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Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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March 7, 2022

Andrea Traviglia
Drinking Water Quality and Protection Section
USEPA- Region 1
5 Post Office Square, Suite 100
Mail Code: OEP 06-2
Boston, MA 02109-3912

Subject: Submittal of the Revised Massachusetts Capacity Development Strategy for Public Water Systems

Dear Ms. Traviglia:

Please find attached our revised Massachusetts Capacity Development Strategy for Public Water Systems. The original, submitted on December 17, 2021, has been updated to reflect feedback from your office on the section on asset management.

If you have any further questions or comments, please contact me at yvette.depeiza@mass.gov, Michael Maynard (michael.maynard@mass.gov), or Michael Celona (michael.celona@mass.gov).

Sincerely,

Yvette DePeiza
MassDEP - Drinking Water Program Director
Massachusetts Department of Environmental Protection

cc: EPA: Andrea Traviglia, Jane Downing, Kevin Reilly, Denise Springborg; MassDEP: Michael Maynard, Michael Celona
Y:DWPARCHIVE\BOSTON\EPA-Capacity-Strategy- Report and Cover Letter 3-7-22

***Massachusetts
Capacity Development Strategy
for
Public Water Systems***

**Prepared by
Drinking Water Program
Department of Environmental Protection
December 2021
Revised: March 2022**

Introduction

This report presents the results of the Massachusetts Department of Environmental Protection's Bureau of Water Resource's Drinking Water Program (MassDEP/DWP) efforts to meet the capacity development provisions of the federal Safe Drinking Water Act (SDWA). Section 1420(c)(1)(C) of the 1996 Amendments to the SDWA directs the U.S. Environmental Protection Agency (EPA) Administrator to withhold a portion of a State's annual Drinking Water State Revolving Fund (DWSRF) allotment unless the State develops a strategy to help all new and existing public water systems (PWS) achieve and maintain technical, managerial, and financial (TMF) capabilities.

Technical Capacity refers to a system's physical and operational abilities to meet standards of engineering and structural integrity necessary to serve customer needs. Technically capable water systems are constructed, operated, and maintained according to accepted quality standards.

Managerial Capacity refers to a system's administrative and organizational abilities to provide proper stewardship of the system.

Financial Capacity refers to a system's abilities to generate or obtain enough money to maintain the system and pay for future improvements.

The overall goal of the capacity development strategy is to work with PWS to prevent a lack of TMF capacity that could result in a violation of a drinking water standard, in poor drinking water quality, and/or in a public health emergency. MassDEP/DWP has been helping systems increase their capacity for years by working with our water systems and responding to their specific needs. MassDEP/DWP's capacity development strategy is based on both new and existing drinking water programs and activities that will allow the state to meet its goals.

MassDEP/DWP's strategy uses the following six components to assist PWS in achieving and maintaining capacity:

- Education- providing supporting materials such as guidelines, best management practices, and templates
- Training- providing in-person and online trainings given by MassDEP/DWP staff, partner organizations, and industry professionals. Real time education and training via website, YouTube channel, and bi-weekly emailed newsletter.
- Technical Assistance- providing one-on-one support using technical assistance providers
- Workforce Development- providing opportunities for PWS staff to increase their capabilities and engaging with new and upcoming PWS staff, with a focus on diversity and inclusion
- Financial Assistance- providing opportunities for PWS to utilize existing funding sources in addition to exploring new ones
- Enforcement- when necessary, using enforcement not only to ensure compliance but as an opportunity for increasing TMF capacity

Systems are categorized as having adequate, conditional, or inadequate capacity. These categories generally have the following meaning:

1. Adequate Capacity
 - a. Complies with all major MassDEP's drinking water regulations and is expected to comply well into the future.
 - b. Demonstrates a willingness and ability to plan for the future, including capital improvement plans, emergency funds, enterprise accounting, employee training, and updated master plans.
2. Conditional Capacity
 - a. Complies with all MassDEP's drinking water regulations but has issues that are being monitored and rectified.
 - b. Complies but may not have addressed a foreseeable major need that will have to be addressed within the next five years.
 - c. Not in compliance with drinking water regulations but has demonstrated good faith in remedying issues through an enforceable agreement such as an Administrative Consent Order (ACO) and remains in compliance with the enforcement order.
 - d. Not in compliance, but the deficiencies can and will be corrected within 12 months.
3. Inadequate Capacity
 - a. Not in compliance with drinking water regulations or cannot be expected to meet them in the future.
 - b. Does not plan ahead for future impacts (e.g., growth and aging infrastructure) which could greatly impair their ability to provide water that meets state and federal standards.
 - c. Substantial technical assistance is required in order to improve system performance.

Note: Systems with inadequate capacity are not eligible to receive DWSRF loans unless they have entered into an enforceable plan or agreement with MassDEP to correct the identified violations or significant deficiencies.

Components of the Capacity Development Strategy - New Systems

Section 1420(a) of the SDWA requires the state to ensure that all new Community Water Systems (CWS) and Non-Transient Non-Community water systems (NTNC) beginning operations after October 1st, 1999, demonstrate the capacity to comply with regulations. Massachusetts's legal authorities to implement this requirement are in statute (MGL c.111, § 5G) and regulation (310 CMR 22.00: Drinking Water).

The MassDEP drinking water regulations prohibit a new CWS or NTNC from operating before demonstrating that it has adequate technical, managerial, and financial capacity. MassDEP/DWP evaluates a system's capacity whenever necessary including during new system development, major system modifications, change in ownership, compliance and enforcement activities, training and technical assistance and grants and loans application process.

Capacity Development Strategy - New Systems

The goal of MassDEP/DWP's capacity strategy for new systems is to verify that they can maintain adequate technical, managerial, and financial capacity over the long term. MassDEP believes the best way to accomplish this is to ensure potential new water system owners understand the rules and requirements of being a public water system. MassDEP regulations (310 CMR 22.04) require all new and substantially modified PWS (including Transient Non-Community Systems or TNCs) to submit for approval a business plan that demonstrates adequate technical, managerial, and financial capacity prior to operation. The applicant must submit a business plan in a format approved by MassDEP. The plan must be submitted during initial stages of the new source/system approval process. Following this initial approval process, MassDEP regulations and guidelines require further submittals and approvals to ensure a new system will have adequate capacity. Depending on the type of system, these may include: Source Permit, Wetlands Permit, Business Plan, Construction Permit, Proof of Ownership or Ability to Control Zone 1 and 2 Land Use, Groundwater Under the Direct Influence of Surface Water Exemption Request, Distribution System Permit, Chemical Addition Permit, Operation and Maintenance Procedures, Waste Disposal Permit, Certified Operator Form, Cross Connection Plan, and an Emergency Response Plan. This Review Process ensures that all new systems have demonstrated the TMF capacity to provide a sufficient quantity of safe water in a cost-effective manner now and into the future. MassDEP's *Guidelines for Public Water Systems* at <https://www.mass.gov/service-details/guidelines-for-public-water-systems> describes the source and system approval process review and requirements.

In addition to the SDWA requirements to ensure all new Community and NTNC water systems have TMF, MassDEP/DWP is also committed to ensuring all new TNC water systems also demonstrate TMF capacity. The TNC Program staff ensure that all newly constructed TNC water systems have adequate TMF capacity by requiring the same review and approval process as Community and NTNC systems.

Components of the Capacity Development Strategy - Existing Systems

In developing a capacity development strategy for existing systems, SDWA §1420(c)(2) requires the State to consider, solicit public comment on, and include as appropriate:

- The methods or criteria that the State will use to identify and prioritize the PWSs most in need of improving TMF capacity.
- A description of the institutional, regulatory, financial, tax or legal factors at the Federal, State, or local level that encourage or impair capacity development.
- A description of how the State will use the authorities and resources of the SDWA or other means to assist PWSs in complying with National Primary Drinking Water Regulations (NPDWR), encourage the development of partnerships between PWSs to enhance the TMF capacity of the systems, and assist PWSs in the training and certification of operators.
- A description of how the State will establish a baseline and measure improvements in capacity with respect to NPDWRs and State drinking water law.
- 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 non-profit public water systems, and public water system customers).

In addition, America's Water Infrastructure Act of 2018 (AWIA) amended this section of the SDWA to include:

- A description of how the state will, as appropriate—(i) encourage development by public water systems of asset management plans that include best practices for asset management; and (ii) assist, including through the provision of technical assistance, public water systems in training operators or other relevant and appropriate persons in implementing such asset management plans.

Capacity Development Strategy - Existing Systems

MassDEP/DWP evaluates the technical, managerial, and financial capacity of all public water systems with priority given to systems with significant violations or public health problems, systems with a history of non-compliance, systems experiencing major changes in operations and systems requesting DWSRF loans. Systems are identified for assistance through the sanitary survey process, review of system data, compliance and enforcement actions and routine interactions with the systems. As a result of these evaluations and interactions, MassDEP/DWP may provide education and tools (e.g., technical assistance providers) to assist the system improve TMF capacity with the goal of compliance with federal and state drinking water requirements and MassDEP's compliance and enforcement strategy.

Lacking adequate capacity indicates to MassDEP/DWP that systems need the tools and training to help them operate in a more sustainable manner. Prioritizing systems for technical assistance is not necessary because assistance can be offered to all PWSs that request assistance. In the future, if the need for technical assistance exceeds MassDEP/DWP staff and resources, MassDEP/DWP will prioritize systems using the following factors:

1. Health-based Violations or Providing Unsafe Water
2. DWSRF Priority List Status
3. System Ownership (municipal, private non-profit, private for-profit)
4. System Type (CWS, NTNC, TNC)
5. System Size (design population)
6. Permanent Residents

In developing a description of the process for helping existing systems gain or maintain capacity, MassDEP looked at all the current systems, the factors that encourage and impair capacity, available resources, and discussed possible tools that could be developed or enhanced to help water systems achieve or increase capacity. MassDEP will continue and expand the use of all current authorities and resources to carry out an effective strategy.

Factors that Encourage or Impair Capacity Development

Significant efforts are made to encourage capacity development. These start with MassDEP/DWP's knowledge of the systems that allows it to provide specific tools and resources. These tools and resources include:

1. Training

MassDEP/DWP provides numerous in-person and virtual trainings. The trainings are given by MassDEP/DWP staff, partner organizations, technical assistance providers (TAPs), and industry providers. TAPs are individuals or organizations that MassDEP or USEPA contracts with to provide technical assistance. MassDEP/DWP-organized trainings are free, and significant efforts are made to decrease costs for PWS to attend other trainings. Many of the trainings offer training contact hours (TCHs) which licensed operators need for license renewal. PWS operators need a specific number of TCHs to renew their license (between 5-20 TCHs). MassDEP/DWP actively maintains an online calendar that lists information on scheduled trainings.

Given the time and financial constraints on PWS staff to attend trainings, MassDEP/DWP is working to develop a series of free, virtual on-demand trainings that offer TCHs. These trainings will make it easier for staff to receive training and decrease stress on PWS.

2. Technical Assistance

MassDEP/DWP provides PWS-specific technical assistance using staff and TAPs. Staff provide technical assistance during regular communication with PWS, during/after sanitary surveys, and in response to potential issues. Many MassDEP/DWP staff have years of experience working with each PWS that proves valuable when providing technical assistance.

MassDEP uses TAPs to supplement staff assistance. Sometimes PWS may feel more comfortable speaking with a non-regulator third-party. TAPs are funded through DWSRF set-asides and tend to be retired industry professionals. Utilizing TAPs also enables MassDEP/DWP to respond to emerging issues. For example, in 2021, MassDEP/DWP hired a part-time TAP to focus on cybersecurity issues in PWS.

MassDEP has used DWSRF set-asides to offer physical technical assistance, such as leak-detection services for small systems. MassDEP/DWP will examine this model to determine whether to offer similar types of assistance to small systems in the future- in particular as it relates to overall asset management.

3. Education

MassDEP/DWP provides PWS with supporting materials that include guidelines, best management practices, and templates. These materials are often developed with input from the MassDEP Safe Drinking Water Act Advisory and Assessment Committees, PWS and partner organizations, like the

Massachusetts Water Works Association and the New England Water Works Association. They are distributed electronically and posted on the MassDEP/DWP website. The materials are meant to educate the PWS about the issue in user friendly documents while decreasing any additional burden on them. This is particularly the case when new regulations or guidelines are implemented, such as the new lead and copper or PFAS standards.

4. Financial Assistance

MassDEP/DWP provides opportunities for PWS to utilize existing funding sources in addition to exploring new ones. These programs provide funds to repair or replace infrastructure, address ongoing water quality violations, protect a source of supply, or other activities to improve their TMF capacity. Existing sources of funds include:

- The Drinking Water State Revolving Fund (DWSRF). This is the primary source of assistance. Funds are available for planning and construction projects, as well as asset management planning.
- The Drinking Water Supply Protection grant. This provides monies to fund the purchase of water supply land.
- Small and Disadvantaged Community grant. This provides support to small water systems located in disadvantaged communities to address health-based water quality violations.
- The State Water Management Act grant. This provides support for PWS and communities with Water Management Act permits by providing funds for planning assistance, demand management, and withdrawal impact mitigation projects in local communities.
- The Massachusetts' Gap Energy Grant program. This program provides grants for implementing energy efficiency and clean energy generation projects at drinking water and wastewater plants.
- Massachusetts general state funds. This has provided funding for emerging and specific public water systems issues.
- The Clean Water Trust. The Trust has provided grants to support special drinking water projects, such as a PFAS point-of-use/point-of-entry study and bottled water filtration stations for schools and childcare facilities.

5. Workforce Development

MassDEP/DWP chairs the Board of Certification of Operators of Drinking Water Supply Facilities, which oversees the licensing of drinking water operators. The Board reviews and approves operator education classes and trainings and license applications. Properly trained and licensed operators are the most important part of a PWS. MassDEP/DWP plans on developing more user-friendly information for current and future operators

MassDEP/DWP works with vocational high schools, community colleges, and other educational institutions to engage and train the next generation of PWS operators and professionals. The availability of new and future operators is an ongoing issue both nationally and in Massachusetts.

MassDEP/DWP has supported internship programs where potential operators are placed at a PWS. In the future, in addition to internships, MassDEP/DWP is examining the feasibility of an apprenticeship program to further add to the pipeline of new operators.

MassDEP/DWP believes that it is not only important to focus on the number of operators but also the diversity among them. As such, MassDEP/DWP has made efforts to share information on the operator field and associated trainings with organizations that represent or engage with diverse populations. MassDEP/DWP will look for opportunities to expand upon these efforts.

6. Enforcement

Enforcement is a useful component of an overall strategy to reach compliance and when possible is used by MassDEP/DWP as an opportunity for increasing TMF capacity. Enforcement includes lower level enforcement like Notices of Non-compliance (NON) and higher level enforcement like Administrative Consent Orders (ACO).

MassDEP/DWP uses its Enforcement Targeting Tool to identify systems that are in need of specific capacity assistance. Systems that are noted as repeat violators with eleven or more points are targeted for capacity evaluation and follow-up. MassDEP/DWP enforcement efforts are guided by several factors, including the MassDEP Enforcement Response Guidance (ERG) ([Microsoft Word - ERG.DOC \(mass.gov\)](#)) and the Drinking Water Comprehensive Compliance Strategy, that is based on the ERG and includes templates, standard operation procedures and compliance flow charts.

Factors that Impair or Challenge the Ability to Maintain Adequate Capacity

Just as there are factors that encourage and enhance TMF capacity, there are factors that impair the capacity of water systems. These factors can vary by system but there are several that impact many systems. These include:

1. Aging Infrastructure

As drinking water infrastructure continues to age and degrade, public water systems will continue to struggle to be sustainable and remain in compliance with safe drinking water standards and regulations. Feeling pressure to keep user rates low, many communities have not been making the investments needed to properly maintain, repair, rehabilitate, and replace their drinking water infrastructure. Consequently, more pipes, pumps, storage tanks, and water treatment plants continue to exceed their remaining useful life. USEPA estimates that Massachusetts needs to invest more than \$12.2 billion in public drinking water infrastructure in the next twenty years to ensure the health, security, and economic well-being of our communities (Drinking Water Infrastructure Needs Surveys and Assessment, Sixth Report to Congress, March 2018). This estimated infrastructure expense does not include money for on-going operations and maintenance, expenses incurred to comply with new regulations, or expenses associated with expanding water systems.

2. Economy of Scale

Economy of scale makes cost increases per user for small systems especially challenging. The static or decreasing customer base results in higher cost increases. Many small water systems rely on part-time operators and volunteer employees with little time to consider capacity improvements. In addition to the lack of time and financial assistance, operators often struggle to get the managerial support and understanding necessary to ensure their water system is fully prepared for all the challenges it may face. The operators of TNC water systems are typically business owners who have no knowledge or experience operating or maintaining a water system. Owners/Boards' members are often unaware of the complexities of running a PWS and lack the engagement needed to develop capacity. Ancillary water systems (e.g. systems that are part of another business such as a day care, mobile home park, or condominium association) may not even recognize that they are a regulated PWS. In addition, many residents are often unaware of drinking water regulations or even who is supplying their water.

3. Regulatory Requirements

Regulatory requirements and the related administrative and reporting components can be challenging for systems to meet. The cost of compliance increases as new federal and state regulations become effective.

4. Emergency Response/Adaptation

Newer challenges are emerging that stress the ability of PWS to function and meet the requirements of the SDWA. Cybersecurity is a relatively new issue but impacts all PWS as it can involve not only treatment plant operations, but such mundane (and essential) tasks as billing and receiving payments. Cybersecurity can require a level of expertise that many PWS lack or at a minimum require significant assistance. This can be especially challenging for small systems, which may make them an easier target for cyber criminals.

Climate change is impacting weather patterns, which has implications for both the availability of water and plant operations. Droughts are expected to become more frequent. These can result in water restrictions and changes in water quality. Higher intensity storms can also impact water quality, in particular for PWS with surface water supplies. Storms can also cause power outages, damage to infrastructure, and disruptions in staffing and supply chains. All of these challenges add additional stresses on systems.

5. Staffing

The ability to hire and retain both properly licensed and a sufficient number of staff is a constant challenge for many PWS. The aging of the workforce has been a known issue for many years, and one that MassDEP/DWP and its partners have made significant efforts to address. While the number of Massachusetts operator licenses has stayed static or increased, some systems still report difficulties in hiring operators. A lack of staff adds obvious challenges to maintaining capacity.

Massachusetts' Approach

MassDEP/DWP is committed to encouraging, supporting, and taking enforcement when capacity issues result in violations to ensure TMF capacity in Massachusetts' PWS. Massachusetts uses its authority and resources of the SDWA, state law, and state regulations and guidelines to achieve this goal. While MassDEP/DWP focuses on the technical, managerial, and financial capacity of all Community and NTNC water systems, the main focus for TNC water systems is on technical and managerial capacity, as their financial capacity is often linked to the success of their business.

MassDEP supports the capacity of new PWS by requiring a number of permits and approvals that help to ensure that the PWS can succeed. All existing systems must be approved by MassDEP for substantial modifications for improvements, or expansions to the system (see policy on substantial modifications: [untitled \(mass.gov\)](#)). MassDEP/DWP reviews plans and specifications, engineering reports, and O&M manuals to ensure the water system has the technical and managerial capacity to meet all requirements. The approvals/permits issued by MassDEP include ongoing requirements that ensure the water system has the capability of providing safe drinking water to their users, as well as technical specifications the water system must continue to meet to remain in compliance.

MassDEP regulations require all water systems to be operated by a certified operator of the appropriate class. The class of operator required depends on the type of water system (Community, NTNC, TNC), degree of treatment and size of the population served. All operators are required to obtain ongoing training and education credits to ensure their continued TMF capacity. MassDEP/DWP uses DWSRF set asides to fund some of these training programs. The Operator Certification program is managed by MassDEP/DWP and one of the main goals of the program is to safeguard the technical and managerial capacity of water systems. MassDEP/DWP provides tailored trainings to interest groups and associations whose members are regulated as public water systems or are key points of contact for representatives of public water systems, such as daycares, campgrounds, and Board of Health Agents.

In order to provide PWS with as much support as possible, MassDEP/DWP provides many documents to the drinking water industry to update owners and operators on regulations and policies and to help systems plan for the future. Some of these documents include the Intended Use Plan, DWSRF Guidance Documents, SDWA, USEPA Regulations and Guidance, state regulations and guidelines, and fact sheets. MassDEP/DWP takes a hands-on approach to enable drinking water systems to better understand drinking water regulations via YouTube videos and in-person and virtual trainings.

MassDEP/DWP conducts sanitary surveys on each water system every three to five years. The sanitary survey selection process is based on a three-year cycle for community and non-transient non-community systems and a five-year cycle for transient non-community systems. As part of each survey, staff review with other MassDEP/DWP staff the system's compliance with regulatory standards; the source, construction, and operating permits; other technical assistance consultations; and source water assessments to provide the water system with guidance on how to improve operations and management.

MassDEP is cognizant of each of the water system's strengths and weaknesses. This knowledge is gained through sanitary surveys, the review of system planning documents, analytical testing, and personal contact with the system's owners and operators. MassDEP routinely reviews non-complying water systems and determines the appropriate action to take against those systems. Numerous attempts are taken to provide assistance and support. Escalating progress discipline is practiced, from lower-level enforcement to Administrative Orders, which create an enforceable order to return to compliance. These orders can include financial penalties.

Asset Management

MassDEP recognizes that Asset Management can be an effective tool in promoting a system's TMF ability to adhere to the requirements of the SDWA and provide a clean source of drinking water for the community. Asset Management is a major component of and ingrained in the operations of the MassDEP/Drinking Water Program in the following ways:

1. Sanitary Survey Process

Asset Management planning is an integral component of the MassDEP/DWP sanitary survey review. The process promotes proper asset management during the regulatory review through various means, which may result in recommendations that the PWS:

- develop an asset management plan if one does not exist;
- improve or establish existing maintenance practices to ensure the regular replacement of systems and equipment prior to failure;
- establish an inventory of existing equipment, identify the replacement costs, and initiate a budget for replacement; or
- attend trainings in asset management.

2. Asset Management Planning Grant Program

MassDEP and the Massachusetts Clean Water Trust established a grant program to assist eligible PWS with completing or updating asset management plans. MassDEP and the Clean Water Trust have made approximately \$2 million dollars available annually since 2018 and will continue this grant based on funding availability. MassDEP and the Trust took steps to streamline the process for PWS by pre-qualifying consulting engineering firms that have both the capacity and experience to complete these projects.

Grant-eligible activities include but are not limited to:

1. Asset Inventory
2. Level of Service
3. Criticality/Risk Analysis
4. Life Cycle Cost (LCC) Analysis
5. Funding Analysis

6. Asset Management Software and Training
7. Asset Management Program Plan (AMPP)
8. Asset Management Report (AMR)
9. Public Education
10. Cybersecurity Risk Assessment

For information on the Program see: <https://www.mass.gov/service-details/asset-management-planning-grant-program>

3. Education and Training

MassDEP supports education and training around asset management. MassDEP highlights educational trainings, such as for asset management, in its biweekly In The Main e-newsletter, which is distributed to operators and PWS staff throughout the state. MassDEP also maintains an online training calendar that lists external trainings, including for asset management.

MassDEP has worked with partners like the Southwest Environmental Finance Center (SEFC) and Rural Community Assistance Partnership (RCAP) to offer trainings on asset management and will continue to do so in the future. SEFC has offered trainings in MA titled “Asset Management: Next Steps, Analyzing Your Data, and Simple Mapping Techniques”, “Managing Assets to Improve Operations”, and “Asset Management and Water Loss for Small Water Systems”. See MassDEP and RCAP Excerpt list 2018-Present at the end of this document.

The Massachusetts Board of Certification of Drinking Water Operators (with MassDEP as designed Chairman) has approved over ten trainings during the period of 2020 and 2021 that address some components of asset management planning and infrastructure. The courses include: Dealing with Power Outages, Cyber Security, AWIA- American Water Infrastructure Act, Advanced Metering Infrastructure, GIS/Asset Management, Intro to Flood Resiliency and Emergency Response planning. The courses are given by a number of different partners including USDA, AWWA, EPA, New England Water Works, Cadmus and Horsely Witten Group. MassDEP relies on the subject experts to integrate the components of asset management into the trainings.

The overall goals of the MassDEP/DWP capacity development strategy are to help systems improve their current abilities by continuing to implement all existing programs and planning to and beginning to take early actions to implement foreseeable safe drinking water preventative or corrective measures. Through proactive communication and outreach, in collaboration with water systems, partners, and other stakeholders, the MassDEP/DWP will seek continue to develop innovative approaches to Asset Management and new technologies to ensure systems have the TMF capacity to demonstrate long-term sustainability

MassDEP/DWP considers this capacity strategy to be a work in progress and will periodically evaluate the strategy and adjust it to improve it based on the needs of PWS. MassDEP/DWP will continue to

solicit ideas from the water systems themselves. This will be accomplished through a capacity survey as well as one-on-one and group interactions between staff and water system representatives.

Monitoring the Results of the Capacity Development Strategy

MassDEP/DWP has identified potential information and methods that will be used to establish a baseline and measure improvements. This information provides the tools that the MassDEP/DWP needs to produce and submit a report to the Governor on the efficacy of the capacity development strategy and the progress made toward improving the capacity of PWSs in the State, including efforts to encourage development of asset management plans and assisting public water system personnel in training on implementing such asset management plans [SDWA Section 1420(c)(3)].

In 2021, the MassDEP/DWP Capacity Development Program developed and distributed an online Capacity Survey to all Community and NTNC PWS. The survey asked questions about TMF capacity, areas of needed training and assistance, current priorities, and existence of asset management plans. The survey will be reviewed and distributed every few years with the results used to monitor changes in the TMF capacity of water systems and allow the Capacity Development Program to develop targeted programs to help systems improve their TMF capacity. Over time this survey may be expanded to incorporate TNC water systems.

In addition, MassDEP/DWP may review changes in capacity on a yearly basis, which may include but not be limited to:

- 1. Compliance Data**
 - Number and type of scheduled actions resulting from sanitary surveys
 - Number of systems out of compliance with water quality monitoring and reporting requirements (e.g., systems without a licensed operator, failure to submit annual statistical reports)
- 2. Operator Certification**
 - Number of license holders
 - Number of licenses by type and grade
- 3. Other Indicators of Capacity**
 - Number of systems on "Do Not Drink" or similar orders during the year

Communication with the Public Drinking Water Community and the Public at Large

Prior to developing the updated capacity development strategy, MassDEP/DWP created a capacity survey for Community and NTNC systems. This survey asked the water systems to clarify what support they needed from MassDEP/DWP in order to improve their TMF Capacity. MassDEP/DWP utilized the

answers to this survey to create this strategy and will develop additional resources based on the responses.

MassDEP/DWP discussed aspects of the draft strategy with the Safe Drinking Water Act Advisory Committee. The Committee is comprised of agency, industry, consumer, and environmental partners and provides input and feedback on MassDEP/DWP initiatives. The Committee agreed with the need to continue to promote asset management as a component of capacity and to provide additional trainings and education to PWS to support capacity development.

MassDEP/DWP will present the capacity development strategy to interested organizations as well as the public at committee meetings, partner events, and through the MassDEP website and trainings. This strategy will be shared with USEPA. Feedback from these presentations, as well as future Capacity Surveys, will be utilized to continue to enhance the MassDEP/DWP's capacity development strategy to support the TMF capacity of Massachusetts' water systems.

MassDEP Drinking Water Program and RCAP Solutions Asset Management Drinking Water Activities 2018-Present

Projects which had an Asset Management Component:

1. Andrews Farm Water CO.-Boxford
2. Ashfield Water District
3. Bolton Country Manor
4. Chester Water District
5. Cherry Valley Water District-Leicester
6. Harvard Water Department
7. Hubbardston House Apartments
8. Millis Water Department
9. Monroe Bridge Water Department
10. Montague Fire District
11. Onset Water Department
12. Phoenix Fruit-Belchertown
13. Pine Tree Village-Carver
14. Sports haven CO-OP-Belchertown
15. Warren Water District
16. Winchendon Water Department

Trainings which had an Asset Management Component:

1. 9/18/18-Workshop in a Box-Leominster
2. 3/6/19-Workshop in a Box-3 Warren PWS Boards
3. 7/21/20-Workshop in a Box-Leicester PWS Boards & Operators
4. 7/23/20-Workshop in a Box-Statewide

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5. 8/27/20-Workshop in a Box-Chester
6. 1/6/21-Sportshaven Board-Belchertown