WISCONSIN'S CAPACITY DEVELOPMENT STRATEGY

Prepared by the Wisconsin Department of Natural Resources
Bureau of Drinking Water and Groundwater
Revised December 2022

EXECUTIVE SUMMARY

This document presents the approach that the state of Wisconsin will follow to meet the federal capacity development requirements specified in the 1996 amendments to the Safe Drinking Water Act (SDWA) and subsequently the 2018 America's Water Infrastructure Act. In general, states must prepare a capacity development strategy to assist existing public water systems acquire and maintain capacity. Capacity, in this sense, means that a water system has the technical, managerial, and financial capability to ensure safe drinking water.

The Wisconsin Department of Natural Resources (DNR), as the primacy agency for the SDWA, takes a holistic and proactive approach with its Capacity Development Strategy for existing public water systems. The strategy emphasizes the importance of the entire public drinking water program in Wisconsin and the interdependence of its parts. Capacity development weaves together all of the existing drinking water activities into a focused effort to help troubled systems and to proactively prevent noncompliance. Wisconsin's Capacity Development Strategy targets not only the significant noncompliers but also those that may soon be out of compliance, as well as new systems that may need additional assistance in establishing well-rounded capacity at their water system. The goal is to enhance rather than supplant the state's SDWA program. The DNR maintains a Capacity Development webpage, which includes links to relevant trainings, asset management resources, WI's Annual Capacity Development Report, DNR's Operator Certification webpage, funding resources, DNR Water System Security webpage, and capacity evaluation forms.

The DNR considers a variety of water system criteria and data when deciding where to target focused capacity development efforts. Some of the criteria and compliance information the DNR uses to evaluate and prioritize public water systems, includes

- Water quality & sampling compliance data – number and type of violations
- Consumer Confidence Report compliance data for municipal (MC) and other-than-municipal (OC) systems
- Public Service Commission's list of financially troubled municipal systems
- Systems requesting capacity development assistance
- Systems referred to the Capacity Development Coordinator by DNR regional staff and technical assistance providers
- Systems dealing with emergency situations
- Any PWS suffering from habitual technical, managerial, or financial capacity or compliance issues
- New water systems and systems with new samplers, operators, owners, and managers

There are many SDWA programs and activities that are used to address the problems faced by public water systems. In Wisconsin, a number of capacity building tools are used, to help public water systems comply with the federal drinking water regulations. These tools include but are not limited to: the sanitary survey process, one-on-one technical assistance from DNR staff—both field and central office, technical assistance contractors, non-municipal and municipal system educational sessions, the Safe Drinking Water Loan Program, EPA technical assistance grant program (administered by Wisconsin Rural Water Association), the WIIN Grant for Small and Disadvantaged Water Systems program, the Bipartisan Infrastructure Law funding, and operator certification.

Wisconsin utilizes a variety of activities to help public water systems build technical, managerial, and financial capacity including drinking water coalitions, self-assessments, training and workshops, guidance

documents, targeted quarterly technical assistance priority lists, and improved DNR staff training and interagency communication.

Capacity development is an ongoing process and not a static endpoint for public water systems. The implementation of Wisconsin's Strategy is an ongoing process. The DNR will continue to enhance and modify its Strategy over time as the problems and needs of public water systems change, and as state and federal regulations change.

TABLE OF CONTENTS PAGE

Important Capacity Development Items in Wisconsin

Capacity Development for New Public Water Systems

1. Wisconsin Statutes 281.17(9)
2. Wisconsin Administrative Code Chapter NR 810.24
3. Capacity Evaluation for Other-Than-Municipal Community Water Systems – DNR Form 3300-247
4. Capacity Evaluation for Nontransient Noncommunity Public Water Systems – DNR Form 3300-246

SECTION 1 – INTRODUCTION

1.1 Background

The 1996 amendments to the Safe Drinking Water Act (SDWA) require states to have a "Capacity Development Program" approved by the U.S. Environmental Protection Agency (EPA). Capacity development is a program to help public water systems strengthen their ability to consistently supply safe drinking water to their customers. The program aims to help public water systems owners and operators, particularly small water systems, improve their technical abilities, managerial skills, and financial resources to comply with the SDWA requirements.

This document presents the approach that the Wisconsin Department of Natural Resources (DNR) will follow to meet the federal Capacity Development requirements specified in the 1996 amendments to the SDWA. States must prepare a capacity development strategy to assist existing public water systems acquire and maintain capacity.

Capacity does not mean just having enough safe drinking water available for everyone in a community. It means that a water system has the technical, managerial, and financial capability to ensure safe drinking water. Capacity can be broken down into three distinct, yet highly interrelated types. They include:

1. **Technical capacity** is the physical and operational ability of a water system to meet the SDWA requirements. Is the source of the water reliable? Is the water system appropriately sized, constructed, and operated? Does the system comply with minimum state operator standards?

2. **Managerial capacity** is a water system's administrative capabilities. Is there clear ownership of the system? Is there clear identification of operational responsibilities? Is the system aware of state and federal regulations? Are managers prepared for emergency situations?

3. **Financial capacity** refers to the financial resources of the water system, including revenue sufficiency, credit worthiness, and fiscal management. Does the system maintain appropriate financial records? Does the system recognize and plan for the service life of components?

Capacity development is the *process* of public water systems acquiring and maintaining adequate funding, management, infrastructure, and operations so they can provide safe drinking water consistently and cost-effectively.

The Capacity Development Program affects all public water systems. Public water systems are defined and classified as follows:

Public water system: a system providing piped water to the public for human consumption which has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days per year.

- Community water system: a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Any public water system serving 7 or more homes, 10 or more mobile homes, apartment units, or condominiums.

  ⇒ Municipal Community (MC) system: community system owned by a county, city, village, town, town sanitary district, utility district, public institution, or a privately-owned water utility serving any of the above.

  ⇒ Other-than-Municipal Community (OC) system: community system that is not a municipal system.

- Noncommunity system: public water system that is not a community water system.

  ⇒ Nontransient Noncommunity (NN) system: a system that regularly serves at least 25 of the same persons over 6 months per year. Examples include schools, daycare centers, and factories.

  ⇒ Transient Noncommunity (TN) system: a system that serves at least 25 people at least 60 days of the year. Examples include restaurants, motels, taverns, parks, and campgrounds.

1.2 Reasons for Capacity Development in Wisconsin

Prior to authorizing this program, the EPA collected information indicating that many of the public water systems across the country had problems meeting the requirements of the SDWA because of inadequate water system capacity. States that do not develop, implement, maintain, and report annually on a capacity development program will lose 20% of Drinking Water State Revolving Fund (DWSRF) money, which varies annually depending on federal funding allotments. In Wisconsin, this money is essential and used to provide technical assistance to public water systems as well as provide low-interest loans to municipal systems needing to upgrade their facilities.

The potential loss in federal funding is one of many reasons for maintaining a capacity development program in Wisconsin. Enhancing and ensuring the technical, managerial, and financial capacity of water systems offers great potential for correcting and preventing noncompliance with safe drinking water standards and for ensuring reliably safe drinking water.

Below is a list of key areas where capacity development is used as a tool for encouragement and improvement of public water systems in Wisconsin:

- To encourage infrastructure evaluation and improvement
- To improve water resource (quality and quantity) evaluations
- To encourage cooperation between state agencies
- To support source water management and to protect natural 'infrastructure' affecting drinking water systems
- To expand operational and managerial expertise to non-municipal systems

- To improve and expand operator training, education, and technical knowledge
- To encourage appropriate financial management and planning
- To encourage asset management planning at all public water systems
- To promote proactive water system oversight as a means of preventing noncompliance
- To promote public water system partnerships, where they can be mutually beneficial to water systems
- To analyze and look for noncompliance trends at water systems and to implement proactive measures to improve compliance and increase capacity at these systems
- To promote risk and resilience and emergency response planning and protocols
- To promote workforce recruitment, training, and retention at water systems
- To promote the removal of lead service lines and other potentially dangerous infrastructure from public water systems
- To plan for and design infrastructure with climate adaptation in mind

1.3 Wisconsin DNR's Safe Drinking Water Act Program

In Wisconsin, the DNR is the Primacy Agency for the SDWA. To implement the requirements of the SDWA, the DNR:

- Establishes drinking water standards and monitoring requirements (Wisconsin Administrative Code Chapter NR 809)
- Establishes new water system capacity development requirements (Wis. Adm. Code Chapter NR 810)
- Establishes well construction, pump installation, water treatment system and distribution system requirements (Wis. Adm. Code Chapters NR 811 & 812)
- Licenses well drillers and pump installers
- Conducts annual inspections (municipal systems)
- Conducts sanitary surveys (all public systems)
- Conducts well driller and pump installer surveillance activities
- Conducts SDWA enforcement activities
- Issues administrative orders and penalties
- Conducts plan review activities (municipal, OTM, and selected noncommunity systems) (Wis. Adm. Code Chapters NR 108, 811, and 812)
- Certifies water system operators (Wis. Adm. Code Chapter NR 114)
- Develops operator continuing education content with its partners
- Reviews wellhead protection plans
- Conducts source water assessments
- Administers a State Revolving Fund Loan program
- Conducts water quality and quantity studies
- Conducts vulnerability assessments
- Issues monitoring waivers
- Conducts training
- Provides technical assistance
- Coordinates groundwater research projects

- Regulates underground injection wells
- Encourages asset management at public water systems
- Provides assistance and training related to water system security, cybersecurity, and risk and resilience planning

The DNR Bureau of Drinking Water and Groundwater staff are located in a central office, all 5 regions of the state, and many service centers located across the state (refer to Table 1 and the DNR region map). DNR staff is responsible for inspection, evaluation, and assistance for 11,252 public water systems statewide (refer to Table 2).

Table 1: DNR Public Water System Staff

Location	Managers	Engineers	Specialists	Other
South Central	1	4	5	2
Southeast	1	4	7	2
Northeast	1	3	9	7
West Central	1	4	5	2
Northern	1	2	5	3
Central Office	5	8	6	6
TOTAL	**10**	**25**	**37**	**22**

Table 2: Number of Active Public Water Systems

Region	MC	OC	NN	TN	Total
South Central	160	86	164	1,212	1622
Southeast	92	173	315	1,641	2221
Northeast	121	44	206	2,169	2540
West Central	150	94	177	1,784	2205
Northern	88	36	69	2,471	2664
TOTAL	**611**	**433**	**931**	**9,277**	**11,252**

Currently, there are 11,252 active public water systems in Wisconsin. Figure 1 illustrates the number of systems by type. Although most of the public water systems are classified as transient noncommunity systems, the majority of the population gets its water from municipal water systems, as shown in Figure 2.

Figure 1. WI's Public Water Systems by Type

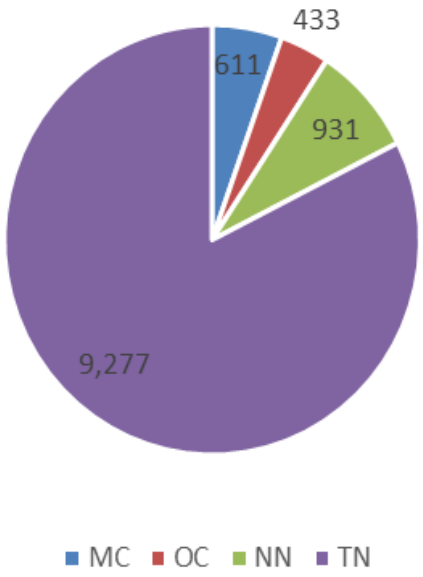
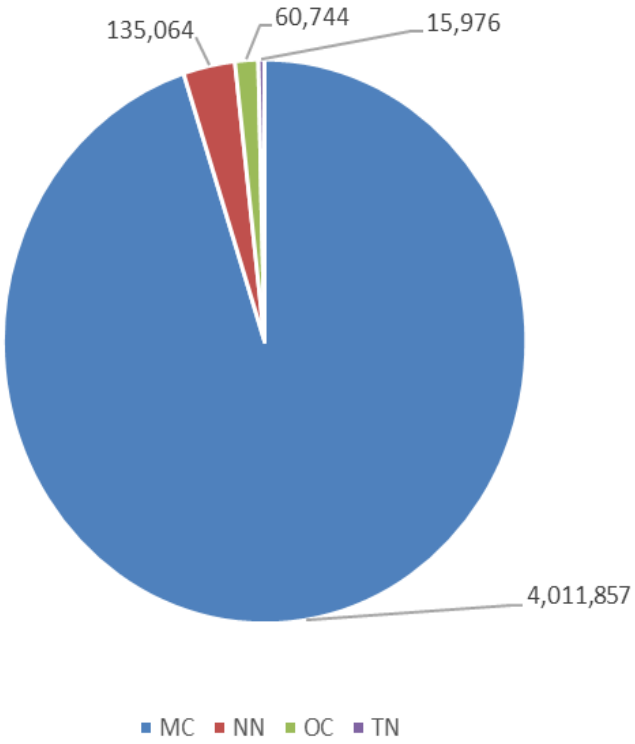


Figure 2. Population Served by System Type



Total Population Served by Public Water Systems: 4,223,641

1.4 Partnering State Agencies

In addition to the DNR, other state agencies in Wisconsin have statutory jurisdiction over public water systems, including:

Public Service Commission of Wisconsin

The Public Service Commission of Wisconsin (PSC) plays a large role in determining the financial capacity of municipal water systems. The PSC is an independent agency responsible for the regulation of public utilities, including municipal water systems. The commission receives its authority and responsibilities from the State Legislature. The PSC of Wisconsin ensures safe, reliable, affordable, and environmentally responsible utility services and equitable access to telecommunications and broadband services. Most public utilities must obtain PSC approval before instituting new rates or undertaking major construction projects such as new water wells. Wisconsin Administrative Code Chapters PSC 184 and PSC 185 outline the construction and operational requirements, and Chapter 196 of the Wisconsin Statutes set forth rate approval requirements for public water utilities.

In particular, the PSC's Division of Water, Compliance, and Consumer Affairs is responsible for the regulation of water and combined water and sewer public utilities in Wisconsin. The division offers assistance to all of the state's utilities in compliance with the statutes, code, and record keeping requirements and the development of consumer affairs policies. It also coordinates consumer information and resolution of consumer complaints.

The PSC has been pivotal in assisting the DNR with encouraging asset management at public water systems and has sponsored many trainings on the practice to public water system staff. See more on this in Section 5.1. The PSC has also been a strong advocate, along with the DNR, in supporting public water system partnerships where feasible and where these could serve to improve the capacity of water systems. Both the PSC and DNR support a variety of water system partnerships in WI, ranging from informal to formal partnerships. For water systems that struggle to subside on their own, both the PSC and the DNR support viable system consolidation options.

Wisconsin Department of Health Services

The Wisconsin Department of Health Services (DHS) assists the DNR in conducting sanitary surveys and assessing the technical capacity of many TN systems in Wisconsin. In particular, the DHS enforces administrative codes for the inspection and licensing of food services operations, including restaurants, lodging establishments, including hotels, and campgrounds. In particular, the codes regulating each of these types of establishments require that the wells and pumps be installed in accordance with code chapter NR 812, which governs well drilling and pump installation. Plumbing and plumbing fixtures must conform to the requirements in code chapter SPS 382 (discussed in the next section). In addition, the drinking water at these facilities must comply with the water quality standards established in chapter NR 809.

Wisconsin Department of Safety and Professional Services

The Wisconsin Department of Safety and Professional Services (DSPS)has authority over the licensing of mobile home parks and plumbing. Mobile home park licensing is regulated by DSPS under the authority of Wisconsin State Statute. Regulations for mobile home parks are included in Wisconsin State Statute 101.935. The statute regulates the license fee structure and requires owners to submit the mobile home park plans before work begins. This applies to new or expanded mobile home parks. Owners are required to submit the detailed plan for the park, a plumbing plan if the park contains a private sewer and water system, and also a water quality test to document proof of a safe water sample if the water system is privately owned. If approved, a two-year license is issued. To renew a mobile home park license, a notice is sent out, and fees must be submitted. DSPS also conducts on-site inspections of mobile home parks when there is a new park, a change in ownership, an expansion, or a complaint.

The Department of Safety and Professional Services has seven state consultant positions and hundreds of municipal agents for the enforcement of the statewide uniform plumbing code.

DSPS regulates water systems by conducting plan reviews of private water mains (water services that connect two or more buildings located on private property), mobile home parks, and campground water distribution systems. The plans are signed by professionals, and the systems must be installed under the responsibility of licensed master plumbers. DSPS staff work and communicate with DNR plan review staff in the Public Water Engineering Section when new OCs arise.

DSPS staff review plumbing materials, appurtenances, and appliances to ensure the safety and health of the public. All water distribution system materials are reviewed for strength, durability, and the chemical composition so water quality is maintained throughout the system. Another duty of DSPS staff is the review of water treatment devices. Staff members sit on national organization committees for the review of standards and development of new standards, including backflow prevention assemblies, water softeners, reverse osmosis systems, aerobic treatment devices, and various others.

Private Onsite Wastewater Treatment Systems (POWTS) are also covered under the authority of DSPS. Setbacks for wells and water distribution piping are included in the plan review for POWTS.

Wisconsin Department of Agriculture, Trade & Consumer Protection

The Wisconsin Department of Agriculture, Trade, and Consumer Protection's (DATCP) Groundwater Program monitors, evaluates, and manages the presence of pesticides and fertilizers in groundwater. The program identifies areas with groundwater contamination, investigates contamination sources, and develops regulations to prevent groundwater contamination above health-based standards.

DATCP's Bureau of Consumer Protection also fields consumer complaints concerning businesses in Wisconsin, including water-related complaints. The role of the bureau is to assure that business practices are fair. Once they receive a complaint, a consumer specialist or

investigator contacts the business about the complaint. Although DATCP cannot force a business to resolve a complaint, their contact with the company often results in a solution to a consumer's problem. If the bureau decides that a complaint should be handled by another agency, they will forward the complaint to the appropriate agency. If a business has violated state consumer laws, DATCP may send the business a formal warning notice. If it is a serious and widespread violation, the agency may recommend the case for prosecution to the Department of Justice or a district attorney.

DATCP's Food Safety Division certifies microbiological laboratories that test water for compliance with public health standards prescribed by federal, state, or local laws. The objective of the evaluation program is to assure that laboratories produce consistently accurate results. The program evaluates the laboratory facility and equipment, analytical procedures, the analysts' competence, and laboratory records. The Food Safety Division also regulates and issues licenses to businesses that produce bottled water.

1.5 Wisconsin's Drinking Water Sources

Surface Water and Groundwater Drinking Water Resources

The name Wisconsin is derived from the Ojibwa term, "gathering place of waters." This reflects an inherent appreciation of the numerous rivers, streams, and lakes in the state. Wisconsin has 982,163 surface acres of lakes and reservoirs, 57,698 linear miles of streams and rivers and 1,017 linear miles of Great Lakes shoreline. There are more than 15,000 lakes, 7,000 streams, and 5 million acres of wetland in Wisconsin. Of these resources, only Lake Superior, Lake Michigan, Lake Winnebago, and Rainbow Lake are used for public water supply sources at this time.

The vast majority of Wisconsin's public water systems rely on groundwater pumped from wells. However, 56 systems use surface water from Wisconsin lakes to provide drinking water to their customers. These surface water systems serve some of the state's largest communities, including Milwaukee, Racine, Kenosha, and Green Bay. So, while more than 99 percent of the state's public water systems use groundwater sources, surface water systems serve almost one-third of the state's population.

Major aquifers

It is estimated that Wisconsin has about 1.2 quadrillion gallons of groundwater, and it is said that one can drill a hole just about anywhere in Wisconsin and find water. Wisconsin is certainly a land rich in water resources.

The state's groundwater reserves are primarily held in the following four aquifers:

1. The sand and gravel aquifer is the surface material covering most of the state except for parts of southwest Wisconsin. The sand and gravel was mostly deposited from glacial ice or in river floodplains. In some places these aquifers are over 300 feet thick. Though sand and gravel form some of Wisconsin's most productive aquifers they are also the most susceptible to contamination because they are closest to the land surface.

2. The eastern dolomite aquifer occurs in eastern Wisconsin from the Door County peninsula to the Illinois border. This aquifer's productivity depends on how many fractures or bedding planes a given well intersects. Where the fractured dolomite occurs at or near the land surface, the groundwater can easily become contaminated.
3. The sandstone and dolomite aquifer is found over the entire state except in the north central portion. In eastern Wisconsin this aquifer lies below the eastern dolomite aquifer and the Maquoketa shale layer. Where it is present, the Maquoketa shale restricts recharge to the sandstone aquifer. In other areas it lies below the sand and gravel layers. It is the primary source of groundwater for the southern and western portions of the state and for large users of groundwater in the eastern portion of the state.
4. The crystalline bedrock aquifer underlies the entire state. In the north central region, it is the only aquifer under the sand and gravel aquifer. The crystalline bedrock aquifer often cannot provide adequate quantities of good quality water for larger municipalities or industries.

For more on Wisconsin's groundwater, you may review DNR's publication *Groundwater: Wisconsin's Buried Treasure* or visit DNR's Groundwater webpage.

The DNR has two dedicated sections—its Water Use Section and Groundwater Section—which monitor, research, study, and publish reports on the state's water quality, water use, contamination, source water protection, high-capacity wells, diversions, standards, and assessments. These two sections work in conjunction with the DNR's Public Water Engineering and Public Water Sections to communicate water-related issues to the state legislature and public and to ensure Wisconsin maintains and protects its waterways and drinking water sources.

DNR's Drinking Water Sources Webpages:

- More information on Wisconsin's surface waters can be found on its Surface Water webpage.
- More information on Wisconsin's groundwater can be found on its Groundwater webpage.
- More information on water use in Wisconsin can be found on its Water Use webpage.

SECTION 2 – CAPACITY DEVELOPMENT STRATEGY FOR NEW PUBLIC WATER SYSTEMS

The DNR is implementing a program to ensure that new public water systems demonstrate capacity. The program was approved by the EPA on July 7, 1999. The new system Capacity Development Program was authorized by Wisconsin Statutes 280, 281.12, 281.17(8) and (9). Wisconsin's Attorney General, James E. Doyle, certified this authority in a letter to the EPA in December 1998.

Capacity development for new public water systems is promulgated in Wisconsin Administrative Code Chapter NR 810.24, which requires "capacity evaluations" for all new community and nontransient noncommunity water systems prior to construction. This code became effective on September 1, 1999.

2.1 New Municipal Systems

A capacity evaluation is required for all new municipal systems. The evaluation is completed by the DNR as part of the system plan review process. Once the system plans and capacity evaluation are approved, DNR will send a plan approval letter and capacity certification to the owner.

New Municipal Community (MC) System Evaluation and Approval

A single engineering or design report may be submitted by the water system, to satisfy the requirements of s. NR 811.09(3) and (4), Wis. Adm. Code, so long as all of the required information in s. NR 810.24(2), Wis. Adm. Code is also provided.

Newly Constructed Municipal Community Systems

For newly constructed MC systems, the capacity evaluation is completed as part of the plan review submittal and field startup inspection process, in collaboration with the Capacity Development (CD) Coordinator and DNR field representative. Upon receipt of an engineering report, plans and/or specifications, the plan reviewer provides all pertinent information to the CD Coordinator and the DNR field representative. The plan reviewer and the CD Coordinator review the information and confirm whether the submittal is complete:

- Plan review engineering section (*technical*) under s. NR 811.08(2), Wis. Adm. Code;
- DNR field representative (*technical; managerial*) under s. NR 810.26(1)(a), Wis. Adm. Code; and
- Public Service Commission (*managerial; financial*) under chs. PSC 184 and 196, Wis. Adm. Code.

Once the CD Coordinator has determined that the system has demonstrated adequate TMF capacity in consultation with the above parties, s/he drafts and issues a capacity approval letter. Capacity approvals are to be issued before the startup inspection and authorization by the DNR field representative to begin serving customers. The capacity approval letter includes the following language:

"*The department finds that the public water system as proposed, subject to the enhancements and conditions of approval described in this letter, has adequate technical, managerial and financial capacity, as required by s. NR 810.24, Wis. Adm. Code*."

The CD Coordinator also enters the determination within the '*capacity'* designation in the DNR's Drinking Water System database (DWS) under the 'Sanitary Survey' tab. Storing this information digitally in DWS allows for long-term tracking of public water system capacity, and it allows DNR staff to update a water system's capacity over time, should this change.

Previously Constructed New Municipal Systems

For new MC systems in WI that are pre-existing public water systems, and that undergo any of the following qualifying changes*:*

1. an upgrade in system *type* to become a MC (i.e., NN or OTM to MC; e.g., *Town of Lakeside* changes type from NN to MC);
2. the division of an existing MC into two separate distribution systems (e.g., *City of Rockville to Rockville East and Rockville West*);
3. change of governmental entity (i.e., a sanitary district to a village; e.g., *ABC Sanitary District* to *Village of Apple*).

When a new MC system is established from an existing public water system, the capacity evaluation process begins with the DNR field engineer conducting a sanitary survey of the new MC and assessing the water system's TMF capacity (per current sanitary survey policy). The field engineer then works with the CD Coordinator to determine whether or not the system possesses TMF capacity. If the system is found to have capacity, the CD Coordinator will send a capacity approval letter to the owner cc'ing the DNR field engineer. The capacity approval letter will include the following language:

"*The department finds that the public water system, subject to the enhancements and conditions of approval described in this letter, has adequate technical, managerial and financial capacity, as required by s. NR 810.24, Wis. Adm. Code*."

The CD Coordinator will also enter the determination with the '*capacity'* designation in the Drinking Water System database. Moving forward, the DNR field engineer will continue to assess the water system's capacity in regularly scheduled sanitary surveys.

2.2 New Other-Than-Municipal Systems

A capacity evaluation is completed by DNR as part of the plan review process for new OTM systems. Owners, with the assistance of their well driller/professional engineer, must fill out and sign DNR Form 3300-247 to provide DNR with system capacity information. Once the plan approval is granted and the capacity evaluation is reviewed and approved by the CD Coordinator, DNR will send an approval letter and capacity certification to the system owner. This capacity approval or 'certification' is then entered in DNR's Drinking Water System (DWS) database.

2.3 New Nontransient Noncommunity Systems

Owners of new NTNC or NN systems must complete DNR Form 3300-246 with the assistance of a well driller or professional engineer. The capacity evaluation process for new NTNC systems is divided into two groups depending on plan review requirements and pumping capacity:

> **1. Systems subject to DNR plan review** (systems with pumping capacity greater than or equal to 70 gallons per minute and all school water systems): A capacity evaluation is completed as part of the plan review. Once the plans and the capacity evaluation are reviewed and approved, the CD Coordinator will send an approval letter and capacity certification to the system owner.

2. Systems not subject to DNR plan review (pumping capacity less than 70 gallons per minute): A capacity evaluation must still be performed prior to system construction. Water system owners must send a completed capacity evaluation form (3300-246) to the DNR's Capacity Development Coordinator. Once the capacity evaluation has been reviewed and approved, a capacity certification letter is sent to the system owner cc'ing the DNR field representative.

If the information submitted on the capacity evaluation form is incomplete, the form is then returned to the applicant, requesting the missing information within 30 days. Failure to return the completed form could result in enforcement action. If the capacity evaluation is approved for either of the two classes of NN system above (plan review required vs. not required), this capacity approval or 'certification' is then be entered in DWS.

SECTION 3 – CAPACITY DEVELOPMENT STRATEGY FOR MUNICIPAL SYSTEMS SEEKING STATE REVOLVING FUND ASSISTANCE

3.1 Wisconsin's Safe Drinking Water Loan Program

In addition to capacity development, the 1996 amendments to the SDWA established the Drinking Water State Revolving Fund (DWSRF). The goal of the program is to provide states with a financing mechanism for ensuring that safe drinking water is delivered to the public. States can use the federal grant money to provide financial assistance to communities installing and upgrading drinking water system infrastructure.

Wisconsin is using part of its DWSRF allotment to provide low-interest loans to eligible municipal water systems for infrastructure improvements. Under the authority of Wisconsin Statutes 281.59 and 281.61, Wisconsin DNR and the Department of Administration established the "Safe Drinking Water Loan Program" (SDWLP). Wisconsin's Attorney General, James E. Doyle provided verification of this authority to EPA in June 1998.

Wisconsin Administrative Code Chapter NR 166 outlines the loan program implementation requirements, including a priority ranking system for funding projects. The Safe Drinking Water low-interest loans may be used to plan, design, construct or modify municipal water systems.

3.2 Evaluating SDWLP Applicant Capacity

The DNR uses a combination of "tools" to evaluate capacity of municipal systems seeking DWSRF assistance though the Safe Drinking Water Loan Program. These tools include a loan application, an evaluation and ranking form, engineering reports and plans, sanitary survey reports, and state drinking water database information. In addition, Wisconsin Administrative Code NR 166 sets eligibility and ranking criteria and system design requirements for loan applicants. The tools used to evaluate the capacity of loan applicants are discussed in more detail below:

Project Eligibility Criteria

Wis. Adm. Code Section NR 166.06 outlines criteria, which systems must meet to be eligible for the loan program. Capacity development requirements are included in the code to ensure that loans are given only to systems with adequate capacity. The SDWA prohibits states from providing DWSRF assistance to public water systems that do not have technical, managerial, and financial capacity. However, the SDWA, as well as Wis. Adm. Code Section NR 166.06(1)(e), allows a system lacking adequate capacity to receive DWSRF assistance if the project will ensure that the system returns to and maintains compliance with the SDWA requirements.

Financial Assistance Agreement Requirements

NR 166.11 includes a list of conditions that applicants must meet before entering into a financial assistance agreement. Specifically, Wis. Adm. Code Section NR166.11(4) states that applicants must have "the legal, institutional, managerial, technical and financial capability to insure that adequate construction, operation and maintenance of the water system."

In addition, if a public water system is regulated by the PSC, the applicant must file the appropriate application with the PSC to increase rates. The PSC must then issue an order to authorize the water rates and rules. If a system is not regulated by the PSC, the applicant must develop and adopt water rates and operating rules.

Financial Assistance Application

Wisconsin's Safe Drinking Water Loan Program is a lending operation. Therefore, the applicant evaluation process emphasizes criteria used to make lending decisions. It requires a thorough and comprehensive review of each applicant's financial practices. The borrower must have the financial capacity to repay the loan and to retain financial solvency over the life of the loan.

Municipal systems interested in receiving a loan must complete a "Financial Assistance Application" to demonstrate and document their financial capacity. An applicant's financial capacity is demonstrated by showing a dedicated source of repayment and the ability of the system to repay each loan according to its terms and conditions. Applicants must supply information pertaining to rates, financial planning, and budget, including, but not limited to:

- ⇒ The municipality's current year budget with year-to-date-information
- ⇒ The current year water department budget
- ⇒ The last 2 years of financial audit reports (or internal financial statements for the municipality if no audit was done)
- ⇒ A schedule of the principal and interest for each outstanding bond issue for the next 5 years
- ⇒ The latest official statement for previous bonds/notes
- ⇒ The proposed user charge system
- ⇒ Any outstanding water revenue debt
- ⇒ The water system customer statistics

Evaluation and Ranking Form

DNR also requires the submission of technical and managerial capacity information. The borrower must not only be able to repay the loan but must also be able to maintain the system over the life of the loan. Wis. Adm. Code NR166 Subchapter II establishes a priority ranking and scoring system, which includes technical and managerial capacity scoring criteria. Applicants must complete a "Priority Evaluation and Ranking Form" (Form 8700-265). The form contains priority scoring criteria, which are used to establish a list of eligible projects to be funded by the loan program. The applicants are scored in the following categories: 1.) risk to human health, 2.) financial need, 3.) secondary contaminant violations or system compliance with NR 811, and 4.) system capacity. Applicants must answer questions regarding water quality sampling results, infrastructure, as well as management programs. Please refer to the form for the specific questions and associated points used for ranking.

Sanitary Survey Reports

For projects requesting major facility changes, the DNR SRF Engineer reviews the sanitary survey reports and discusses proposed projects with DNR regional staff to verify that the proposed project addresses any deficiencies identified during the sanitary survey process. The sanitary survey review ensures that the necessary system modifications are included as part of the loan request.

Plan Review Requirements

Wis. Adm. Code Chapter NR 108 states that final plans and specifications must be reviewed and approved by the DNR prior to construction. This applies to new community water systems as well as improvements, extensions, and alterations to existing community systems. SDWLP applicants must comply with this plan review requirement to be eligible for a loan. Specifically, NR 166.11(2) requires that the plans and specifications for a project be approved by the DNR prior to entering into a financial assistance agreement.

System Operation & Design Requirements

To meet the plan review requirements in NR 108, municipal systems applying for SDWLP funds are also subject to the requirements in Wis. Adm. Code Chapter NR 811. NR 811 governs the general operation, design, and construction of community water systems. The standards apply to new facilities as well as modifications to existing facilities.

Communication Tools

The DNR promotes the loan program on its Environmental Loans webpage.

The webpage provides basic information about the both the Safe Drinking Water Loan and Clean Water Fund Programs, as well as a reference guide that serves as a tool for systems intending to apply for a Safe Drinking Water Loan. The reference guide provides information, listed alphabetically by topic, on the steps and regulations to be followed from the early stages of the

loan process through the closeout stage. The webpage also includes links to the Lead Service Line Replacement Program and information on asset management plans and how to create an asset inventory for principal forgiveness points. Information on interest rates and relevant statutes and codes, as well as loan and funding staff contacts can also be found on the webpage. The Environmental Loans staff publish the electronic newsletter multiple times each year to alert customers of upcoming Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) deadlines; to highlight program changes and state/federal regulation changes; and to provide assistance on topics that need clarification. The priority-ranking list of applicants is included in the newsletter to advertise which projects are eligible to receive loans.

3.3 Infrastructure Improvements

3.3.1 Lead Service Line Replacement Programs

Removing lead service lines is one way to minimize the potential for lead to get into drinking water. The Wisconsin DNR Bureau of Drinking Water & Groundwater has created funding opportunities to assist municipal water systems in the removal of lead service lines (LSLs) and galvanized service lines that were previously downstream of lead components. LSL replacement is a component of the Governor's initiative of Clean Drinking Water for All.

The SDWLP provides funding and additional priority score points for water main replacement projects that replace public-side LSL replacement. Additionally, the DNR is also supporting private-side LSL replacement programs—the first was completed in SFY 2017-18, and a second program will begin in SFY 2021—to provide municipal water systems with principal forgiveness funds to replace private-side LSLs and galvanized service lines previously downstream of lead components. The Department advises that municipalities replace lead service lines in their entirety, because partially replacing lead service lines can increase lead levels in homes. The municipal water systems create and operate their private LSL replacement programs under DNR requirements and review. For all LSL replacement programs, the entire LSL and any lead components must be replaced to receive funding for the service line replacement. In the first LSLs program (SFY17-18), the DNR funded over $26 million of projects, and in the second program (SFY21) DNR anticipates spending approximately $64 million to fund projects. In future years, the DNR plans to continue funding and supporting the removal of LSLs as it is able.

3.3.2 Other Infrastructure Improvements

Additional infrastructure funding from the Bipartisan Infrastructure Law (BIL, 2021) and The Water Infrastructure Improvements for the Nation Act (WIIN Act, 2016) has been and will continue to be employed to enhance the technical, managerial, and financial capacity of water systems around the state of Wisconsin. Specifically, this funding will target small and disadvantaged communities, underserved communities, emerging contaminants, systems lacking capacity, water systems with MCLs and ALEs, and water systems working to remove lead.

SECTION 4 – CAPACITY DEVELOPMENT STRATEGY FOR EXISTING PUBLIC WATER SYSTEMS

4.1 Wisconsin's Capacity Development Goals & Approach

Wisconsin's water systems have unique needs and circumstances. The 1996 amendments to the SDWA place a strong emphasis on creativity and innovation to create capacity development strategies that meet the needs of a given state. The goal of capacity development in Wisconsin is to enhance, integrate, and improve existing drinking water programs to ensure that all public water systems meet capacity and exceed the requirements of the Safe Drinking Water Act.

In Wisconsin, less than one percent of public water systems have difficulty meeting the SDWA requirements. This may be attributed to Wisconsin having a public water system program since 1919 and a SDWA program since 1978. The various components of the existing program (monitoring, approvals, and inspections), in conjunction with review of municipal water rates by the PSC, are already providing a strong base for developing and maintaining water system capacity. The DNR also has a long history of working and partnering with technical assistance providers to help provide support to those water systems in the state that most need it, and regularly assessing which systems need assistance most. The DNR's Annual Compliance Report details statewide compliance rates with SDWA requirements and is available on the DNR's Drinking Water and Groundwater webpage:
https://dnr.wisconsin.gov/topic/drinkingwater/AnnualDWReports.html

The DNR, on behalf of the State of Wisconsin, takes a holistic approach with its capacity development strategy for existing public water systems. The strategy emphasizes the importance of the entire public drinking water program in Wisconsin and the interdependence of its parts. The numerous activities in Wisconsin's program are mutually dependent. The three types of capacity – technical, managerial, and financial – are mutually dependent as well.

Capacity development can be thought of as a tapestry, which weaves together all of the existing drinking water program activities into a focused effort to help troubled systems. This approach is more effective than addressing system problems in a piecemeal fashion. The Capacity Development Strategy targets not only habitual noncompliant water systems but also systems that face the risk of being out of compliance, including new systems, systems with new operators, and systems with new samplers and owners. The DNR makes maximum use of its existing activities such as sanitary surveys and technical assistance, while utilizing outreach programs and trainings to fill in capacity gaps, as regulations change and new drinking water standards arise. The goal of the Capacity Development Program is to enhance rather than supplant the state's existing SDWA program.

For all existing public water systems, under s. 281.17(9), Wis. Stats., **"**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." To this end, capacity is formally and regularly evaluated during sanitary surveys by field staff. If DNR field staff determine that a system lacks adequate technical, managerial, or financial capacity they indicate this in the

Drinking Water System database and enter a brief comment identifying the areas where capacity is lacking (e.g., an OC does not have the minimum number of required wells or other sources of water based on the population served). The sanitary survey report letter then automatically inserts language that the system's capacity is inadequate. This language can be altered to indicate if the lack of capacity is technical, managerial, or financial. Following a sanitary survey in which capacity is deemed inadequate, the DNR field engineer or specialist confers with their supervisor and the Capacity Development Coordinator to determine next steps to bring the system back into compliance. The information is tracked in the DWS and is used to assess the types of systems most in need of assistance, targeting technical assistance, and potentially future rule development. Conversely, if a field staff finds that a system does meet capacity following a sanitary survey, this information is then entered and tracked in DWS and is also noted on the Sanitary Survey Report letter to the water system.

The DWS is an essential tool that allows the DNR to track the capacity of the over 11,000 public water systems across the state of Wisconsin. With such a large number of water systems comes a massive amount of data, and managing this data is vital to tracking and monitoring the capacity of the state's water systems. The DNR's Bureau of Drinking Water and Groundwater maintains a Data Management Team to ensure that the DWS stays up to date and that the bureau has quality drinking water data. The Data Management Team continues to work on technological improvements to the DWS to enhance its functionality.

4.2 Consideration of Section 1420(c)(2)(A-E)

Section 1420(c)(2) of the 1996 SDWA amendments requires that states, in preparing their capacity development strategies, consider, solicit public comment on, and include, as appropriate, the following:

A. The methods or criteria that the state will use to identify and prioritize the public water systems most in need of improving technical, managerial, and financial capacity.

B. A description of the institutional, regulatory, financial, tax, or legal factors at the federal, state, or local level that encourage or impair capacity development.

C. A description of how the state will use the authorities and resources of the SDWA or other means to assist public water systems in complying with the National Primary Drinking Water Regulations (NPDWR), encourage development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, and assist public water systems in training and certification of operators.

D. A description of how the state will establish a baseline and measure improvements in capacity with respect to NPDWRs and state drinking water law.

E. An identification of the persons that have an interest in and are involved in the development and implementation of the capacity development strategy, including all appropriate agencies of federal, state, and local governments, private and nonprofit public water systems, and public water system customers.

The five listed elements (A-E) are included and addressed in Wisconsin's Capacity Development Strategy for existing public systems. All five elements were appropriate and important in creating an effective Capacity Development Program in Wisconsin.

4.3 Public Participation

4.3.1 Original Strategy Drafting

Public involvement was encouraged throughout the development of Wisconsin's Capacity Development Strategy. The DNR solicited input from public water system stakeholders at every opportunity. The DNR believes public involvement is an essential part of the creation and implementation of a successful program. To secure this involvement, the DNR provided the following opportunities for interested parties to learn about the program and provide meaningful input and comments:

Stakeholder Workgroup

In 1998, a stakeholder workgroup was formed for the development of the *new* water system strategy. This same workgroup also provided assistance during the creation of the *existing* water system strategy. However, additional stakeholders were invited to participate in the existing system strategy workgroup. The DNR created a list of capacity development stakeholders, and the workgroup then reviewed and revised this list. The DNR sent invitation letters and capacity development information to 20 additional stakeholders. Subsequently, the DNR recruited 9 additional members to the workgroup.

The final makeup of the workgroup consisted of a wide cross-section of stakeholders, including:

- American Water Works Association – non-profit organization
- Foundation for Rural Housing – non-profit organization
- Madison Water Utility – municipality/system owner
- Mobile home park owner
- Municipal Environmental Group-Water Division – municipal organization
- Public Service Commission of Wisconsin – state agency
- State Laboratory of Hygiene – SDWA certified laboratory
- STS Consultants – environmental consultant
- Waukesha County Department of Parks & Land Use – county agency
- Wisconsin Community Assistance Program – non-profit organization
- Wisconsin Department of Commerce – state agency

- Wisconsin Department of Health Services – state agency
- Wisconsin Department of Natural Resources – state agency
- Wisconsin Geological & Natural History Survey – state agency
- Wisconsin Manufactured Housing Association – non-profit organization
- Wisconsin Rural Water Association – non-profit organization
- Wisconsin Water Well Association – non-profit organization

The workgroup met regularly to discuss and brainstorm the required elements of the existing system strategy presented in this document.

Public Input Sessions

The stakeholder workgroup determined the format of public meetings to gather input from a wider audience of people who work with public water systems. The workgroup decided that the meetings would be structured as "public input sessions" using a question-and-answer format. The feedback from the input sessions was used to prepare this Capacity Development Strategy.

Four public input sessions were held in Madison, Wausau (2 sessions), and Green Bay in March and early April 2000. The following people or groups were invited to attend the input sessions:

- Recipients of the DNR's Wellhead Protection video (over 500 municipal systems)
- Recipients of the DNR's Water Words Newsletter (9,800 transient noncommunity systems)
- Wisconsin Water Well Association
- Wisconsin Rural Water Association
- American Water Works Association – Wisconsin Section
- Wisconsin Innkeepers Association
- Wisconsin Small Business Administration
- Tavern League of Wisconsin
- Wisconsin Association of Campground Owners
- Wisconsin League of Municipalities
- Wisconsin Manufactured Housing Association
- U.S.D.A Rural Development Employees
- Wisconsin Towns Association

In addition to specific invitations that were sent to these organizations, the meeting was announced on the DNR website and in various organization newsletters, and phone calls were made to invite people. Every attempt possible was made to make stakeholders aware of the public input sessions.

Attendees were asked questions about what encourages or impairs public water systems from acquiring and maintaining capacity and complying with the SDWA. The questions included:

A. What problems or impairments do public water systems have in complying with the state and federal drinking water regulations?

B. How do the current activities of the DNR help (encourage) or hurt (impair) your ability to operate your public water system, including your ability to get or stay in compliance, your ability to manage or fund your system? What other factors (legal, tax, funding, etc.), that may or may not involve DNR, hurt or help your operation?

C. What additional activities would you like to see DNR add or modify to help public water systems get in compliance with the drinking water regulations? Specifically, what do you like or dislike about the way DNR does sanitary surveys or inspections?

D. What problems do public water systems have in *protecting* their water systems?

E. What problems do public water systems have in *locating* safe drinking water?

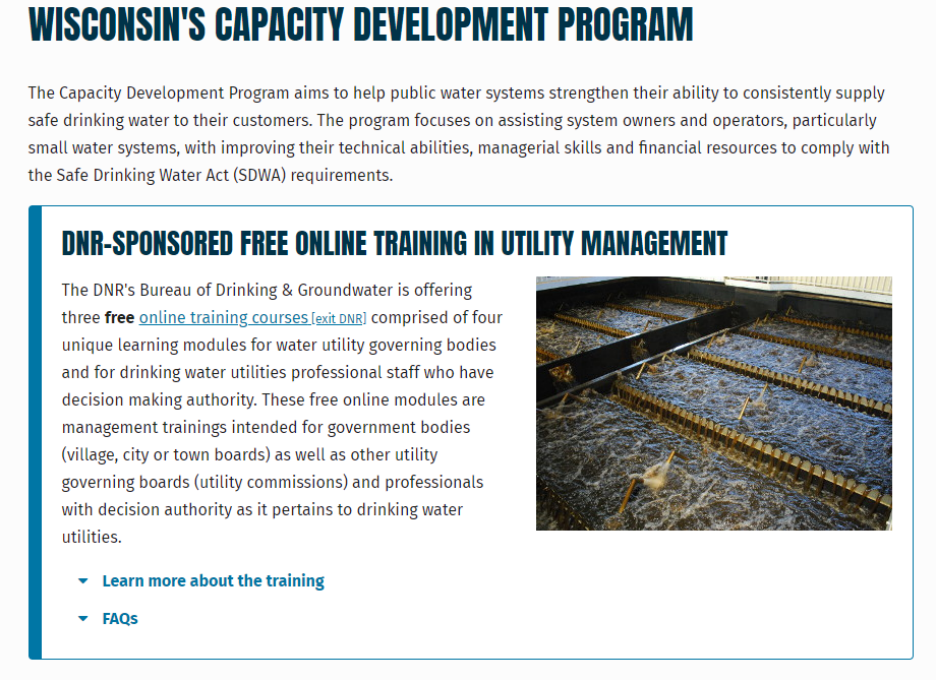
The public comments collected at the four input sessions are discussed in the "Responsiveness Summary" section below.

After the public input sessions, the attendees were given a copy of the summary report, and they were also sent a draft of the Strategy to comment on.

Capacity Development Webpage

In March 2000, the DNR added a Capacity Development webpage to its Bureau of Drinking Water and Groundwater website. The webpage is an important public education tool for sharing capacity development information in an efficient manner statewide. The Capacity Development webpage is available here. Since its inception, the Capacity Development webpage has been regularly updated, and it has served as a primary informational resource to the public.

On the next page is a screenshot from WI's Capacity Development webpage:



WISCONSIN'S CAPACITY DEVELOPMENT PROGRAM

The Capacity Development Program 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.

DNR-SPONSORED FREE ONLINE TRAINING IN UTILITY MANAGEMENT

The DNR's Bureau of Drinking & Groundwater is offering three **free** online training courses [exit DNR] comprised of four unique learning modules for water utility governing bodies and for drinking water utilities professional staff who have decision making authority. These free online modules are management trainings intended for government bodies (village, city or town boards) as well as other utility governing boards (utility commissions) and professionals with decision authority as it pertains to drinking water utilities.

The website includes the following relevant capacity development information:

- General information/background
- Fact sheets & informational brochures
- New system strategy requirements
- Capacity evaluation forms for new OCs and NTNCs
- Draft of the existing system strategy
- A copy of WI's most recent *Triennial Report to the Governor*
- Links to online capacity development training
- Links to the DNR's Asset Management webpage, which includes a variety of asset inventory tools and asset management resources
- Links to operator certification and funding resources
- Links to the DNR's America's Water Infrastructure Act webpage
- Contact information for WI's Capacity Development Coordinator

<u>Stakeholder Feedback on Original Strategy Development</u>

The major points of advice that were offered by the original workgroup and other stakeholders are listed below. References to the appropriate subsection of this report are included to provide DNR's response.

Stakeholder Advice	DNR Response
Use sanitary surveys as the method for conducting capacity evaluations of existing water systems.	Section 4.4

The data that we collect must be meaningful and useful to evaluate capacity.	Section 4.5
DNR inspectors need to develop a positive dialogue with system owners/operators, relaying the goals of the Capacity Development Program.	Section 4.8
Need to address the financial management barriers of small systems – many small systems don't separate the costs of running their systems from their general business expenses.	Section 4.8
Key criteria to prioritize systems – MCL violations, PSC list of problem systems, systems with poor understanding of operations and/or poor oversight, operator certification, and planning policies.	Section 4.6
Create an organized binder of SDWA information for system owners/operators.	Section 4.8

Coordinate information sharing with other agencies that work with public water systems, including PSC and Health. Avoid duplication with other agency data collection.	Section 4.4
Provide additional time for regulatory compliance after a sanitary survey.	Section 4.4
Create more educational programs and training workshops for systems, particularly NTNC and TNC systems.	Section 4.8
Improve consistency in sanitary survey process between DNR regions and staff. Conduct more DNR staff training.	Section 4.8
Improve communication between government agencies at local, state, and federal levels.	Section 4.8
Need to do more to educate water boards/local officials.	Section 4.8
Categorize the capacity evaluation criteria that are appropriate according to system type (ex. Municipal systems would be asked more in-depth questions than transient systems).	Section 4.5

4.3.2 Strategy Update to Include Asset Management - Public Involvement

In July 2021, the DNR presented on the planned updates to the Capacity Development Strategy to the Drinking Water Study Group (DG Study Group). Following the presentation, the DNR's Capacity Development Coordinator sought comments, concerns, feedback, and questions regarding the proposed Strategy updates. The DG Study Group includes the following organizations:

- Clean Wisconsin
- Wisconsin Rural Water Association
- Wisconsin State Laboratory of Hygiene
- Municipal Environmental Group
- Pace Analytical Services
- Wisconsin Water Well Association
- Department of Health Services
- Wisconsin Association of Local Health Departments and Boards

- Wisconsin Manufacturers & Commerce

In addition to presenting the updated Strategy to the DG Study Group, the Capacity Development Coordinator participated in a variety of EPA webinars, trainings, workshops, and breakout sessions with other state coordinators to discuss updating and editing the Capacity Development Strategy.

Gov Delivery – a modern communication tool

The DNR regularly uses Gov Delivery, a mass email tool, to disseminate information on trainings, regulatory updates, security & emergency response issues, EPA updates, and rule changes. Different distribution lists are maintained for certified operators, NTNCs, OCs, MCs, and local government officials. Gov Delivery has largely replaced hardcopy newsletters, since it is free to use and easily disseminated to thousands of readers. When, and if, changes to the Capacity Development Program occur, they will likely be communicated via Gov Delivery.

4.4 Evaluating Capacity of Existing Public Water Systems

Sanitary Surveys

Sanitary surveys of water systems are essential to assuring safe drinking water on a continuing basis. Surveys are a mechanism to detect construction, maintenance, and operational deficiencies before an unsafe water condition occurs. In cases where unsafe water occurs, the sanitary survey may be used to isolate the problem so that corrections can be made. By conducting surveys on a recurring cycle, new construction or system modifications can be checked for conformance with previous DNR approvals, and construction deterioration of facilities can also be evaluated, particularly if deterioration is more rapid than expected.

In Wisconsin, sanitary surveys are routinely performed at all public water systems. Sanitary surveys are performed at community water systems every 3 years and at noncommunity systems every 5 years. Sanitary surveys are in-depth investigations of systems to evaluate the adequacy of the water source, facilities, equipment, capacity, and operation and maintenance of the water systems. The objective of the survey is to identify any item that may adversely affect the availability or quality of water in a public water system. This involves assessing throughout the survey the water system's technical, managerial, and financial ability to provide safe drinking water to its consumers.

At the completion of the survey, the findings are shared with the system owner/operator. A summary report is also prepared following the survey. The report includes general information about the system, a description of the facilities, as well as conclusions and recommendations. If problems or deficiencies are detected during a sanitary survey, the findings are typically shared with the operator following the survey and included in the summary report. Compliance and response dates are also set and included in the written report. Once the deficiencies are corrected, a re-inspection is scheduled. Upon verification that the corrections were made, a compliance letter is sent to the owner/operator.

If the problem is not corrected for a valid reason, an extension may be granted. Depending upon the nature and duration of the deficiency, one of the standard stepped enforcement procedures may be used to ensure compliance, including a Notice of Noncompliance, Notice of Violation, Consent Order, or an Administrative Order.

In addition to the stepped enforcement process, Wisconsin State Statute 281.99 gives DNR the authority to assess administrative forfeitures or fines for safe drinking program violations, including capacity development. Prior to assessing a forfeiture for a violation, the DNR must first provide written notice of the alleged violation to the system owner or operator. If the violation is not corrected following the notice, the DNR may directly assess a forfeiture by issuing an order to the system owner or operator. The amount of forfeiture may not be more than $25,000 per violation in one order. All forfeitures must be paid within 60 days after receipt of the order. Water system owners and operators may contest the issuance of the order and the assessment of the forfeiture.

Sanitary Surveys at TN Systems and the County Contract Program

The DNR contracts with county health departments around the state to conduct sanitary surveys and monitor water quality at TN systems. This program began in 1994 with 13 counties and has grown significantly since its inception to 54 counties across the state. The county program now conducts sanitary surveys at and provides assistance to 6,936 TN systems. County health department staff, trained annually by the DNR, visit the water systems, collect all required samples, and ensure that samples are submitted on time. They also help TN system owners understand their monitoring results and address problems identified during sanitary surveys. Since this program started, monitoring and reporting violations at TN systems have declined, as have violations caused by contaminant exceedances. The County Contract Program greatly helps the DNR to tackle sanitary surveys at the state's 9,000+ transient noncommunity systems.

Annual Inspections – Municipal Systems

Annual inspections include on-site inspections of system facilities and a review of sampling and reporting records for the purpose of evaluating the adequacy of the water source(s), facilities, equipment, operation, and maintenance of municipal systems. The objective is to protect the health and safety of the water supply users and to protect the drinking water resources.

An annual inspection is performed by DNR staff at all municipal systems that are not scheduled to receive a comprehensive sanitary survey for that year. Under the current format, priority is given to (1) systems having MCL violations, (2) systems with known deficiencies or operational problems, (3) larger population served, and (4) time since last sanitary survey.

Additional enhancements were made to the inspection and evaluation processes to ensure that Wisconsin addresses the requirements of the Groundwater Rule. The EPA proposed the following requirements in the rule:

1. States, or authorized agents, conduct sanitary surveys for all groundwater systems at least once every three years for community water systems and at least once every five years for noncommunity water systems;
2. Sanitary surveys address all eight elements set out in the "EPA/State Joint Guidance on Sanitary Surveys" (discussed in the next paragraph);
3. States provide systems with written notification which describes and identifies all significant deficiencies no later than 30 days of the on-site survey;
4. Systems consult with the state and take corrective action for any significant deficiencies no later than 90 days of receiving written notification of such deficiencies, or submit a schedule and plan to the state for correcting these deficiencies within the same 90-day period; and
5. States must confirm that the deficiencies have been addressed within 30 days after the scheduled correction of the deficiencies.

The EPA and the Association of State Drinking Water Administrators (ASDWA) developed a list of eight minimum elements to be reviewed in conducting a sanitary survey. These elements, as identified in the "EPA/State Joint Guidance on Sanitary Surveys" include:

Source (including source protection, physical components of the source, and condition of the source)
- Treatment
- Distribution system
- Finished water storage
- Pumps/pump facilities and controls
- Monitoring/reporting/data verification
- Water system management/operations
- Operator compliance with state requirements

4.5 Criteria Used to Evaluate Capacity

In the capacity evaluation process, the DNR uses a variety of criteria to evaluate the technical, managerial, and financial capacity of public water systems. The following types of information are assessed during the evaluation:

-General facility information
-Owner name & address
-Certified operator name & address
-Code-approved maps (for MCs)
-Operating information
-Distribution system (publicly owned utilities)
-Treatment
-Contracted professionals
-Funding source
-Source water
-Well(s)
-Discharge piping
-Well pump(s)
-Pump station
-Storage
-Water quality & sampling
-Accounting practices
-Recordkeeping practices
-Managerial capacity and overall system management
-Long-range planning & budgeting practices
-Financial status (monitoring, operation & maintenance costs)

The following system information is reviewed during sanitary surveys at

- Water quality & sampling compliance data – number and type of violations (if any) – applicable to all public water systems
- CCR compliance data – applicable to municipal and OTM systems
- PSC's list of potential financially troubled systems – applicable to municipal systems
- Emergency response preparedness
- Operator certifications of current operators
- Technical, managerial, and financial capacity
- Source water
- Infrastructure—wells, tanks, reservoirs, piping, treatment equipment, and other appurtenances
- System pumping capacity compared to number of connections

4.6 Prioritizing Systems with Technical, Managerial, and Financial Capacity Deficiencies

DNR's Capacity Development Coordinator, in conjunction with SDWA program staff, prioritizes systems with capacity deficiencies throughout the year. Small water systems—OCs and NNs are prioritized in the quarterly *Priority List,* which is a list of systems in need of technical assistance that the CD Coordinator compiles each quarter. Municipal systems are targeted on an as-needed basis, based on sanitary survey results and findings. If an MC system is found to lack technical, managerial, or financial capacity, the local DNR field representative often works with his or her Field Supervisor, the CD Coordinator, the Drinking Water Enforcement Specialist, or an Environmental Enforcement Specialist to assist the system in reestablishing TMF capacity. Prioritization of capacity support focuses on systems out of SDWA and/or administrative code compliance or systems on the verge of being out of compliance. Proactive capacity development is the goal at water systems; as such, systems with preliminary violations often receive technical assistance as a means of preventing active system violations.

Some of the data reviewed when considering prioritization of technical assistance includes:

- Water quality & sampling compliance – number and type of violations, if any (all systems)
- CCR compliance (municipal & OC only)
- PSC's list of potential financially troubled systems (municipal only)
- Systems requesting capacity development assistance (all systems)
- Systems referred to the Capacity Development Coordinator by DNR regional staff (all systems)
- Systems dealing with emergency situations (all systems)
- Systems without a certified operator (all NN, OC, MC systems)
- Systems with Lead and Copper Rule-related issues such as corrosion control treatment, monitoring and sampling, ALEs, lead service line replacement

Public water systems with problems or deficiencies in <u>all</u> of the applicable areas listed above will be given highest priority for receiving capacity development assistance. Systems with deficiencies in only <u>some</u> of the applicable areas will be given lower priority. The Capacity Development Coordinator consults with DNR's regional staff, enforcement staff, and PSC staff

to verify the information from the priority analysis and gather additional information on systems that have capacity deficiencies. The DNR regional staff conducts the sanitary surveys and inspections and typically serves as the main point of contact with the water systems. PSC staff conducts rate reviews and examines financial capacity-related information submitted in the municipal water systems' annual reports, which are required by the PSC.

Systems with SDWA and administrative code violations and capacity deficiencies that are unwilling to correct the violations and refuse to accept assistance from the DNR or its contractors are subject to the state's standard stepped enforcement process. If certain systems have capacity deficiencies, but no SDWA or administrative code violations, they are contacted to determine if they want help. If they refuse it, the DNR works with other systems that are lacking capacity. In addition, municipal water systems with capacity deficiencies are ineligible for Safe Drinking Water Loan Program (SDWLP) funding (unless SDWLP funding will directly resolve the deficiency the PWS is experiencing).

Prioritizing systems allows the DNR to focus its time, staff, and resources on those systems that are most in need of assistance. This focused prioritization provides the CD Coordinator more time to focus on proactive capacity development measures like asset management, public water partnerships, continuing education, and operator training.

4.7 Factors that Encourage and/or Impair Capacity Development

A broad spectrum of factors exists at the federal, state, and local level in Wisconsin that encourage and/or impair capacity development. These factors that either help or hinder capacity development tend to be linked to regulatory, financial, institutional, or legal issues.

The following list of factors was provided by the stakeholder workgroup and public input session attendees at the drafting of the original Strategy.

Encouraging Capacity Development:

Regulatory:

- Regulatory authority exists to develop and implement a drinking water program: state administrative codes & statutes – DNR, PSC, DHS, DSPS, etc.
- Regulatory authority exists to develop and implement a Capacity Development Program – state statutes
- Sanitary survey & inspection process encourages capacity development by enabling Wisconsin to periodically assess system capacity
- Source water assessments/wellhead protection plans
- Operator certification
- Local zoning/planning codes
- Emphasis on "smart growth" for municipalities
- Municipalities with private well ordinance have power of local permit control over private wells
- Involvement of local health agencies with public systems

- Involvement of state laboratory with public systems

Financial:
- PSC rate review for municipal systems enables Wisconsin to assess the financial capacity of municipal water systems
- SRF loan program
- State funding for bacteriological testing program for systems

Institutional:
- Systems are voluntarily sharing information with each other by forming coalitions or peer groups

Other:
- Technical assistance programs, providing help to small systems – contractors & non-profit organizations
- Newsletters– state agencies & stakeholder organizations
- DNR website
- Small municipal system educational sessions

Impairing Capacity Development:

Regulatory:
- Difficulty understanding state and federal complex drinking water regulations, monitoring requirements, etc. – complexity of new rules
- DNR staff issues – workload, turnover, inconsistency between staff and regions, lack of trust
- Poor municipal and OTM system oversight by local government officials and governing boards – partly due to the officials and boards not knowing or understanding the issues and regulations
- Non-uniform enforcement of regulations
- Increasing regulation (more and more coming)
- Conflicting regulations
- Lack of funding at all levels
- Lack of incentives, primarily financial, to get people to attend training/workshops
- No specific authority for PSC to require utilities to seek rate relief
- Inefficient and/or lack of information sharing between state agencies
- Local politics and election concerns
- Local annexation issues
- Inconsistent local regulations
- Difficulty passing local well abandonment ordinances

Financial:
- Financial shortfalls for upgrading/repairing facilities, monitoring costs, treatment processes
- Lack long-term planning (financial planning and planning for infrastructure replacement)

- Lack of budgeting tools/mechanisms
- Lack of proper bookkeeping or accounting
- PSC rate review which results in significant rate increase (particularly an impairment for financially depressed areas)
- SRF funding restrictions for private systems
- Operator certification costs
- Cost of present and future regulations

Institutional:
- Management conflicts between owners and operators
- Some owners/operators not having the time to attend training/workshops
- Poorly trained operators

Legal:
- Local authority not clearly defined: Who is ultimately responsible for the system – the board, the owner, or the operator?

Based on stakeholder and public feedback on the drafting of the original Strategy, the major impairments appeared to be linked to:

- system owners/operators, board members, and local officials not knowing or understanding the SDWA regulations,
- systems not having the necessary financial resources or planning abilities to meet the SDWA regulations, and
- DNR consistency and workload issues with regards to implementing the requirements of the SDWA.

The DNR continues to work with its technical assistance providers to regularly reevaluate the factors that encourage or impair capacity development to prioritize areas for improvement

Essential to Wisconsin's Capacity Development Strategy is reducing and preventing the factors that impair systems from meeting capacity. In the initial implementation of its Strategy, Wisconsin focused on the following areas to address and reduce some of the major capacity development impairments:

- increase understanding and educate water system owners, operators, board members and local officials regarding the SDWA requirements;
- provide financial information or resources where applicable and appropriate;
- improve consistency in the DNR's Bureau of Drinking Water and Groundwater and with other government agencies.

Some of the factors that impair systems may be reduced or eliminated by making better use of the things that encourage capacity development. As mentioned above, the DNR, as the primacy agency for the SDWA in Wisconsin, has the authority and resources to implement numerous

programs that encourage systems to acquire and maintain capacity, including sanitary surveys, technical assistance, source water protection, operator certification, operator continuing education, the Safe Drinking Water Loan Program, additional funding resources, and capacity development, itself. The DNR endeavors to eliminate the impairments and help systems meet capacity by using a variety of these and other capacity building tools, which are discussed in the next section.

4.8 The Capacity Development Toolbox - How Wisconsin Uses the Authority and Resources of SDWA to Help Systems Build Capacity

Public water systems in Wisconsin face a variety of challenges in their quest to provide safe drinking water at an affordable cost. However, there are many SDWA programs and activities that can be used to address the impairments encountered by existing public water systems. These "tools" help systems acquire and/or enhance their technical, managerial, and financial capacity.

In Wisconsin, a number of capacity building activities and programs already exist, and as part of this Strategy, these tools will continue to be used to help public water systems comply with the NPDWR. Some capacity development tools are targeted towards specific systems based on prioritization, sanitary surveys, and capacity evaluation results. For instance, a system that has financial capacity deficiencies may be offered additional, specific guidance on budgeting and long-term planning. Other tools are used to more broadly address systems statewide, regardless of their capacity development status. One example is the annual mailing of monitoring letters and schedules to help public water systems plan and budget for upcoming monitoring.

Wisconsin's existing capacity development tools include:

- **DNR Plan Review:** Wisconsin Administrative Code requires that final plans and specifications be reviewed and approved by the DNR prior to construction for all community water systems (MC and OC; Chapter NR 108); at all schools and wastewater treatment facilities, as well as all non-community systems with pumping capacity greater than 70 gallons per minute (NN and TN; Chapter NR 812). The community water system requirement applies to new water systems as well as improvements, extensions, and alterations to existing systems. DNR plan review provides the initial safeguard measure to ensure physical infrastructure and operations of water systems meet the goal of consistently supplying safe drinking water.

- **Sanitary surveys (all public systems) and annual inspections (municipal):** Sanitary surveys and inspections provide a comprehensive and accurate record of the components of water systems, assess the operating conditions and adequacy of the water system, and determine if past recommendations have been implemented effectively. DNR drinking water staff and county inspectors personally assist the owners and operators with issues related to their public water systems during sanitary surveys and inspections. DNR staff will continue to use the sanitary survey and municipal inspections to evaluate systems, point out deficiencies, and make recommendations to help public water systems meet capacity.

- **DNR County Contracts for Transient Noncommunity Systems:** Since 1994, the DNR has been overseeing contracts with counties throughout the state for sanitary surveys and coliform bacteria and nitrate monitoring. County contracts have increased from inspecting 2,100 transient noncommunity systems in the program's initial year to over 6,900 TN systems annually in recent years. The results of this partnership with the counties have been outstanding. The samples are taken by licensed sanitarians instead of inexperienced system owners. Monitoring and reporting violations in these counties are almost nonexistent. MCL violations are greatly reduced mostly due to the elimination of false positives from poor sampling. State intervention on the system owner is lessened. Many of these transient facilities are licensed by the Wisconsin Department of Health Services (DHS) and the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and also have DNR water testing requirements. The majority of counties that are part of the contract are also agents for DHS and DATCP, so the system owner sees only one county inspector instead of three different state inspectors.

- **One-on-one technical assistance from state and local government staff:** Staff from the DNR, PSC, DHS, DATCP, and DSPS, as well as county and municipal officials, offer assistance to systems on a day-to-day basis to ensure that owners/operators understand the regulations. The DNR's regional drinking water staff provides technical assistance to owners and operators and conducts sanitary surveys of public water systems to ensure compliance with the primary drinking water regulations and to ensure TMF capacity. State and local government staff will continue to develop positive dialogues with owners and operators to help them understand the SDWA requirements and build capacity. The DNR's Bureau of Drinking Water and Groundwater (DG) holds quarterly consistency meetings, in which common issues impairing water system capacity are discussed along with potential solutions to these impairments. DG maintains consistency teams for each different type of public water system in the state: TN, NN, OC, and MC. This focus on different type and size of water system helps staff to determine supportive capacity measures for each specific type of system, since the different types and sizes of water systems often experience very unique issues.

- **Small System Technical Assistance (OC & NN):** In April 2000, DNR awarded a contract to Wisconsin Rural Water Association (WRWA) to provide technical assistance to OC and NN water system operators. This small water system technical assistance contract has been in-place for over two decades now. One-on-one assistance is provided by WRWA on a statewide basis to small systems with capacity or SDWA compliance issues. Over the past 21 years this contract has reduced quarterly monitoring and reporting violations at small systems from well over to 2,000 to, at times, under 120.

    - **Two types of technical assistance are provided through the program:** 1) **onsite visits**, which can address a wide variety of subjects, including but not limited to operation and maintenance, monitoring, and sampling, correcting deficiencies, operator certification, violation follow-up, regulatory and public notice requirements, winter operations, corrosion control, and sanitary surveys; 2) **quarterly monitoring reminders**, which can address a variety of subjects

related to monitoring and reporting, including sampling requirements, upcoming deadlines, public notice and notification requirements, reporting requirements, and resolving outstanding violations;

- Compliance data for these water systems is analyzed quarterly, and technical assistance priorities are reviewed and adjusted on the same schedule. Priorities focus on resolving recent violations and preventing new ones, training new operators and samplers, aiding systems with new monitoring requirements, and providing assistance for new public water systems.

- **EPA Small System Technical Assistance Grant:** In addition to DNR's WRWA Small System Technical Assistance contract, the DNR also works with WRWA as well as Rural Community Assistance Partnership (RCAP) on technical assistance and continuing education for small MC water systems around Wisconsin. The funding for these services comes directly from EPA, and the DNR serves as the primacy guide for identifying what type of technical assistance and continuing education specifically should be provided annually. The DNR meets with both WRWA and RCAP throughout the year to ensure technical assistance priorities are being met and to assess whether or not any modifications to be made.

- **Operator Certification (MC, OC, NN):** Chapter NR 114, Wis. Adm. Code, defines community water systems owned by or serving a municipality, county, or the state as *Waterworks*. Other than municipal community and non-transient non-community water systems are *Water Systems*. Certified operators are required at all of these systems. Wisconsin has two corresponding types of certifications for drinking water operators, waterworks certifications for operators of municipal community (MC) water systems and water system certifications for operators of other-than-municipal community (OC) and non-transient non-community (NN) water systems. Transient non-community (TN) water systems are exempt from the requirement to have certified operators. Municipal waterworks operators are certified as either Grade T or Grade 1, the former reflecting that an operator has passed an exam in a particular subclass and the latter reflecting that an operator has both passed a subclass exam and completed 1 year of satisfactory experience.

  Each water system (OC and NN) is classified as Class 1 and is assigned a minimum of Subclass O—General Water System Operation, defined as all water systems utilizing a groundwater source, surface water source, or purchased water from a waterworks. Every waterworks and water system is required to have a certified operator-in-charge of each subclass at the waterworks or water system.

  Wisconsin certifies drinking water operators for a period of three years. To renew a certification, an operator must submit an application, pay a fee, and include documentation of fulfilling the continuing education requirements. Municipal waterworks operators (MWS certification) need 18 hours of continuing education per three-year renewal period—except the operator-in-charge of a surface water system, who needs 24 hours. Health and safety training is limited to six hours. The

operators of OC and NN systems (NMWS certification) need to obtain 6 hours of continuing education per three-year renewal period.

Wisconsin's Operator Certification Program helps build water system capacity by ensuring that all of WI's NN, OC, and MC systems maintain certified operators who have the technical ability and capacity to ensure that these systems provide safe and reliable drinking water to their consumers.

- **Operator Continuing Education and Training:** In early 2000, the DNR contracted with the University of Wisconsin (UW) to plan, organize, advertise, and conduct educational and informational sessions covering drinking water topics. The UW conducted multiple sessions across the state in each of the five DNR regions. The purpose of these sessions was to educate the operators and managers of NN, OC, and MC public drinking water systems. The DNR has come along way since the inception of its continuing education program. The DNR has provided over two decades of drinking water operator continuing education training and now oversees and provides 3 different education contracts: Exam Review for Small Water System Operators; Small Water System Operator Continuing Education; and Municipal Waterworks Operator Continuing Education.
  - Exam Review for Small Water System Operators:
    - This contract provides free exam preparatory classes for those seeking to become certified Small Water System operators at NN and OC systems
  - Small Water System Operator Continuing Education:
    - This contract provides free continuing education classes for Small Water System operators around the state. 55 classes are provided on a range of relevant drinking water topics—these classes are offered both virtually and in-person in all five DNR regions.
  - Municipal Waterworks Operator Continuing Education:
    - This contract provides low-cost exam preparatory classes for those seeking to become certified Municipal Waterworks operators. It also provides continuing-education credits to operators who opt to take the classes as a refresher.

  Operator training and continuing education goes beyond these contracted classes, and also includes additional training directly through the DNR and its technical assistance partner organizations. All of this training and continuing education strengthens the capacity of WI's water systems by ensuring that they have a technically capable workforce.

- **Safe Drinking Water Loan Program (SDWLP):** As discussed earlier, Wisconsin uses a portion of its DWSRF allotment to provide low-interest loans and principal forgiveness to eligible municipal water systems for infrastructure improvements through the Safe Drinking Water Loan Program. The loan program allows a system lacking adequate capacity to receive DWSRF assistance if the project will

ensure that the system returns to and maintains compliance with the SDWA requirements. The low-interest loans may be used to plan, design, construct or modify municipal water systems.

DNR's Bureau of Community Financial Assistance (CFA) administers environmental grant and loan programs. Financial program staff work closely with local governments and interested groups to develop and support projects that protect public health and the environment, and to prevent and remediate drinking water related issues. SDWLP funding helps to bolster both the financial capacity of the water system as well as the technical capacity of the system's water infrastructure. The SDWLP has been an essential resource in helping Wisconsin's water systems remove lead service lines (LSLs) from their distribution systems.

Private Lead Service Line (LSL) Replacement Program:
The Wisconsin Department of Natural Resources, in collaboration with the Department of Administration and the Public Service Commission, established the Private Lead Service Line (LSL) Replacement Program to assist municipalities in their efforts to replace private LSLs. This program builds on the past success of the two-year Private LSL Replacement Program and serves as a momentum-builder for removing all LSLs in Wisconsin. See the Safe Drinking Water Loan Program (SDWLP) Intended Use Plan for a detailed description of the Private LSL Replacement Program. Removing LSLs in WI has been and will continue to remain a priority towards improving and enhancing water system capacity.

- **Monitoring assessments:** Monitoring assessments may reduce drinking water monitoring obligations by granting waivers for specific contaminants at MC, OC and NN systems. These public water systems need to submit an application to the DNR to be eligible for monitoring waivers via the monitoring assessment process. Monitoring assessments are based on an evaluation of local geology, well construction, well vulnerability to potential contaminants within a delineated assessment area, and the analytical history of the specific source of water.

  Waivers are granted based on an evaluation of a completed monitoring assessment submittal by the water system. Waivers primarily apply at groundwater systems and are intended to reduce the sampling frequency for specific contaminants while assuring the safety of the public water supply. To be eligible for waivers, applicants must complete monitoring assessments every three years.

  All monitoring assessment applications and resulting monitoring waivers are reviewed by DNR staff. The DNR staff complete review of monitoring assessment applications by August of each year. Updated waiver data from the monitoring assessment applications are entered into the DWS database, and monitoring requirements for the next year are then automatically generated based on the updated waiver data. Preliminary monitoring schedules are available on the DNR website in September each year, therefore allowing public water system owners to plan for drinking water monitoring costs in forthcoming budgeting activities. An

active implementation process on the part of DNR staff results in a nearly 100% participation rate in the monitoring assessment program.

- **Monitoring schedules and requirements:** The DNR notifies MC, OC, and NN public water system owners and samplers of their annual monitoring requirements twice per year. In September of each year, DNR sends letters notifying public water system owners of the availability of preliminary monitoring schedules for the coming year online in the DNR's PWS Data Viewer. In January of each year, DNR distributes hard copies of the annual calendar year monitoring schedules, monitoring laboratory forms, along with other supporting monitoring requirement documents.

  The preliminary schedule provides information about monitoring requirements for the upcoming calendar year, eligible waivers, and estimated laboratory analysis costs for budgetary considerations. The preliminary schedules may also include information about pending regulatory changes or monitoring updates for public water supply systems.

  Preliminary schedules are available online September through December. The DNR preliminary schedule document requests system owners and operators review their preliminary schedules often, in case of any change in monitoring requirements based on population, system operational changes or certain detected contaminants. The DWS evaluates these data and system updates nightly and may change monitoring requirements according to administrative rules.

  The preliminary schedule also includes a Public Water System Information Survey document. The survey includes system-specific information about samplers, certified operators, entry points/sources, treatment, the facility, emergency contacts, owner, and consecutive systems. DNR asks system owners to review this survey annually and submit any corrections or changes, to ensure that the DWS database contains accurate information.

  The annual monitoring schedule, mailed in January, outlines the monitoring requirements for each water system for the calendar year and points samplers to the DNR website for system-specific details. The mailing includes an available report of each system's monitoring sites to help ensure that the samples are collected at appropriate locations. The mailing also includes laboratory analytical monitoring forms, unique sampling/monitoring instructions, links to certified bacteriological and chemistry laboratories, and information regarding coliform bacteria sample analysis conducted by the WSLH. The WSLH analyzes coliform bacteria samples for most public water systems at no cost to the systems. Offering these analyses at no cost helps ensure a high rate of compliance with coliform bacteria monitoring requirements.

  The DNR annual monitoring schedule document also requests system owners and operators review their monitoring schedules often, in case of any change in monitoring requirements based on population, system operational changes or certain

detected contaminants. The DWS evaluates these data and system updates nightly and may change monitoring requirements according to administrative rules.

The final schedule mailing also includes several documents relating to lead and copper monitoring: instructions on lead and copper sampling, lead and copper notification forms for customers, and lead and copper certification forms for public water systems to return to the DNR. Monitoring schedules help to improve TMF capacity by keeping water system owners, samplers, and operators informed about the required monitoring associated with their water system.

- **Source water protection:** Source water protection, including source water assessments and wellhead protection, is a preventive program designed to protect public water supply sources and reduce additional infrastructure costs, treatment costs, and public health risk. The first line of defense in a multi-barrier approach to safe drinking water, the program strives to prevent contaminants from entering public water supplies by managing the land use that contributes water to surface water and groundwater.
    - **Source water assessments:** Wisconsin's Source Water Assessment Program (SWAP) targeted all active public water systems and delineated areas that contribute to both surface water and groundwater sources of public drinking water, identified significant potential contaminant sources within those areas, and determined the susceptibility of each public water supply. Completed for all systems in 2003, the assessments provided basic information regarding the origin of a system's drinking water and the degree to which it may be adversely affected by potential sources of contamination. Source water assessment activities facilitating the development and implementation of strategies for managing potential contamination sources continue today in the form of:

      1) plan review for all new community water systems, all schools and wastewater potable wells, and non-community system wells with pumping capacity greater than 70 gallons per minute;

      2) the Wellhead Protection (WHP) Program (see next bullet); and

      3) monitoring assessments every three years, which update potential contaminant sources on record.

- **Wellhead Protection program:** After issuing the initial Wellhead Protection Program Plan to the EPA in August 1993, the DNR delineated wellhead protection areas (WHPAs) for all of the public water system wells in the state. The DNR and public water system staff then inventoried potential contamination sources within the WHPAs of all public water systems. The DNR continues to update the inventories during sanitary surveys, routine inspections, and triennial monitoring assessments. Wisconsin's WHP Program incorporates both regulatory and voluntary components. Every new municipal well installed after May 1, 1992 must have an approved WHP plan before the well can be placed in service. Wisconsin Administrative Code s. NR 811.12(6) lists the required elements of WHP plans for new wells. The voluntary portion of the program applies to municipal wells

installed prior to May 1, 1992, in addition to all OC and non-community water systems. The DNR encourages development and implementation of WHP plans for all public water systems as a proactive step to protect these wells from potential contamination. DNR published a checklist of WHP plan elements in February 2013, and updated it in September 2016, to assist communities in managing WHP plan preparation and to help WHP plan preparers submit acceptable plans. The DNR continues to receive, review, and approve volunteer WHP plans from municipal water systems for wells constructed prior to May 1, 1992, reflecting an ongoing commitment from these systems to protect their source water areas.

In addition to the WHP plan requirements, separation distance requirements between public water supply wells and potential contamination sources along with local land use controls currently provide the primary regulatory means for preventing contaminants from entering groundwater that reaches public water supply wells. Wellhead protection directly increases technical capacity, and it also often improves financial capacity, by way of preventing drinking water contamination in the first place, which is often much more economical than remediating after the fact.

- **Consumer Confidence Report guidance:** The 1996 amendments to the SDWA require the owner of each community water system to prepare and distribute a Consumer Confidence Report (CCR) annually. While the CCR is designed to provide water quality information to consumers, it also serves as a mechanism for system owners to report their CCR activities to the DNR and other agencies.

  During FFY 2014, the DNR created the CCR Generator, an online tool that water system owners use for preparing their Consumer Confidence Reports. The CCR Generator leads users through a step-by-step process of retrieving system-specific water quality and violation history data from the DWS and then populating a report with the data. In addition, the CCR Generator includes general health and educational information regarding contaminants and information about water sources and treatment that should be part of every CCR. Water system owners can also save and customize each report with any additional required information. CCRs help to improve managerial capacity of a water system by keeping both the water system owner and its consumers knowledgeable of their drinking water.

  All MC and OC water systems in the state are now expected to use this tool for compiling their CCRs. During FFY 2022, 1,024 of Wisconsin's 1,034 community water systems (99%) submitted their CCRs by the deadline.

  Under AWIA Section 2008, public water systems serving greater than 10,000 customers will be required to distribute CCRs bi-annually.

- **DNR enforcement:** The DWS database tracks monitoring requirements, sample results, public notification requirements and deadlines for completing corrective actions. When the requirements for a public water system are not met, the DWS

records each violation that occurs. The DNR follows a stepped enforcement process, returning water systems to compliance using the lowest level of formality and severity appropriate for the circumstances. DNR initially responds to violations by sending Notices of Noncompliance (NON) or Notices of Violation (NOV) to water systems. When further enforcement action is needed, DNR can enter into consent orders with water system owners, issue administrative (unilateral) orders, issue administrative forfeiture (penalty) orders, and refer cases to the Wisconsin Department of Justice (DOJ) or US EPA.

Each year the DNR assembles water system enforcement data in its *Annual Capacity Development Report to EPA* as well as in its *Annual Compliance Report* (ACR), which is available on the DNR's Drinking Water and Groundwater website. The data in recent years illustrate that most violations are resolved quickly after notifying systems with NONs. Escalating to successive levels in the stepped enforcement process occurs relatively infrequently (please refer to the ACR for more on this).

Enforcement continues to be used as a tool to get systems to comply with the SDWA requirements and meet capacity.

- **Stakeholder organization activities:** In addition to the drinking water programs that DNR coordinates, the state relies on the work that stakeholder organizations do to help systems struggling to meet the SDWA requirements. Numerous organizations across the state work with community leaders, contractors, system owners and operators and local residents to ensure that drinking water systems are developed, managed, and operated in compliance with the SDWA requirements.

  Groups, such as the Drinking Water Advisory Council, the Drinking Water Study Group, the Wisconsin Water Well Association (WWWA), WI Section of American Water Works Association (WI AWWA), the Wisconsin Rural Water Association (WRWA), Rural Community Action Partnership, and the Environmental Finance Center Network (EFCN) to name a few, provide technical assistance and training, often times focused on small systems (with populations fewer than 10,000). Many of their technical assistance activities help systems:

  ⇒ establish and maintain responsible financial and management systems
  ⇒ consolidate or restructure current water supply services
  ⇒ determine rate structures
  ⇒ properly operate and maintain existing water systems
  ⇒ diagnose compliance-related problems and identify solutions
  ⇒ access available financial resources
  ⇒ understand the requirements of the SDWA standards and their responsibilities
  ⇒ identify low-cost technology alternatives
  ⇒ delineate wellhead protection areas
  ⇒ designate land use controls to minimize the risks of resource degradation from future development

⇒ educate water utility boards and local government officials
⇒ train well drillers and pump installers
⇒ update monitoring site plans
⇒ find properly certified operators

This is far from an all-inclusive list, but it highlights some of the major areas that these organizations target to assist systems. The stakeholder organizations will continue to play a crucial role in helping public water systems acquire and maintain technical, managerial, and financial capacity, and the DNR will continue to collaborate with all of these organizations to that end.

- **Guidance documents:** The DNR provides a variety of guidance documents to water system owners and operators. Some materials focus specifically on the needs of particular types of systems and include important information about owner responsibilities, operator duties, proper sampling and monitoring methods, contaminants of concern, corrosion control, and public notification requirements.

  The DNR sends basic information about operating a public water system to the owners of all new OC and NN systems. The fact sheet titled Wisconsin's Capacity Development Program for New Public Water Systems provides a general introduction to capacity development and explains how the DNR implements the program. The Financial Matters fact sheet informs water system owners about the financial responsibilities associated with operating a drinking water system. This fact sheet is written to help the owners of new systems understand the monitoring costs involved in meeting their requirements. Both fact sheets are always available on DNR's Capacity Development webpage.

  The DNR also designed a compliance assistance tool to help OC and NN water system owners/operators meet their recordkeeping requirements. The Water System Handbook nicknamed the "Red Book," is a red binder that provides an organized method for storing records related to the water system. It contains sections for contact information, sample results, well construction information, sanitary survey reports, and capacity evaluations, among others. The Red Book helps build technical and managerial capacity and promotes continuity of knowledge, since it identifies which records are of most importance to retain and it remains with the system through changes of staff or ownership. The DNR's technical assistance provider distributes the Red Book during site visits to new water systems, and it is highly valued by operators and inspectors alike.

  DNR has continued to update Lead and Copper Rule implementation and to make materials available on the Department's Lead and Copper webpage. In addition to sampling instructions that outline EPA's recommendations, the department has finalized and posted a form that requires systems to document plumbing and service line information and requires systems to gain department approvals prior to sampling at potentially eligible sample sites. Guidance documents are updated regularly and

organized to improve access for visitors seeking information on the Department's website.

- **DNR Drinking Water and Groundwater Website:** The DNR maintains drinking water and groundwater resources on a program website. The website provides consumers, water system personnel, consultants, and well drillers easy access to information about water quality, compliance, capacity development, Consumer Confidence Reports, regulatory updates, and available technical and financial resources. The DNR also maintains additional webpages on the following topics:
  - Capacity development
  - Asset management
  - AWIA
  - Cybersecurity and risk & resilience
  - Operator certification
  - PFAS

A comprehensive landing page about the quality of Wisconsin's drinking water serves as a gateway to information and links for consumers to learn more about current drinking water topics and resources. The DNR continues to enhance its website by creating or updating pages with information on specific topics of interest. During FFY20, the DNR developed and created an asset management page and municipal waterworks operator webpages. The asset management webpage continues to be updated and serves as a resource and broad introduction to the principles of asset management, specifically how these can be implemented to effectively improve water utilities. The creation and development of the Asset Management webpage is one example of how the DNR is working to encourage asset management and to comply with Section 2012 of AWIA.

In FFY21, a new webpage providing resources for public water systems to prepare for and prevent cyberattacks was added. A webpage providing TN owners and operators resources was also created and includes fact sheets with common definitions for a TN water system, water system owner responsibilities, contact information for assistance, and information for sanitary surveys and water sampling requirements A webpage with NR 811 community water system operation and design updates was added to provide information about the timeline, meeting dates and procedures for the revisions to ch. NR 811, Wis. Adm. Code.

The drinking water and groundwater website is also a primary tool for accessing water quality data from all the state's public water systems. Much of the information in DWS is available to the public, but it also helps water system personnel track SDWA compliance requirements, achievements, and violations. This water system data is available in a tool called the PWS Data Viewer—the online data are used regularly by our technical assistance providers to effectively target the assistance needed at individual water systems. The DNR continually upgrades the applications based on input from the public and technical assistance providers.

In FFY22, a new webpage providing resources for non-transient non-community (NN) water systems sanitary surveys was added. The page includes fact sheets and links to technical assistance resources. Over the past few years, DNR has employed a concerted effort at bolstering and improving its external-facing website. The DNR's website and its growing number of drinking water program webpages have become an indispensable tool for increasing capacity at Wisconsin's public water systems, as they have greatly improved the sharing of information and communications.

- **Public outreach:** To increase public awareness of drinking water issues and regulations, DNR drinking water staff participate in a variety of conferences, workshops, training sessions, and speaking engagements throughout the year. This has continued to foster dialogue between the Department and the regulated community, and it will remain a useful tool for improving TMF capacity moving forward.

  One example of DNR's ongoing public outreach efforts is the founding of The PFAS External Advisory Group. The PFAS External Advisory Group is a collaborative forum for the DNR to solicit constructive feedback on PFAS initiatives in Wisconsin. This group is staffed by the DNR. Members include stakeholders, community members and interested parties from both private and public sectors. Multiple meetings were held during FFY22, all of which were open for the public to attend. The type of public outreach will remain a mainstay of the DNR's Capacity Development Strategy.

- **PSC rate reviews (at MCs):** The PSC sets water utility rates and determines levels for adequate and safe service. Most public utilities must obtain PSC approval before instituting new rates or undertaking major construction projects such as new water wells. PSC rate reviews are an important tool to ensure the financial capacity of municipal water systems. In Wisconsin, municipal water systems report their water loss and financial data to the PSC annually. PSC analyzes the data each year, and the DNR collaborates with PSC to identify systems that need TMF assistance. Systems are targeted to receive assistance both for resolving high rates of water loss, especially if they do not disinfect, and to promote improved asset management planning.

4.9 Assessing Public Water System Capacity Baseline

Wisconsin must evaluate the success of its capacity development efforts. The most meaningful way to measure the success of Wisconsin's efforts is to measure actual improvements in water system capacity. The DNR will track the activity in a number of drinking water programs to establish a baseline for measuring improvements in the capacity of Wisconsin's public water systems. The baseline information will provide the groundwork for producing and submitting the *Triennial Report to the Governor* and the *Annual Capacity Development Program Report to EPA* on the progress made toward improving the technical, managerial, and financial capacity of public water systems throughout the state.

Wisconsin will use the following methods or tools to measure its progress:

- **Consumer Confidence Reports (municipal & OTM):** DNR will review the CCR compliance rate based on number (or percent) of reports completed compared to the total number of municipal and OTM systems.

- **Wellhead Protection Plans (municipal):** DNR will monitor the number of wellhead protection plans completed compared to the total number of new municipal systems that have been constructed since May 1, 1992 (the date mandated in Wisconsin Administrative Code Chapter 811).

- **Operator certification (municipal, OTM, NTNC):** The DNR will keep track of the systems that have certified operators. DNR will monitor the number of operators that have been certified according to system type. The DNR will continue to report this information annually to the EPA in its *Annual Operator Certification Report*.

- **Monitoring results:** Using the Drinking Water System database, DNR will analyze compliance trends as a way to measure improvements in capacity. Several variables will be analyzed, including number of systems in significant noncompliance, number of Maximum Contaminant Level (MCL) exceedances, number of monitoring/reporting violations, and time required to achieve compliance.

- **Public notifications:** Public water systems with MCL or monitoring/reporting violations are required to provide a public notice of the violation. Whenever a system carries out public notification, they are required to send a copy of the notice to the DNR. The Capacity Development Program will monitor the number of public notifications that are sent out on an annual basis.

- **Sanitary survey results:** Each year, a certain percentage of Wisconsin's public water systems undergo a sanitary survey based on either a 3-year or 5-year survey cycle. The Capacity Development Program will track the total number of surveys completed annually and as well as compliance data will report this in its *Annual Capacity Development Program Report to EPA*.

- **Source Water Protection:** Wisconsin's Source Water Assessment Program is required to delineate areas that may contribute pollution to sources of drinking water and assess potential pollution threats to these areas. The DNR will continue to track progress in its Source Water Protection and Wellhead Protection programs.

- **PSC financial information:** Municipal systems regulated by the PSC are required to prepare and submit annual reports. PSC staff reviews the reports to identify systems that may have potential financial deficiencies. Established financial benchmarks are used in this screening process, and the PSC subsequently prepares a list of the potential financially troubled municipal systems. DNR may reference this list of systems when evaluating the financial capacity of municipal water systems. When, and if, financial capacity issues are identified at a water system, the DNR Capacity Development Program may work with the PSC to help resolve these issues.

- **Evaluation of technical assistance contractors:** The DNR will review monthly technical assistance logs for accuracy prior to approving invoices for payment. The Capacity Development Coordinator will continue to meet quarterly with the DNR's technical assistance contractors to ensure consistency, efficacy, and overall program effectiveness.

- **Outreach/continuing education/training efforts:** The DNR will continue to track and report on the contracted continuing education and training it provides to operators and prospective operators. DNR will track both the number of classes and the number of participants that partake in its contracted continuing education training. In addition to this, the DNR will also track the annual conferences, workshops, and other outreach activities it participates in. All outreach activities and training efforts will be reported on annually in the *Annual Capacity Development Program Report to EPA*.

4.10 Implementation Plan

- Prioritize systems with capacity deficiencies: Systems with capacity deficiencies will be prioritized by DNR staff as well as by DNR's technical assistance providers. Deficiencies as well as progress made towards resolving these will continue to be tracked in the Drinking Water System (DWS) database.

- Use the Capacity Development Toolbox: The DNR will continue to utilize its "Capacity Development Toolbox" (Section 4.8) to help Wisconsin's public water systems maintain and improve their technical, managerial, and financial capacity.

- Adapt and innovate: As new and emerging contaminants and potential climate change associated issues arise, the DNR will strive to adapt and innovate its Capacity Development Program wherever possible and beneficial.

- Continue stakeholder involvement: The DNR will continue its robust stakeholder involvement activities. The DNR will continue to regularly provide guidance, training, and education to its stakeholders whenever possible.

- Submit program assessment reports: The DNR's Capacity Development Coordinator will prepare and submit the *Annual Capacity Development Program Report to EPA* annually as well as the *Triennial Report to the Governor* every three years. Both reports will present the efficacy of the Capacity Development Strategy and Program and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state.

Wisconsin's Capacity Development Strategy provides the DNR with a long-term plan to work with WI's public water systems to keep them strong into the future and the public well protected. Capacity development is an ongoing process, not a static endpoint, and so, too, will be the implementation of the Strategy. The DNR will continue to enhance and modify its Strategy over time as the problems and needs of public water systems change.

4.11 Emerging Contaminants

PFAS and PFOA

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950s. The Wisconsin PFAS Action Council (WisPAC) has developed statewide initiatives to address growing public health and environmental concerns regarding PFAS in Wisconsin. In accordance with the stipulations issued by Governor Tony Evers in Executive Order #40, the council led the development of a comprehensive Wisconsin PFAS Action Plan, which will serve as a roadmap for how state agencies will address these emerging chemicals.

The PFAS Action Plan was published and delivered to Governor Evers on December 16, 2020. The PFAS Action Plan was designed as a blueprint to guide the state in its efforts to address PFAS contamination. The plan includes priority action items identified through input from state agencies, a citizen and a local government advisory group, and the public. Each item contains an overview of what would be required to bring it to fruition, including budgetary, legislative, and staffing needs. Action items are categorized into eight themes: standard setting, sampling, pollution prevention, education and communication, research and knowledge, phase-out, future investments, and historic discharges.

Specific action items were laid out in the PFAS Action Plan. Some highlights include recommendations to:

- Establish science-based PFAS standards for environmental media such as soil and groundwater.
- Develop PFAS risk communication infrastructure including the construction of a website, improved public engagement, partnerships within the community and inter-agency collaboration.
- Streamline processes associated with the delivery of safe drinking water supplies to communities impacted by PFAS contamination.
- Support veterans, their families, and those who live near military sites who may have a higher risk of exposure to PFAS.

The complete PFAS Action Plan can be accessed on the Department's website here, where you can find greater detail and depth into the comprehensive plan.

Guiding Principles

The development of the PFAS Action Plan was driven by a set of guiding principles. These principles were distilled from public input as well as feedback from advisory groups and state agencies and will inform the state's overall approach to addressing PFAS contamination in Wisconsin communities.

• Environmental Justice: Access to natural resources – including clean air, land, and water – is an inherent right which must be protected and upheld by the state.

• Health Equity: Everyone is entitled to the opportunity to achieve their full health potential, and no socially determined circumstances should preclude them from doing so.

• Innovation: Collaborate to educate and encourage state agencies, businesses, manufacturers, consumers, and other stakeholders to minimize the PFAS burden in Wisconsin.
• Pollution Prevention: Work to limit the amount of PFAS discharged into the environment, in addition to ongoing work to clean up PFAS contamination.

WisPAC was tasked with addressing the following objectives (some of which it has already accomplished):

- Develop a multi-agency PFAS Action Plan for the State of Wisconsin.
- Develop protocols to effectively inform, educate, and engage the public about PFAS.
- Identify and prioritize likely known PFAS sources and incorporate this information into the PFAS Action Plan.
- Evaluate the public health risks of PFAS in addition to any impacts to Wisconsin's natural resources, agriculture, wildlife, and fisheries.
- Develop best practices and protocols for identifying PFAS sources to ensure that the materials are managed in a way that protects natural resources and human health.
- In partnership with stakeholders, develop standard testing and treatment protocols that are both cost-efficient and effective.
- Engage academic institutions and experts to identify and collaborate on joint projects, and further identify technical resources necessary to implement the PFAS Action Plan.
- Explore avenues of funding for the state, local governments, and private parties to aid their effort to address PFAS.
- For the most up to date information on Wisconsin's PFAS Action Plan and progress, please visit DNR's PFAS webpage, which is updated regularly.

PFAS External Advisory Group: The PFAS External Advisory Group is a collaborative forum for the DNR to solicit constructive feedback on PFAS initiatives in Wisconsin. This group is staffed by the DNR. Members include stakeholders, community members, and interested parties from both private and public sectors. All meetings are open for the public to attend. For a full list of Advisory Group members, you may visit the Advisory Group webpage.

Managing and remediating PFAS and PFOA contamination will be a core component of Wisconsin's Capacity Development Strategy for years to come. Providing safe and reliable drinking water to all Wisconsinites is central to DNR's Strategy and removing and preventing further PFAS/PFOA contamination is essential to this goal. The DNR will continue to work collaboratively with its external stakeholders, other state agencies, partner organizations, and the public at achieving this goal.

SECTION 5 - AMERICA'S WATER INFRASTRUCTURE ACT OF 2018 (AWIA)

5.1 Encouraging Asset Management at Wisconsin's Public Water Systems

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. States also must include an update of these activities to encourage asset management practices in the Governor's report."*

To that end, the Wisconsin DNR has taken multiple steps and implemented policies to encourage asset management planning at water systems throughout the state—some of these steps and policies were described in the DNR's *2018-2020 Report to the Governor*

5.1.1 Current Measures Taken to Encourage Asset Management

Following is a list of actions the DNR has taken and will continue to take and build on to encourage asset management planning in the state of Wisconsin—note—this list is not all-inclusive:

- Created and published an Asset Management webpage for public access, which includes tools, resources, guides, trainings, FAQs, and a broad introduction to the practice and benefits of asset management for drinking water systems. The webpage also includes an introduction to the topic of asset criticality, taking into account the concepts of *risk* and *consequence of failure.* The Capacity Development Coordinator stays abreast of the newest asset management trainings, webinars, and workshops and coordinates with the Drinking Water Web Coordinator to regularly update the Asset Management webpage.
- Over the past few years, the DNR has partnered with Wisconsin Rural Water Association, the Environmental Finance Center Network, Great Lakes Community Action Partnership (formerly RCAP), WI chapter of AWWA, and the Public Service Commission on multiple asset management trainings and classes around the state of WI, with specific emphasis on small drinking water systems.
- 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. To increase the weight or influence of submitting an AMP on a municipality's application, the DNR now awards additional Priority Evaluation and Ranking Formula (PERF) points on SDWLP applications.

  - All first-time submittals of AMPs for Department approval are considered new and can earn twenty (20) PERF points on SDWLP applications.
  - Applicants who have an existing Department-Approved AMP from previous years can earn fifteen (15) PERF points for submitting an updated and revised AMP. This further incentivizes water systems to update their asset management plans annually, which promotes the goal of making asset management an ongoing process at a water system.
  - The SDWLP incentivization has drawn interest from municipalities around Wisconsin. This interest has manifested in an increase in seminars and trainings on asset management at annual water industry conferences and throughout the year. It has also led to an increase in the use of asset management software and mapping technologies at Wisconsin's water utilities.

- Over the past few years, DNR staff have presented on the topic of asset management at various drinking water conferences, which has greatly increased interest and communication in the public sector in developing AMPs.
- DNR staff have and continue to attend asset management trainings and engage in a variety of workshops, discussions, and other communications regarding asset management.
- The DNR has and continues to promote instruction on the topic of asset management in both its Municipal Waterworks and Small Water System operator continuing education courses, which are paid for by federal Set-Aside funding.
- During SFY20 & 21, the DNR partnered with Moraine Park Technical College (MPTC) on the development of four online training modules in capacity development—specifically, the modules expand on the topics of utility management, financial planning, and asset management. The training modules are catered towards local governing bodies and local decisionmakers, and they aim to increase the understanding and dialogue between decisionmakers and water operators. Asset management and analysis-based planning are central to each of these training modules. The first two modules launched in December 2020, the third launched in June 2021, and the fourth was launched in January 2022.
  - These four training modules aim to give local decisionmakers a sound foundation in asset management. The modules can be accessed on the Capacity Development webpage and directly through MPTC's website.
  - The DNR is incentivizing certified operators to take the trainings by offering continuing-education credits, one per module completed. DNR also offers

additional SDWLP incentive for utility boards that have at minimum 50% of their members take the trainings. Those utilities who meet this goal are eligible for an additional 10 PERF points. More information on this incentive can be found on the Bureau of Community Financial Assistance's webpage.

- DNR's Capacity Development and Operator Certification Coordinator has implemented a process of fast-tracking quality asset management trainings, webinars, and courses for continuing-education credit approval for Wisconsin's drinking water operators. Many of these trainings are approved for both Municipal Waterworks as well as Small Water System operators, as asset management is considered a beneficial practice at all sizes of water system.
    - Trainings for drinking water operators can be found on the Operator Certification Program's Training Calendar, which is updated regularly with new trainings.

Per Section 2012 of AWIA, the *Five Core Question Framework of Asset Management* is as follows:

Five Core Question Framework – Asset Management

- What is the current state of the utility's assets?
- What is the utility's required "sustainable" level-of-service?
- Which assets are critical to sustained performance?
- What are the utility's best "minimum life-cycle cost" capital improvement plan and operations and maintenance strategies?
- What is the utility's best long-term financing strategy?

The DNR commits to ensuring that this Five Core Question Framework is an integral part of all of the asset management policy and activities the DNR supports as a part of its Capacity Development Strategy. The DNR will continue to implement the asset management policies and practices described above and will continue to strive to identify new opportunities in asset management that support the Five Core Question Framework.

5.1.2 Future Measures and Plans to Encourage Asset Management

In future years, the DNR's Bureau of Drinking Water and Groundwater plans to continue to work with its Bureau of Community Financial Assistance and its partners to develop additional incentives to promote and encourage asset management across the state. Asset management training will continue to be encouraged and approved for drinking water operators of all sizes of water systems.

Moving forward, the DNR will continue to encourage asset management via:

- Technical assistance from both Department staff and our technical assistance partners
- Sponsored training through our contracted continuing education providers
- Safe Drinking Water Loan Program funding, principal forgiveness, and, where possible, grants or similar opportunities
- Department field staff during sanitary surveys and annual inspections
- Operator certification conferences and expositions
- DNR's Capacity Development and Asset Management webpages

DNR encourages and approves asset management trainings for both Municipal Waterworks and Small Water System operators in order to strengthen asset management practices at all sizes of public water systems in WI. These trainings come from DNR's state partner organizations, the EPA, and out-of-state continuing education providers and technical assistance trainers. Both Great Lakes Community Action Partnership of WI and Wisconsin Rural Water Association receive EPA grants for technical assistance, and the DNR, as the primacy agency, includes asset management as one of its core areas of suggested technical assistance to be carried out using a portion of these grant funds. Additionally, if small OC or NN water systems would like assistance with developing AMPs, the Capacity Development Coordinator supports DNR's small water system technical assistance providers in offering this support, free of charge.

The DNR's Bureau of Drinking Water and Groundwater strongly and enthusiastically supports and promotes the practice of asset management at public drinking water systems across Wisconsin, and it will continue to proactively identify novel opportunities for the promotion of asset management. Like an asset management plan that requires commitment, enhancement, and regular updating over time, so too does the DNR commit to improving and updating its strategies to promote and encourage asset management over time.

5.2 Risk and Resilience Assessments, Emergency Response Planning, Water System Security, and Climate Change Adaptation

5.2.1 Risk and Resilience Assessments

America's Water Infrastructure Act of 2018 (AWIA) requires community water systems that serve a population greater than 3,300 to develop or update Risk & Resilience Assessments (RRAs). AWIA specifies the components that the risk assessments must address and establishes deadlines by which water systems must certify to EPA completion of the risk assessment. While EPA regulates these requirements directly, DNR assists with the communication of requirements and resources.

A risk assessment is when a water system assesses the risks to, and resilience of, its system. AWIA requires that the risk assessment evaluates the risk to the system from malevolent acts and natural hazards and the resilience of the:

- pipes and constructed conveyances,
- physical barriers,
- source water, water collection and intake,
- pretreatment and treatment,
- storage and distribution facilities,
- electronic, computer or other automated systems (including the security of such systems) which are utilized by the system,
- monitoring practices of the system,
- financial infrastructure of the system,
- use, storage or handling of various chemicals by the system,
- and operation and maintenance of the system.

Performing a risk assessment supports a water system's technical, managerial, and financial capacity to ensure safe drinking water. Assessing the resiliency of all physical, electronic, and operational components of the water system helps a system ensure its ability to meet SDWA requirements, consider the useful service life of all of its components, and evaluate the financial infrastructure of the system. Understanding the risks to a water system helps managers and operators prepare for emergency situations and meet federal regulations. Risk and resilience planning is a safeguard for protecting a water system's TMF capacity, and one that the DNR strongly encourages.

5.2.2 Emergency Response Planning

Section NR 810.23, Wis. Adm. Code requires that all community water systems develop a plan to prepare for, respond to, mitigate, and recover from all types of emergency situations. DNR field representatives discuss the system's emergency response plans during sanitary surveys.

In addition to risk assessments, AWIA also requires community water systems that serve a population greater than 3,300 to develop or update Emergency Response Plans (ERPs). AWIA specifies the components that the ERPs must address and establishes deadlines by which water systems must certify to EPA completion of the ERP. While EPA regulates AWIA requirements directly, DNR assists with the communication and implementation of requirements and resources.

An ERP describes strategies, resources, plans, and procedures utilities can use to prepare for and respond to an incident (natural or man-made) that threatens life, property, or the environment. Incidents can range from small main breaks or localized flooding to large scale tornadoes, power outages or system contamination, among other examples.

Creating Emergency Response Plans supports a water system's technical, managerial, and financial capacity to ensure safe drinking water during an emergency. An ERP clearly defines operational responsibilities and prepares managers and staff for emergency situations.

Additional information on RRAs and ERPs can be found on the DNR's Risk and Resilience Assessments and Emergency Response Plans webpage.

5.2.3 Water System Security

Section NR 810.23, Wis. Adm. Code requires that water system buildings and infrastructure access points have adequate locks and be secured when not occupied or in use. It is also required to connect any security alarms to telemetry control, SCADA systems, and monitored alarm systems where they are used. Water system security can be evaluated by DNR staff during sanitary surveys or plan review.

Promoting water system security supports a water system's technical, managerial, and financial capacity by protecting it's physical and cyber infrastructure to ensure safe drinking water can be provided and the water system can continue operational, administrative, and financial management in the event of a security breach. More on water system security can be found on the DNR's Water System Security webpage.

5.2.4 Cybersecurity

Cybersecurity has been become an ever-important concern in the internet technology age. Over the past few years, ransomware, malware, and other IT attacks on government agencies and the water industry have become more prevalent. The DNR maintains an Emergency Response and Security Specialist (ERSS) in its Public Water Engineering Section. The ERSS, in addition to his/her engineering duties, stays abreast of novel security, system resiliency, and cybersecurity threats to Wisconsin's public water systems. The ERSS serves as a central communication contact and liaison to both the EPA and WI's public water systems on all topics related to security. When novel local or national security breaches occur, the ERSS sends out a mass notification to the state's public water systems via Gov Delivery, DNR's mass email tool.

Moving forward, cybersecurity will continue to play a central role in overall water system security in Wisconsin. Having a cybersecurity plan in place and using safe internet practices substantially increases a water system's overall capacity.

5.2.5 Climate Change Adaptation

The DNR is committed to helping water systems across Wisconsin both plan for and adapt to climate change to ensure and maintain adequate capacity.

In 2019, Wisconsin Governor Tony Evers issued Executive Order 38 and Executive Order 52, directing state agencies to, among other things:

- assist the Office of Sustainability and Clean Energy to help the state adapt to and mitigate climate change; and

- assist the new Task Force on Climate Change in developing recommendations for addressing climate change.

Executive Order 38 also tasked the Office of Sustainability and Clean Energy with developing Wisconsin's first Clean Energy Plan, released in 2022.

In response to these executive orders, the Wisconsin Initiative on Climate Change Impacts (WICCI), led by the UW Madison Nelson Institute for Environmental Studies and the DNR, developed the following reports:

- WICCI Report to the Governor's Task Force on Climate Change: Strategies to Improve Wisconsin's Climate Resilience and Readiness (2020); and
- WICCI 2021 Assessment Report: Wisconsin's Changing Climate

These reports provide updated climate science information and potential approaches for addressing climate change impacts in Wisconsin.

The DNR is committed to making strides on climate change adaptation and to ensuring that all residents of Wisconsin have access to safe and reliable drinking water that meets all SDWA and state requirements. For more information on actions the DNR is taking and intends to take on climate change, you may visit the DNR's Climate Change webpage.

5.3 Public Water System Partnerships and Consolidation

The Department of Natural Resources promotes public water system consolidation wherever feasible, especially where public water systems might be efficiently served by a nearby, existing municipal system. This is because consolidation and water system partnerships can often alleviate the capacity challenges and obstacles that many very small water systems face.

In recent years, the DNR has supported smaller public water systems and those struggling with technical, managerial, or financial capacity in pursuing partnerships with nearby communities that may possess greater overall capacity. The DNR has further incentivized public water system partnerships by offering ten (10) additional PERF points towards Safe Drinking Water Loan Program applications for applicants with approved public water system partnerships. Partnerships can range from informal sharing of resources and staff to formal consolidation of infrastructure and distribution systems.

To obtain PERF points, public water system partnership submittals must include:

• Name of partnering communities or water systems

• Description of and information demonstrating the partnership (e.g., written agreements, contracts, staff schedule, resources shared, etc.)

• Description of who will do what under the partnership

- Explanation of how the water system partnership will increase each party's technical, managerial, and financial capacity
- Submission of a partnership executed within the past 12 months (executed between July 1st and June 30th)

DNR staff continue to encourage partnerships between water systems where possible and where mutually beneficial. Public water system partnerships will continue to be a core component of the Capacity Development Strategy moving forward.