



Capacity Development Strategy

Improving the Technical, Managerial, and Financial Capability
of Public Water Systems in Kentucky

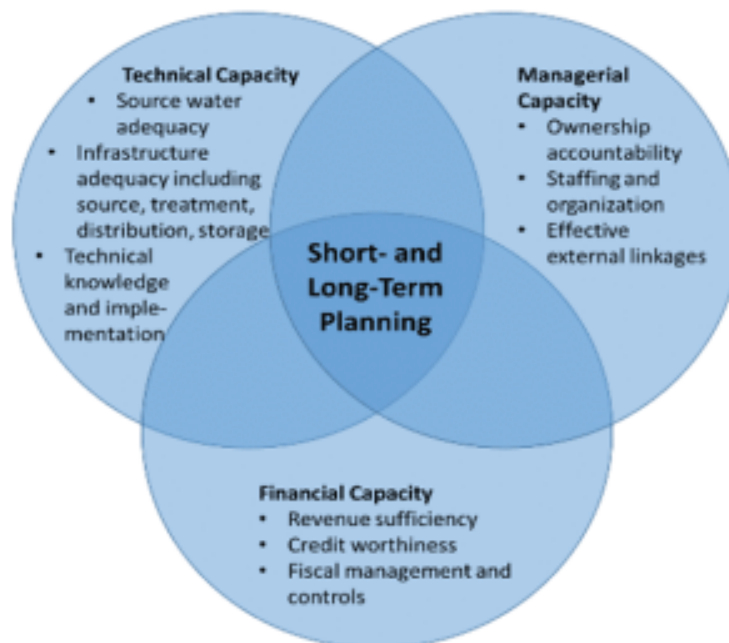
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I. Executive Summary

Safe, reliable, and affordable drinking water is fundamental to the protection of public health. Many public water systems (PWS) in Kentucky face an array of challenges in meeting safe drinking water standards. Capacity Development is a process for PWSs to acquire and maintain adequate technical, managerial, and financial (TMF) capacity for operation. TMF capacity enables water systems to consistently provide safe drinking water to the public. Every state has developed a Capacity Development Program to help PWS build TMF capacity. These efforts contribute to protecting public health by engaging local officials, wholesale water users, and consumers to support their water systems by making long-term investments in sustainable communities.



The 1996 Safe Drinking Water Act (SDWA) Amendments created a number of specific requirements and programs designed to assist in developing small drinking water system capacity. Capacity development is a state-led effort to help PWS improve their finances, management, infrastructure, and operations so they can provide safe drinking water consistently, reliably, and cost-effectively. More specifically, the capacity development provisions provide a flexible framework within which states and water systems can work together to ensure that systems acquire and maintain the TMF capacity to consistently achieve the health objectives of the 1996 SDWA.

The Capacity Development and Drinking Water State Revolving Fund (DWSRF) programs are intended to be interrelated components of the 1996 SDWA Amendments. In order to receive the full benefit of the DWSRF, states must develop, seek public comment on, and implement a “strategy to assist PWS to comply with SDWA requirements. [SDWA Section 1420(c)]. In response to these requirements, the Kentucky General Assembly passed House Bill 598 (now

Kentucky Revised Statute (KRS) 151.630 - 151.636, which gave the Energy and Environment Cabinet (EEC) the authority to administer a capacity development program for PWS.

The Infrastructure Investment and Jobs Act (also known as the Bipartisan Infrastructure Law – BIL), signed into law in November 2021, provides additional funds for lead-related projects, emerging contaminants – perfluoroalkyl and polyfluoroalkyl substances (PFAS) in particular – and a range of other projects. The BIL provides \$50 billion for investment in the nation’s water and wastewater infrastructure. A significant amount of these funds will flow through the Clean Water and Drinking Water State Revolving Fund (SRF) programs, which are federal-state partnerships that provide eligible borrowers with low-cost financing for a wide range of water infrastructure projects. In Kentucky, the Clean Water and Drinking Water SRF programs are co-administered by the Kentucky Infrastructure Authority (KIA) and the Division of Water (DOW).

This strategy outlines efforts EEC will employ to identify and prioritize PWS most in need of improving TMF capacity; describe factors that encourage and impair PWS capacity development; describe of how EEC will use the authority and resources of the SDWA to assist PWS in complying with drinking water regulations through the development of partnerships, training, and certification of operators; describe how the EEC will establish a baseline and measure improvements in PWS capacity; identify persons with interest in, and involved in, the development and implementation of the capacity development strategy; and, describe how the state will encourage PWS to develop asset management plans through training and technical assistance.

II. Introduction

In order to receive the full benefits of DWSRF financing for PWS infrastructure improvements, SDWA Section 1420 requires states to establish a Capacity Development Program to ensure PWSs have the TMF ability to operate a PWS in compliance with the federal SDWA. Each state’s capacity program must contain the following elements:

- States must have the legal authority to demonstrate that all new community and non-community have the TMF capacity to operate a PWS in compliance with the federal SDWA.
- States must establish a strategy to assist existing PWS in acquiring and maintaining the capacity to comply with SDWA requirements.

In response to these provisions, the Kentucky legislature has given EEC authority to implement a system capacity program consistent with the federal law via KRS 151.630 - 151.636. The EEC’s DOW is responsible for the capacity assurance program, which includes developing, and implementing a strategy to assist PWS in acquiring and maintaining technical, financial, and managerial system capacity to operate in compliance with the federal Safe Drinking Water Act. Consequently, regulations promulgated in Section 401 of the Kentucky Administrative Regulations (KAR) Chapter 8:100 outline the procedures that an applicant must follow for obtaining approval to construct a water system. These regulations require that before a supplier or potential supplier of water may enter into a financial commitment for or initiate construction of a new public water system,

or increase the capacity of an existing public water system, the preliminary plans must be submitted to the cabinet for review. The review process ensures that PWS are fully engaged with DOW so that best practices may be identified to support sustainable operations.

The EEC's Public Service Commission (PSC) issues Certificates of Convenience and Necessity (CCNs) to new water utilities (i.e. a water system that is not owned by a city) that demonstrate sufficient TMF capacity.

Control Points to Ensure PWS TWF Capacity:

A) Plans Approval

Before entering a financial commitment or beginning construction, all new or existing PWSs must submit preliminary plans to DOW in accordance with Kentucky's regulatory requirements. The following information is required to demonstrate TMF capacity:

Technical Capacity:

- The name of the owner and the location of the proposed facility.
- The proposed source of water, quantity available, and the specific location of the intake or wellhead.
- A certified laboratory's analysis of the water from the proposed source.
- An operation plan, including anticipated load, hours of operation, area served, and the name of the plant operator.

Managerial Capacity:

- An estimate of the annual cost to operate the system, and an estimate of annual treatment and monitoring costs to comply with the SDWA.
- A description of the proposed day-to-day O & M.
- An explanation of the water system's management structure.

Financial Capacity:

- The rates the system intends to charge, or, if the system is not charging rates, how the system intends to raise sufficient revenue to operate the system.
- Identification of the cost and financing of the project.
- A list of outstanding debts and obligations the PWS may have at completion of the project.
- The median household income of the area to be served.

DOW may also request that the system submit further information relating to the management or financing of the system, including a business plan. DOW staff reviews the preliminary plans to ensure that systems are in compliance with DOW's Recommended Standards and General Design Criteria, which are incorporated by reference into §401 KAR 8:100. Before construction, the water system must also

submit final plans and specifications. A professional engineer must certify the final plans.

If DOW finds that the system lacks technical, managerial, or financial capacity during either the preliminary or final plan review, DOW will not issue a permit for the system to begin construction. DOW instructs PWSs that lack capacity to cooperate with the appropriate Area Development District (ADD) water supply planning council to develop and incorporate a capacity development strategy into the county water supply plan.

B) Certificate of Convenience and Necessity

- New systems that are not owned by a municipality are required to apply for a certification from the PSC prior to construction. Approval from the PSC is also required for acquisition or transfer of ownership of a utility in the PSC's jurisdiction. The Commission grants approval for acquisition only if the person acquiring the utility has the "financial, technical, and managerial abilities to provide reasonable service." Without certification from the PSC, public utilities cannot begin construction or commence providing services.

C) DOW Capacity Development Program

America's Water Infrastructure Act (AWIA) of 2018 amended the SDWA to include provisions for states implementing a Capacity Development Strategy to:

- Describe how the state will encourage the development of asset management plans, including best management practices, by PWS; and, to assist PWS in training operators and appropriate persons in implementing asset management programs.

The DOW Capacity Development program identifies challenges facing PWS and connects them with resources, training, and funding opportunities to ensure their resiliency and sustainability to provide safe, reliable drinking water. EEC consistently seeks public comment on six (6) main elements that must be considered in the development of the Commonwealth's Drinking Water Capacity Development Strategy. Those six main elements are:

- 1) The methods or criteria used to identify and prioritize the PWS most in need of improving technical, managerial, and financial capacity.
- 2) A description of the institutional, regulatory, financial, tax or legal factors at the federal, state, or local level that encourage or impede capacity development.
- 3) A description of how the authority and resources of the SDWA will be used to assist PWS in complying with drinking water regulations by encouraging the development of partnerships between PWS to enhance the technical, managerial, and financial capacity of the systems and to assist PWS in the training and certification of operators.
- 4) A description of the baseline and measured improvements in PWS capacity that complies with SDWA requirements.

- 5) An identification of stakeholders involved in the development and implementation of the capacity development strategy at all appropriate agencies of federal, state and local governments, private and nonprofit entities, PWS, and PWS customers).
- 6) A description of how the state will encourage development of asset management plans by PWS that include best practices to assist PWS in training operators or other relevant and appropriate persons, including through the provision of technical assistance

Kentucky has an active Drinking Water and Clean Water Advisory Workgroup (DW/CWAW) that includes a diverse group of public utility stakeholders. DWAW meetings are open to the public and the public can serve on committees of the Council. DWAW developed a Capacity Development Strategy subcommittee that involved individuals interested in the Capacity Development Strategy and its implementation. Subcommittee members provided input on capacity development assessment criteria and strategy implementation. This document outlines the Strategy that the EEC will utilize to encourage the development of asset management planning to improve the TMF capacity of PWS in Kentucky.

III. Capacity Development Strategy

1. **The methods or criteria the EEC will use to identify and prioritize the PWS most in need of improving technical, managerial, and financial capacity.**

Method for Determining Capacity

Kentucky utilizes the drinking water sanitary survey (“the survey”) as its primary method to assess the TMF capability of PWS to produce safe and reliable drinking water. In accordance with federal regulations, surveys are conducted every three years at community water systems and every five years at non-community water systems. The survey provides a snapshot of the operating status of a PWS by evaluating eight essential elements:

- 1) source water;
- 2) water treatment;
- 3) distribution system;
- 4) finished water storage;
- 5) pumps, pumping facilities, and controls;
- 6) monitoring, reporting, and data verification;
- 7) water system management and operation; and
- 8) operator compliance.

Criteria for Determining Capacity

Prior to implementing the Capacity Development Strategy, EEC requested that the DWAW provide feedback in developing benchmark criteria and best management practices (BMP) for PWS TMF capacity. The EEC also sought public comment for the benchmark criteria, which was incorporated into the survey assessment. The following criteria will be used to establish baseline

TMF capacity for all PWS. Data collected in subsequent sanitary surveys will be analyzed to measure improvements in PWS TMF capacity and compared to baseline data.

Technical Benchmark Criteria

- **Source Water:** Unaddressed factors that limit capacity or quality of the raw water source or the amount of the contracted purchases.
- **Treatment Processes:** Unresolved Notices of Violations.
- **Pumping and Distribution Systems:** Capacity of pumping facilities during peak demand, meeting minimum pressure requirements, having a written cross-connection control program, and maintaining proper chlorine or chloramine residuals in the distribution system.
- **Operator Certification:** Adequately certified operators.
- **Management and Operations:** Maintaining operations and maintenance manuals in accordance with regulations.
- **Monitoring and Reporting:** Retaining compliance records for the required retention timeframes, maintaining approved sampling plans; obtaining approved water quality monitoring schedule and conducting sampling according to plan; Unresolved monitoring & reporting violations since the last survey.

Managerial Critical Criteria

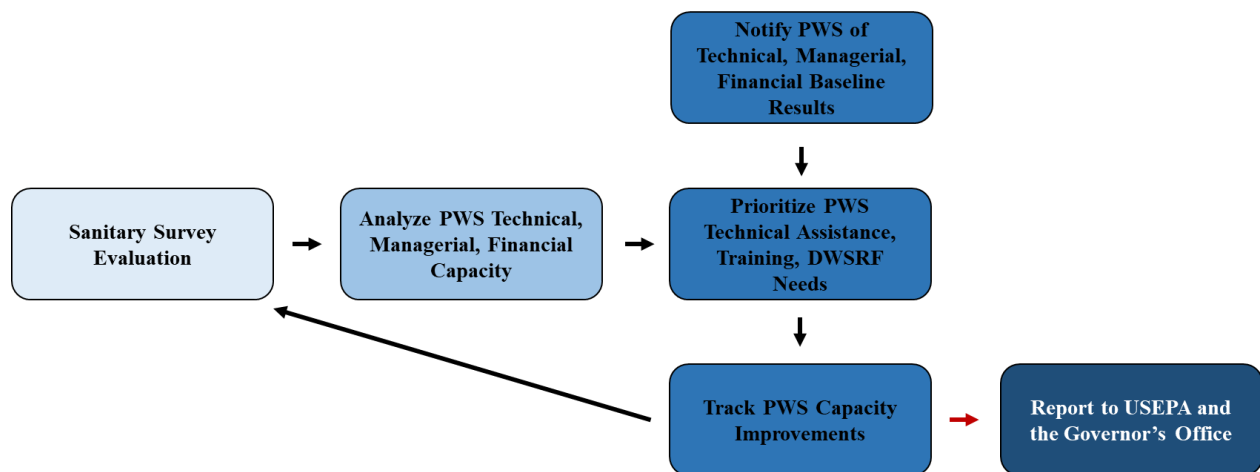
- **Administrative:** Having a defined organizational structure with the following:
 - written job descriptions;
 - a written policy for procurement of supplies and professional services;
 - documented policies and procedures governing human resource management.
- **Planning:** Developed and implementing:
 - an asset management plan according to EPA best management practices;
 - updated water shortage plans;
 - a capital improvement plan;
 - a preventive maintenance plan; and
 - an updated emergency response plan and exercising the plan regularly.
- **Operations:** Maintaining the following:
 - Calculating and addressing water loss;
 - maintaining an updated distribution map;
 - having a formal flushing program;
 - maintaining procedures for issuing boil water advisories and notices;
 - prohibiting new connections where pressure is below 30 psi; and
 - maintaining records of water main failures.
- **Customer Service:** System maintains:
 - established business hours;
 - a written policy governing water main extensions;
 - rules governing provisions of service that are available to the public; tracking customer complaints and resolutions; making rules, rates, and regulations available to the public.

Financial Critical Criteria

- **Planning:** Preparing an annual operating budget including annual capital expenses;
 - having an established, approved rate structure;
 - an annual operating and capital budget that are reviewed by the governing board;
 - a budget approved by the governing entity;
 - determining if income was greater than expenses for the last fiscal year;
 - building long-term needs into rate increases.
- **Reporting:** Maintaining the following:
 - records using the Kentucky Uniform System of Accounting (or equivalent);
 - developing regular reports that include an evaluation of budgeted amounts vs. actual revenue and expenses and a method for depreciation; and
 - having formal written financial procedures.
- **Performance:** Meeting the following criteria:
 - a debt service coverage ratio sufficient for bond ordinances, loan agreements, and bond requirements;
 - Maintaining the current debt-to-equity ratio below 1.0;
 - remaining current on debt service payments and meeting a reserve account requirement; and
 - determining whether income was greater than expenses for the previous fiscal year.
- **Controls:**
 - Audits of financial statements performed by a CPA; and
 - audits reviewed accepted by governing board.

Figure 1 demonstrates the general process for survey data collection, data analysis, prioritization of assistance, tracking improvements, and reporting. Baseline data on the TMF capacity of PWS are established during this process. Data from subsequent surveys will be used to prioritize and track improvements of PWS.

Figure 1. General process for the technical, managerial, and financial evaluation of PWS.



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

Federal Factors that Encourage or Impede Capacity Development

The SDWA was established to protect present and potential future surface and groundwater drinking water sources. The SDWA authorizes EPA to establish minimum standards to protect finished water and requires all owners or operators of PWS to comply with these primary (health-based) standards. Along with routine revisions of federal drinking water standards such as those related to disinfection by-products and lead and copper, the 1996 SDWA amendments included provisions which established the DWSRF, capacity development, source water assessment programs, enforcement, and violation notification requirements for state primacy agencies. The 2018 AWIA includes an assessment of risk and resiliency for community water systems with populations greater than 3,300, emergency planning, and asset management planning. Listed below are high-level federal factors encouraging or impeding the capacity development of PWS.

Factors that encourage capacity development:

- Establishment of primary drinking water standards for PWS.
- Provisions for states to establish primary enforcement responsibility of the SDWA.
- Appropriation of capitalization grants to provide funding for the DWSRF and “set-asides” for state programs to provide training and technical assistance to PWS.
- Development of best management practices for asset management plans.
- Establishment of a source water and ground water assessment program.
- BIL investment of for fiscal years 2023 through 2026 to address critical drinking water infrastructure needs including lead-related projects, PFAS, emerging contaminants, and other eligible projects, through the DWSRF.

Factors that impede capacity development:

- Lack of regulations pertaining to the financial capacity of PWS.
- Lack of regulations requiring PWS to develop and implement asset management plans.
- Lack of regulations that encourage PWS consolidation and regionalization.
- Complexity of SDWA rule implementation and simultaneous compliance for PWS.

State Factors that Encourage or Impede Capacity Development

In 2000, the Kentucky General Assembly passed Senate Bill 409 (KRS 151.630-636), creating a structured planning process for water services throughout the state with the goal of making potable water available to all Kentucky residents. Kentucky went from regulating more than 2,100 PWS and treatment plants in the 1970s, to approximately 435 total PWS serving more than 95% of the state’s population in 2020. Combined with DWSRF infrastructure financing, training, and technical assistance, this drastically improved the TMF capacity of many PWS in the Commonwealth. Despite these improvements, some PWS still have difficulties with management, finances, and compliance with the SDWA. Below are state factors that encourage or impede the capacity development of PWS.

Factors that encourage capacity development:

- Availability of DWSRF financing for water infrastructure, including additional funding from the Kentucky Cleaner Water Program and BIL-related SRF programs.
- Establishment of the DWAW. Membership includes public utility stakeholders and is intended to be a means to discuss and address issues that may affect PWS, consumers and the regulated community.
- Implementation of the Capacity Development Program to assess, prioritize, and improve the TMF capacity of PWS.
- Development of partnerships with state and non-profit organizations such as the Kentucky Rural Water Association (KRWA), Rural Community Assistance Partnership (RCAP), Kentucky Water and Wastewater Operator Association (KWWOA), University of Kentucky Water Resources Research Institute (KWRRI), and Area Development Districts (ADDs), to provide training and technical assistance to PWS.
- Implementation of the drinking water operator certification program (Kentucky Revised Statute (KRS) 224.10 – 100, KRS 223.160 – 220; 401 KAR Chapter 11).
- Utilization of DWSRF set-aside funds for targeted technical assistance at PWS.
- Additional prioritization points for utilities seeking DWSRF loans for systems implementing an asset management program.
- Mandatory training for new water district commissioners.

Factors that impede capacity development:

- Lack of regulatory authority requiring PWS implement asset management planning.
- Lack of regulatory authority to address water loss (unaccounted for and/or non-revenue water) for all PWS, apart from systems regulated by the PSC.
- Challenges maintaining and promoting programmatic and financial resources.
- Training for utility decision makers is only mandated for water district commissioners.
- Clear, consistent communication with PWS leadership and staff.

Local Factors that Encourage or Impede Capacity Development

While Kentucky retains primacy to regulate PWS, internal analysis of the resiliency and sustainability of PWS in Kentucky indicates many face challenges with aging infrastructure, operator workforce, and future planning. Below are high-level factors that encourage or impede capacity development of PWS at the local level.

Factors that encourage capacity development:

- Dedicated operators to produce safe and reliable drinking water.
- Availability of DWSRF financing for water infrastructure.
- Availability of training and technical assistance provided by the EEC and partner organizations with an interest in improving the TMF capacity of PWS.

- Development and continuing utilization of ADDs Water Management Councils and KIA Water Resource Information System (WRIS).
- Collaboration of water system professionals with the EEC through the DWA.
- PSC training requirements for Water District Board of Directors members and managers to assist in overall technical, managerial, and financial, knowledge of personnel involved in the oversight of many of the small, rural water utilities.
- PSC focus on improving water loss and main replacement efforts in PSC-regulated water utilities.

Factors that impede capacity development:

- Insufficient strategic and system planning processes.
- Insufficient implementation of asset management.
- Lack of understanding and political will of local decision makers to the degree of which water rates impact the financial viability of PWS.
- Insufficient financial tracking and/or planning to replace aging infrastructure.
- Insufficient means to maintain qualified drinking water operators.
- Lack of a consistent means to track water loss.
- Insufficient funding for professional services.
- Insufficient communication among utility decision-makers, staff, and the public.
- Lack of authority to require management and decision-makers of all PWS to regularly attend training on the technical, managerial, and financial operation of a water utility.
- Complexity, comprehension, and compliance with SDWA regulations.
- Electoral succession of local leadership.

3. A description of how the EEC will use the authority and resources of the SDWA or other means, to assist PWS in complying with drinking water regulations; encourage the development of partnerships between PWS to enhance the technical, managerial, and financial capacity of the systems; and assist PWS in the training and certification of operators.

The EEC utilizes the drinking water sanitary survey as the primary means for assessing water system TMF capacity at community water systems and non-community water systems in accordance with the SDWA. The survey evaluates eight essential elements: source water; water treatment; distribution system; finished water storage; pumps, pumping facilities, and controls; monitoring, reporting, and data verification; water system management and operation; and operator compliance. The survey provides a snapshot of the operating status of a PWS.

The survey includes benchmark questions to determine the TMF capacity of PWS. Determining PWS capacity is critical because it can affect its eligibility for a DWSRF loan; a PWS that is not working towards building its TMF capacity is ineligible. Capacity data is utilized to categorize and prioritize training and technical assistance provided to PWS by the ECC and other entities. The EEC has developed a method that utilizes a collector application to more efficiently store, extract, and track capacity data for analysis and reports. Based on this data, PWS with

greater needs will be prioritized for training, technical, and financial assistance through the DWSRF loan program.

Based on analysis of benchmark TMF data from the survey, EEC personnel will coordinate with PWS to match their needs with targeted training, technical assistance, and financial opportunities necessary to develop TMF capacity. The EEC can independently provide operator training and technical assistance to optimize treatment and distribution systems compliance, build project profiles for potential funding via the DWSRF, and for source water assessments. The EEC can also link PWS with partner organizations to provide training and technical assistance based on identified needs, including building asset management plans, optimizing water treatment and distribution, using financial software, and training opportunities.

The EEC implemented new regulations governing operator certification in January 2020, which expands substitution of education credit and apprenticeships towards experience, broadens Operator in Training responsibilities, and increases the scope for reciprocity, and equivalency requirements of operators seeking to attain a license in Kentucky. In addition to new regulations, all operator certification courses are provided online to operators at no charge, upon approval by EEC.

The EEC has identified and established partnerships with stakeholders that have an interest in improving PWS capacity through training, technical, and financial assistance. A list of these stakeholders is located in Section 5 of this strategy.

The EEC uses a formula to set priorities for funding proposed projects and KIA provides administration for the loans. The priority formula encourages systems to achieve economies of scale through mergers and regionalization, obtaining adequate quantities of water, and upgrading treatment facilities.

The EEC uses the Enforcement Response Policy, developed by the United States Environmental Protection Agency (USEPA), to identify PWS exhibiting significant health-based violations or violations across multiple rules. The Enforcement Targeting Tool (ETT) prioritizes and directs enforcement responses to PWS with the most systemic non-compliance (i.e., “priority” systems), and focuses on returning the system to compliance. The ETT assigns points to specific violations in the following tiers:

- Acute health-based violations 10 points
- Chronic health-based violations 5 points
- Monitoring and reporting violations 1 point

Any PWS that accumulates an ETT score of 11 points or more must return to compliance or receive a referral for formal enforcement action to ensure timely and appropriate action.

In 1996, the national DWSRF program was established to provide grants to states to achieve health protection objectives of the SDWA. The USEPA implements the national DWSRF program and provides a high degree of flexibility for states to operate their programs in according to unique needs and circumstances. Kentucky’s DWSRF program is designed in a manner to

provide low-interest loans for infrastructure projects that are considered a priority based on public health criteria outlined in the SDWA. Infrastructure project profiles are submitted during an annual Call for Projects, project profiles are then prioritized based on public health criteria, and an Intended Use Plan is developed with a prioritized list of infrastructure projects and details how the DWSRF will be dispersed.

The DWSRF program provides funding for investments in regionalization, rehabilitating and constructing water and sewer treatment facilities, replacing inadequate and aging lines and tanks, and extending services to unserved and underserved communities. The BIL expands DWSRF-eligible infrastructure projects to include those that address emerging contaminants such as PFAS, completing an inventory of drinking water service lines, and lead service line replacement. A key priority of BIL is to ensure that disadvantaged communities benefit fairly and equally from this generational investment in water infrastructure. A committee from Kentucky's Drinking Water Advisory Workgroup, consisting of regulators, stakeholders, and water system personnel, updated the public health criteria used to prioritize infrastructure projects funded by the DWSRF to align with new priorities in BIL. Kentucky began using these new criteria beginning with the state fiscal year 2023 Call for Projects.

4. A description of how the EEC will establish a baseline and measure improvements in capacity to comply with drinking water law and regulations.

The EEC has successfully implemented the Capacity Development Program since its inception in 2000. The Strategy was amended in 2008 for improvements to data collection and analysis, which was accepted by USEPA. Criteria determining PWS TMF capacity have been updated in this strategy and are listed in Section III. These criteria are assessed during the sanitary survey and will be used to establish a TMF capacity baseline for all PWS. Data collected during subsequent sanitary surveys will be analyzed against baseline data to measure future capacity improvements. Water systems will be notified of baseline capacity and improvements via letter after completion of a sanitary survey. Capacity data will be evaluated annually to establish priorities for PWS training and technical assistance, and to generate an annual report for the USEPA, and a Triennial Report to the Governor of Kentucky.

EEC personnel will utilize a variety of methods to track TMF improvements, measured from baseline criteria established by this strategy, including:

- A digital collector application and database to track responses from survey assessments to determine specific improvements and deficiencies
- Annual inspections to determine compliance with state and federal regulations
- Evaluation of compliance data from the Safe Drinking Water Information System (SDWIS) to determine areas of recurring violations
- ETT and enforcement proceedings will be employed to schedule and track progress of significant non-compliers

The purpose of these tracking methods is to enhance PWS compliance, resiliency, and sustainability by targeting specific training, technical assistance, and financing to improve capacity based upon SDWA violations and targeted needs of PWS.

5. An identification of the persons with an interest in and involved in the development and implementation of the capacity development strategy (including all appropriate agencies of federal, state, and local governments, private and nonprofit PWS and PWS customers).

All PWS in Kentucky and their existing and potential consumers have an interest in the capacity development strategy. In addition, PWS and their existing and potential consumers in states bordering Kentucky have an interest in the capacity development strategy since they may provide or purchase from water systems in Kentucky.

The following state and federal agencies have an interest in the capacity development strategy:

- Kentucky Energy and Environment Cabinet
- Kentucky Cabinet for Families and Health Services
- Kentucky Department for Local Government
- Kentucky Economic Development Cabinet
- Kentucky Infrastructure Authority
- Kentucky Public Service Commission
- Kentucky Rural Community Assistance Partnership
- U. S. Environmental Protection Agency
- U. S. Department of Agriculture, Rural Development
- U. S. Economic Development Administration
- U. S. Housing and Urban Development (HUD) – Community Development Block Grant Program
- Federal Emergency Management Agency (FEMA) Disaster Recovery and Hazard Mitigation Assistance Programs

The following programs within the EEC have an interest in building PWS TMF capacity:

- Wellhead Protection Program
- Source Water Assessment and Protection Program
- Water Withdrawal Permitting Program
- Operator Certification Program
- Drinking Water Technical Assistance Program
- Drinking Water Laboratory Certification Program
- Abandoned Mine Lands Program
- Drinking Water Advisory Council

The following organizations, associations or groups may have an interest in building PWS TMF capacity:

- Kentucky Area Development Districts (ADDs)
- All city governments

- All county governments
- All water districts
- All water associations
- Kentucky Association of Counties
- Kentucky League of Cities
- Kentucky Association of Counties
- Kentucky League of Cities
- Appalachian Regional Commission
- American Council of Engineering Companies of Kentucky
- Consulting engineers
- Certified laboratories
- Kentucky Municipal Water and Wastewater Association
- Kentucky Rural Water Association
- Kentucky/Tennessee Section of American Water Works Association
- Kentucky Water and Wastewater Operator's Association Public Service Commission
- Kentucky Rural Community Assistance Partnership
- Kentucky Water and Wastewater Operators Association
- American Water Works Association
- UK-Kentucky Water Resources Research Institute

The EEC charged a committee of the DWA, with an interest in PWS capacity development, to assist in updating the Strategy. The committee consisted of EEC personnel from the Division of Water and Public Service Commission, individuals from regulated water systems, the Kentucky Infrastructure Authority, Rural Community Assistance Partnership, Kentucky Rural Water Association, University of Kentucky's Water Resources Research Institute, Kentucky/Tennessee American Water Works Association, Kentucky Area Development Districts, consulting engineers, and other stakeholders not represented by an agency or organization. The committee convened 15 times from 2017 through 2021, both in-person and virtually, to provide input on:

- Current factors encouraging and impairing PWS capacity development;
- Update the TMF criteria used to evaluate PWS capacity,
- Discuss data collection and management,
- Incorporate requirements from AWIA 2018,
- Make improvements to the PWS notification process, and
- Identify additional organizations that may assist in improving PWS capacity.

This Strategy was developed based on input from a committee of the DWA consisting of water system managers and personnel, drinking water stakeholder organizations including RCAP, KRWA, AWWA, the University of Kentucky, and regulatory agencies. The committee presented the Strategy to the Division of Water for approval during the DWA meeting on January 12, 2022. All DWA meetings are open to the public and a public announcement of meetings are made prior to the DWA meeting date.

After the DWA meetings, the Strategy was placed on the Division of Waters public notice webpage for a comment period of 30 days, beginning on January 13, 2022. A blog was also

posted on the Department's public blog page announcing the updated Strategy as well as the public comment period. No public comments were received and the Director of the Division of Water approved the Strategy prior to its submittal to USEPA.

6. **A description of how the EEC will encourage development of PWS asset management plans that include best practices for asset management; and assist, through training and technical assistance, implementing such asset management plans.**

Assessment and Analysis of PWS Asset Management Planning

Asset management is a documented plan to maintain a desired level of service at the lowest life cycle cost for rehabilitating, repairing, or replacing infrastructure.

The sanitary survey is the primary means for analyzing PWS implementation of asset management planning. The survey elicits responses regarding the development and implementation of asset management planning according to best management practices recommended by USEPA, which include:

1. Inventory of assets with condition assessment, rating, remaining useful life, asset value, and replacement costs.
2. Documentation of sustainable level of service (performance goals, or short-or long-term goals).
3. Evaluation of critical assets and probability of failure.
4. Minimum life cycle cost analysis.
5. Long-term funding strategy (facility plan, capital improvement plan, or similar documentation).

Data from the sanitary survey will be analyzed to determine appropriate and targeted follow-up with PWS, which includes providing training and/or technical assistance to encourage asset management planning.

Methods for Encouraging Asset Management Planning

- Training: EEC staff are collaborating with stakeholders, including the Kentucky Rural Water Association, and Rural Community Assistance Partnership, to provide asset management training to PWS staff. Training courses are available both in-person and online throughout the year. Operator certification credit is provided for attending training courses through a partnership with the EEC Division of Compliance Assistance, Operator Certification Program. DOW staff also provide online training courses for PWS operators and management. Training courses to encourage asset management plan development can be accessed online and include:
 - Developing an asset inventory; Assessing and rating infrastructure assets; Evaluating critical assets and assessing their probability of failure; Developing a funding strategy.

- Technical assistance: Based on an analysis of data from the survey, targeted technical assistance can be provided to PWS by EEC staff, or cooperatively via contracts or memorandum of agreements with partner organizations identified and listed in the Strategy.
- Infrastructure financing through the DWSRF: The EEC utilizes a priority system formula to designate funding for the rehabilitation, replacement, and/or construction of water infrastructure via a memorandum of agreement with KIA and USEPA. The priority system formula includes an allocation of points for PWS that have developed an asset management plan, a capital improvement plan, or similar documentation. PWS that have not developed an asset management plan are not prohibited from applying for a loan through the DWSRF, however, higher priority will be given to those PWS who have, or will develop, an asset management plan through use of the loan program.
- Develop an updated sanitary survey using digital and geospatial tools to inform and allow for facilitated collaborations with PWS.
- Continued collaborations with stakeholders to identify potential statutory, regulatory, programmatic, and funding gaps to inform asset management.