle 11 - Proposes MCL for 16 additional PFAS Compounds
  - The NRB approved the final Scope on 6/23/21 after the public comment period closed on 6/10/21
  - Next steps are the EIA and rule drafting
  - The EIA will go out for comment next summer

<https://dnr.wisconsin.gov/topic/DrinkingWater/nr809.html>

# Rule Updates – NR 811

- Scope Statement approved by the NRB on June 23<sup>rd</sup>, 2021
- Stakeholder meetings bi-monthly, beginning July 29th, 2021
- Webpage provides additional information
  - ✓ Scope Statement
  - ✓ Timeline
  - ✓ Stakeholder meeting dates, location and agenda
  - ✓ Rule writing process

Anticipated Rule  
Effective Date:  
2/1/2024

<https://dnr.wisconsin.gov/topic/DrinkingWater/nr811.html>

# Rule Updates – NR 812

- Proposes revisions concerning the use of PVC casing in bedrock formations
  - DRAFT language complete
  - Hearing to solicit feedback on the proposed revisions in September 2021
  - If promulgated revisions would take effect summer or fall 2022

# PFAS Municipal Sampling Project

- Sampling of select municipal drinking water systems around state for PFAS compounds
  - Selected based on proximity to known or potential PFAS uses
- Partnering with State Lab of Hygiene and DHS
- Federally Funded
- In final stages of project plan approval from EPA
- Initial communications and implementation to begin fall 2021



# Consecutive Water Systems – Problem(?)

- Watermain extensions sometimes create “consecutive systems” when jurisdictional boundaries are crossed and the customer billing process is conducted by a different entity
  - DNR is sometimes unaware of these situations and has not consistently implemented regulatory requirements in these areas
  - This primarily affects municipal systems in urban areas
- **What have we done so far?** Water main plan review Form 3300-066 has been updated to flag these moving forward
- **What’s next?** Survey municipal operators in Fall 2021 to determine scope of problem. Update guidance and sanitary survey process to address these situations consistently.

# Resource for Transient Non-Community (TN) Public Water Systems

- Website Live
- TNs are smallest of public water systems
  - Churches, Taverns, Small businesses
  - WI has over 9,000 TN systems
- DG program in cooperation with DNR Small Business Assistance program and with input from County Health Department partners, a website of resources for TN systems
  - Houses fact sheets and publications important to systems

<https://dnr.wisconsin.gov/topic/drinkingwater/tnowneroperator.html>

# Water Use Section Updates

- May 2021 - Central Sands Lakes Study Report and recommendations submitted to legislature.
  - Determined groundwater withdrawals for irrigated agriculture reduced water levels on two of three study lakes: Long and Plainfield
  - Recommends Legislature consider forming a management framework across the entire Central Sands region to assist in finding collaborative solutions to water quantity issues ([visit the DNR's Central Sands Lakes Study webpage](#))
- July 8<sup>th</sup> 2021 - Wisconsin Supreme Court issued a decision centered on high capacity wells. Based on the Court's decision, the DNR will continue to review high capacity well applications for significant adverse impacts to waters of the state on a case-by-case basis.
  - Water Use Section Chief Adam Freihoefer will provide more detail at the Fall DG Study Group meeting.

# CONNECT WITH US

**Next Meeting: October 14, 2021**

The meeting recording will be posted on the  
Drinking Water and Groundwater Study Group  
website



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"WILD WISCONSIN:  
OFF THE RECORD"