



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

DEC - 2 2019

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of Capacity Development Program – Related Safe Drinking Water Act Amendments in the America’s Water Infrastructure Act

FROM: Jennifer L. McLain, Director
Office of Ground Water and Drinking Water

A handwritten signature in blue ink that reads "Jennifer L. McLain".

TO: Water Division Directors
Regions I-X

The 2018 America’s Water Infrastructure Act (AWIA), Section 2012, requires state drinking water programs to consider and include as appropriate asset management into their state capacity development strategies. Consistent with this statutory change, state drinking water programs are expected to revise their capacity development strategies to include a description of how asset management will be promoted through addressing the five-core-question framework of asset management¹ explained in the attachment. State drinking water programs are expected to submit their revised capacity development strategy to their U.S. Environmental Protection Agency (EPA) regional office for approval by December 31, 2021.

This memorandum assists the EPA and states in implementing the AWIA requirements. The attachment to this memorandum describes the approaches and methods for asset management promotion and training that are consistent with the AWIA requirements. The attachment also presents important considerations that primacy agencies and public water systems should evaluate before pursuing asset management. The EPA Regions should share this information with their primacy agencies. The Office of Ground Water and Drinking Water (OGWDW) conducted outreach with states to learn more about current asset management promotion approaches and possible implementation challenges to revising capacity development strategies, and OGWDW has used the information learned to develop this memo.

Background

Technical, managerial, and financial (TMF) capacity is necessary for a water system to continuously provide safe, reliable drinking water. The Safe Drinking Water Information System (SDWIS) data (reported by the states) show that operational issues account for an increasing number of health-based violations. This is especially true for very small water systems, which can be more challenged to quickly resolve the underlying issues. TMF capacity building includes asset management planning.

¹ The five-core-question framework is a good starting point for any system; the framework walks a system through all the major activities associated with asset management. Visit: <https://nepis.epa.gov/Exec/ZyPdf.cgi?Dockey=P1000LTX.txt>

Asset management is a process for maintaining a desired level of customer service for public water systems (PWSs) to provide at the lowest life cycle cost. PWSs need asset management to address aging water infrastructure, make sound investment decisions to maximize limited financial resources, and make costs transparent to support financial decisions. With a proper plan for asset management, a PWS can improve service and reliability, reduce risk and unexpected costs, and enhance communication with customers and stakeholders while realizing many additional benefits.

The Safe Drinking Water Act's (SDWA) capacity development provisions (outlined in Section 1420 of the SDWA) provide a strategy framework for states and PWSs to work together to build capacity and meet the SDWA public health protection objectives. The AWIA amends Section 1420(c)(2) of the SDWA to expand this strategy framework to require states to include, as appropriate, a description of how the state will (i) encourage the development by PWSs of asset management plans that include best practices for asset management; and (ii) assist, including through the provisions of technical assistance, PWSs in training operators or other relevant and appropriate persons in implementing such asset management plans.

The 1996 SDWA amendments focus on capacity development through two major provisions; both of which are associated with the Drinking Water State Revolving Fund (DWSRF). The DWSRF provisions are set forth in Section 1452 of the SDWA.

- First, for states wishing to receive the full amount of DWSRF capitalization to which they are entitled, the law requires states to develop and implement capacity development programs for new and existing PWSs. Through these programs, new PWSs must demonstrate capacity, while existing PWSs must build and maintain capacity. States failing to develop and continue implementing such programs will have 20 percent of their annual DWSRF capitalization grant withheld by the EPA.
- Second, the SDWA ties a PWS's eligibility to receive assistance under the DWSRF to the system's TMF capacity. In short, the law prohibits DWSRF assistance to a system which, in the judgement of the state, lacks the TMF capacity to ensure ongoing compliance with the SDWA requirements, unless the system agrees to undertake changes in operations (including ownership, management, accounting, rates, maintenance, consolidation, alternative water supply, or other procedures) to ensure it has the necessary TMF capacity to comply with the SDWA over the long term.

Regional Role in Capacity Development Strategy Revisions

Regional drinking water programs should work with their states to review and update their capacity development strategies. Consistent with the AWIA amendment to the SDWA, state drinking water programs are expected to revise their strategies to include a description of how asset management will be promoted through addressing the five-core-question framework of asset management by December 31, 2021. Regional drinking water programs should work with their states to evaluate, in addition to the asset management revisions, the need to further revise their strategies to ensure methods for prioritization of systems in need and measurement of improvements align with the current drinking water challenges. This is also a good time to incorporate other important capacity practices into the state strategies, such as operator workforce development. Regional drinking water programs should also assist states in seeking stakeholder input on strategy revisions.

The asset management description must include how the state will use the five-core-questions framework, as appropriate, to encourage the development of, and assist in the implementation of, asset management plans. The framework is composed of the following five core questions:

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

The description may be met with a combination of approaches to address each of the questions. Section 1420(c) of the SDWA, the capacity development provision, applies to all PWSs, but states should consider which systems they will focus on. Please see the attachment for further information on the five-core-question framework and possible approaches.

There may be limited situations that do not require a revision of a state's capacity development strategy. For instance, a state may have an existing capacity development strategy or is already implementing an existing state statute and/or regulation requiring asset management that meets all of the SDWA 1420(c)(2) requirements. In these cases, the state must submit for review a memo to the EPA Region verifying that its strategy and/or the statutory requirement or regulation meets all of the SWDA 1420(c)(2) requirements.

States will also need to address asset management promotion in their triennial Governor's reports no later than September 30, 2023, and every three years thereafter. If a strategy, however, is revised prior to September 30, 2020, asset management promotion must be addressed in the 2020 Report to the Governor. Please work with your states to ensure not only that they meet the appropriate deadline, but also that the reports address the two issues mandated under Section 1420(c)(3) of the SDWA: (1) efficacy of the Capacity Development strategy and (2) progress made towards improving technical, managerial, and financial capacity of PWSs, including efforts of the state to encourage development by PWSs of asset management plans and to assist PWSs in training relevant and appropriate persons in implementing such asset management plans.

Conclusion

The AWIA requirements provide a good opportunity for the Regions to discuss proactive drinking water measures like asset management and capacity development and increase compliance with health-based drinking water standards. My office is ready to help your staff where needed. The OGWDW will continue to host regular discussions on capacity development with regional and state staff and will hold at least one informational webinar on asset management promotion in capacity development strategies for primacy agencies. If you have additional questions about this memorandum, please contact Catherine Davis, Acting Chief of the Protection Branch, at 202-564-2703 or Adrienne Harris at 202-250-8793.

Attachment

cc: Alan Roberson, ASDWA
Anita M. Thompkins, DWPD
Regional Drinking Water Branch Chiefs
Joanne Hogan, OGC

Attachment:

Updating State Capacity Development Strategies to Meet America's Water Infrastructure Act of 2018 Asset Management Requirements

Capacity Development Asset Management Requirements

America's Water Infrastructure Act of 2018 (AWIA) amended Section 1420 subsections (c)(2) and (c)(3) of the Safe Drinking Water Act (SDWA).

- Section 1420(c)(2) of the SDWA concerns the content that a state shall consider, solicit public comment on, and include as appropriate in the state's capacity development strategy. The AWIA amended this subsection to add a sixth consideration:
 - *(F) 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.*
- Section 1420(c)(3) of the SDWA concerns the content that shall be included in a report the state must submit to the Governor as well as how frequently the report shall be submitted. The AWIA amended this subsection to address the report the state submits to the Governor to read in its entirety as (new text is underlined):
 - *Not later than 2 years after the date on which a state first adopts a capacity development strategy under this subsection, and every 3 years thereafter, the head of the state agency that has primary responsibility to carry out this title in the state shall submit to the Governor a report that shall also be available to the public on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state including efforts of the state to encourage development by public water systems of asset management plans and to assist public water systems in training relevant and appropriate persons in implementing such asset management plans.*

Core Components of Asset Management

Asset management is a process for maintaining a desired level of customer service for public water systems (PWSs) to provide at the lowest life cycle cost. Lowest life cycle cost refers to the best appropriate cost for rehabilitating, repairing, or replacing an asset. Asset management is implemented through an asset management program and typically includes a written asset management plan. Additional resources are available at the EPA's Asset Management Resources for States and Small Drinking Water Systems website, visit: <https://www.epa.gov/dwcapacity/asset-management-resources-states-and-small-drinking-water-systems>.

The asset management framework, which consists of five core questions, guides PWSs through the process of developing an asset management plan. The core questions encourage PWSs to follow asset management best practices, which are designed to improve utility operations. They are a good starting point for both large and small systems. They walk PWSs through all major activities that are associated

with asset management and implementation can be tailored to the system. There are five core questions of an asset management framework. Review the questions and supporting information below.

1. What is the current state of the utility’s assets?

Having an asset inventory with information about the current state of a PWS’s assets is an essential step because it is not possible to manage assets until PWSs know where the assets are, how many they have, and which ones would be considered critical to the system’s operation. Under this core question, PWSs generate or review and update an asset inventory. Under this core question, PWSs also determine the current state of their assets.

A state should consider the following approaches in promoting asset management planning: asset inventory tools, system mapping, asset management software, or asset management requirements. This list is not exhaustive, and states should consider other approaches if needed.

2. What is the utility’s required “sustainable” level-of-service?

The required sustainable level-of-service is the utility’s short- and long-term performance standards that take into account the customers’ expectations. Level-of-service goals help systems to focus their efforts and resources on mutually-agreed-upon service levels. Under this core question, PWSs use quality, quantity, reliability, and environmental standards as elements to help define level-of-service and associated system performance goals.

A state should consider the following approaches in promoting asset management planning: training for setting level-of-service goals, customer service training, asset management software, or asset management plan requirements. This list is not exhaustive, and states should consider other approaches if needed.

3. Which assets are critical to sustained performance?

A PWS’s asset management program acknowledges the assets that are most critical, helps the system prioritize resource expenditures and implement a maintenance schedule. Under this core question, the PWS conducts a criticality analysis, during which they look at the importance of each asset and think about what the consequences would be if the asset failed tomorrow.

A state should consider the following approaches in promoting asset management planning: asset inventory tools, identifying high risk assets planning, asset management software, or asset management plan requirements. This list is not exhaustive, and states should consider other approaches if needed.

4. What are the utility’s best “minimum life-cycle cost” capital improvement plan and operations and maintenance strategies?

Capital improvement plans (CIPs), operations and maintenance (O&M), and personnel expenditures account for approximately 85 percent of a typical system’s expenses. Asset management enables a system to determine the lowest life-cycle cost options for providing the highest level-of-service over time. Asset management programs help PWSs to make risk-based decisions by choosing the right project at the right time for the right reasons. Under this core question, PWSs determine their best O&M strategies by scheduling and tracking maintenance tasks through work orders, and by managing budgeted and actual annual expenses and revenue. Under this core question, PWSs also use CIPs to plan larger-scale asset development by determining when assets will be replaced and the cost of replacing

them. The five stages of the CIP process are project identification, preliminary feasibility design, detailed design process, construction, and commissioning.

A state should consider the following approaches in promoting asset management planning: capital improvement planning, computerized maintenance management systems, including O&M questions in sanitary surveys, preventative maintenance, or asset management plan requirements. This list is not exhaustive, and states should consider other approaches if needed.

5. What is the utility’s best long-term financing strategy?

Knowing the full economic costs of services provided is critical for making sound financial decisions and devising a long-term financing strategy to provide services at the best appropriate cost. That knowledge is also critical for developing an effective long-term funding strategy. Having this information in an asset management plan will help tell the “story” and communicate information to decision makers and customers. Under this core question, PWSs consider their budget on capital expenditures, infrastructure, as well as operating expenditures. Under this core question, PWSs also review their rates and rate structure to ensure they are charging customers appropriately and make adjustments as necessary.

A state should consider the following approaches in promoting asset management planning: rate setting dashboards or asset management plan requirements. This list is not exhaustive, and states should consider other approaches if needed.

Incorporating Asset Management into your State Capacity Development Strategy

Many states are already undertaking initiatives that promote asset management through their capacity development strategy and through the provision of technical assistance to develop and implement asset management plans. The 2018 State Asset Management Initiatives document, which provides information about many state programs and is available at: <https://www.epa.gov/dwcapacity/2018-state-asset-management-initiatives-document>, may be helpful to some states in considering opportunities to develop or expand their programs to promote asset management. Some states will need to update their state’s capacity development strategy to meet the AWIA asset management requirements. States can use the following questions to start preparing to incorporate asset management into their existing state capacity development strategies:

1. Explain your state’s current asset management approach.

- a. How do you promote the use of asset management?
- b. How does your approach encourage PWSs to develop asset management plans?
- c. What assistance is available to PWSs to develop or implement asset management plans?

- d. Is asset management currently addressed in your Report to the Governor?
- e. List and describe all the activities that your state implements to promote asset management? (training, enforcement orders, etc.)

2. Does your state’s asset management approach and capacity development strategy meet the AWIA requirements?

Yes No

3. If no, discuss how your state will amend its capacity development strategy to meet the asset management requirements of AWIA.

4. Describe your stakeholder involvement process and anticipated timeline to complete this process.

- a. What does your state’s stakeholder involvement look like? (e.g., advisory group meetings)
- b. What is your anticipated timeline to complete the stakeholder process?

5. Explain any barriers to implementation and how your state will address these barriers.

- a. Has your state identified any barriers to adopting activities to support asset management that will help your state address the AWIA requirements?

Yes No

- b. If yes, what are they and what can be done to address them?

6. Summarize how implementing the new asset management requirements under AWIA enhance your state’s asset management and capacity development programs.

- a. How will these activities enhance the implementation of the state’s capacity development program?

- b. How will these activities enhance the implementation of the state's asset management program?