Pennsylvania's
Capability Enhancement Strategy

Technical Guidance Number
391-0400-001

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Safe Drinking Water

DOCUMENT NUMBER:	391-0400-001
TITLE:	Pennsylvania Capability Enhancement Strategy
EFFECTIVE DATE:	June 20, 2015 Minor revisions made to document. (June 23, 2018)
AUTHORITY:	Pennsylvania's Safe Drinking Water Act (25 P.S. §721.1 *et seq*.) and regulations at 25 Pa. Code Chapter 109.
POLICY:	The Department of Environmental Protection (DEP) will follow the guidance and procedures in this document to direct and support the implementation of the federal capacity development strategy as identified in the 1996 amendments to the Federal Safe Drinking Water Act.
PURPOSE:	The purpose of this document is to establish a rational methodology to implement, track and allocate appropriate resources needed to meet the federal requirements for a state capacity development strategy for all public water systems.
APPLICABILITY:	This guidance will apply to all community, nontransient noncommunity and transient drinking water systems.
DISCLAIMER:	The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements. The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of DEP to give these rules that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.
PAGE LENGTH:	22~~19~~ pages
DEFINITIONS:	See 25 Pa. Code Chapter 109

List of Acronyms

AIT	Action Item Task
AWOP	Area Wide Optimization Program
BPNPSM	Bureau of Point and Non-Point Source Management
BSDW	Bureau of Safe Drinking Water
CE	Capability Enhancement
CEF	Capability Enhancement Facilitator
CEP	Capability Enhancement Program
CPA	Certified Public Accountant
CWS	Community Water System
CWSRF	Clean Water State Revolving Fund
DEP	Department of Environmental Protection
DWELR	Drinking Water Electronic Laboratory Reporting
DWSRF	Drinking Water State Revolving Fund
eFACTS	Environment Facility Application Compliance Tracking System
EPA	Environmental Protection Agency
ETT	Enforcement Tracking Tool
FPPE	Filter Plant Performance Evaluation
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
M/R	Monitoring/Reporting
NTNC	Non-Transient Non-Community
OAPP	Outreach Assistance Provider Program
OTCAP	Operator Training and Certification Administration Program
PADWIS	Pennsylvania Drinking Water Inventory System
PENNVEST	Pennsylvania Infrastructure Investment Authority
PES	Professional Engineering Services
PN	Public Notice
PRS	Priority Rating System
PRWA	Pennsylvania Rural Water Association
SDWA	Safe Drinking Water Act
SWP	Source Water Protection
SWPTAP	Source Water Protection Technical Assistance Program
SRF	State Revolving Fund
TMF	Technical, Managerial and Financial
TMFSAT	Technical, Managerial and Financial Self-Assessment Tool
TNC	Transient Non-Community

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1. Introduction

1.1 Capability Enhancement Program Requirements

The 1996 Safe Drinking Water Act (SDWA) amendments recognize the importance of technical, managerial and financial (TMF) capacity. Sections 1420(a) and 1420(c) of the SDWA require states to develop and implement a Capacity Development Program for new and existing drinking water systems. Pennsylvania's Capability Enhancement Program (CEP) addresses the implementation of capacity development by promoting compliance with federal and state drinking water regulations through the enhancement of water systems' TMF capacity. The concept of capability enhancement introduces a sustainable approach to correcting and preventing compliance problems by addressing TMF weaknesses at water systems.

Pennsylvania's Capability Enhancement Strategy is required to address five program elements. These program elements are listed in Section 1420(c)(2)(A-E) of the SDWA. The strategy must:

- Include methods or criteria to identify and prioritize all public drinking water systems.
- Identify factors that encourage or impair capacity development in the state.
- Demonstrate adequate authority and resource allocations to implement the proposed strategy.
- Identify a baseline rating and method of measuring improvement.
- Description of public involvement in strategy development.

1.2 Capability Enhancement Program History

Pennsylvania's Capability Enhancement Strategy was first approved by the U.S. Environmental Protection Agency (EPA) in October 2002. The Pennsylvania Department of Environmental Protection (DEP) chose to use the term "capability enhancement" to describe our efforts to meet the federal requirement to provide a capacity development program. Pennsylvania's CEP framework for new systems is addressed through permitting requirements located in Chapter 109 of the Safe Drinking Water Regulations.

1.3 Capability Enhancement (CE) Program Revisions

The strategy applies an improved rating system to identify drinking water systems that may have problems, as well as an improved method (called the TMF Self-Assessment Tool, or TMFSAT) to evaluate system needs in detail. The TMFSAT is a capability self-assessment since it is completed by the utility. It also provides a more formalized method to document the TMF capability of systems and improves DEP's ability to document improvements in system TMF capability over time.

Just as importantly, the CE program revisions better reflect integration of other related programs. Capability Enhancement Facilitators (CEFs) seek input from regional office drinking water program staff by providing draft TMF assessment reports for comment. CEFs also pursue improved financial and managerial capabilities when Filter Plant Performance Evaluations (FPPEs) identify financial and managerial causes for technical issues.

2. SixFive Required Elements

2.1 Methods or criteria to prioritize systems. [§ 1420(c)(2)(A)]

These include methods or criteria that could be used to identify and prioritize PWSs most in need of improving technical, managerial and financial capacity.

In 2011, Pennsylvania began work to update its Priority Rating System (PRS). The newly revised system was implemented in 2012. The PRS ranks all public water systems based on various compliance, enforcement and certified operator information. Information is gathered from Pennsylvania's Drinking Water Information System (PADWIS), Environment Facility Application Compliance Tracking System (eFACTS), and EPA's Enforcement Tracking Tool (ETT).

Bi-aAnnually, information is pulled from the various data sources and various weightings are applied to account for the potential impact to public health for each data point. Table 1.1 lists the data points, the base criteria and the weighting factor multiplier applied for each base criteria.

Table 1 - PRS Data Points and Weighting Factors

DATA POINT	BASE CRITERIA	WEIGHTING FACTOR
ETT Score >10	Value of ETT Score	ETT value x 100
Unfiltered Surface System	Yes/No	2000/0
No Certified Operator	Yes/No	500/0
Type A* violations in past 1 year	Count of violations	Count x 200
Type A violations in past 3 years	Count of violations	Count x 200
Type B** violations in past 1 year	Count of violations	Count x 100
Type B violations in past 3 years	Count of violations	Count x 100
Self-Monitoring violation(s) in past 1 year (eFacts)	Count of violations	Count x 10
Self-Monitoring violation(s) in past 3 years (eFacts)	Count of violations	Count x 10
Monitoring Reporting violations in past 1 year	Count of violations	Count x 1
Monitoring Reporting violations in past 3 years	Count of violations	Count x 1

* Type A violations denote a violation that is an imminent threat to public health.
** Type B violations denote a violation that is a priority and has the potential to become an imminent threat.

The base criteria and weighting factors are tallied to produce a final score for each system. The list is then sorted based upon system score so that systems with the highest priority scores can be targeted for assistance. Systems with a score greater than or equal to 200 are considered 'high priority,' ensuring that any system that has an ETT score above 10, or that had an imminent threat violation in at least the past three years, are included.

Providing a count of violations over the past year as well as the past three years ensures that systems that have both recent and reoccurring violations are a priority.

The PRS is also utilized to determine system eligibility for the Drinking Water State Revolving Fund (DWSRF) program. The following paragraphs describe the process for reviewing systems for DWSRF eligibility.

PENNVEST CAPABILITY REVIEW PROCESS

PENNVEST Initial Planning Consultation meeting - The Pennsylvania Infrastructure Investment Authority (PENNVEST) Project Manager notifies the CEF by email with a copy to the Technical Assistance Section Chief that a water supplier has scheduled a PENNVEST Initial Planning Consultation meeting. The CEF attends the meeting and explains the PENNVEST Capability Assessment process to the water supplier. Contact information is exchanged with the water supplier. If enough advanced notification is given to the CEF, the CEF can review the system's PRS and ETT scores prior to the meeting to determine if an onsite evaluation is needed. If an onsite evaluation is not required, the CEF completes the PENNVEST Capability Approval Sheet, signs it and emails copies to the Financial Assistance Section in DEP's Bureau of Point and Non-Point Source Management (BPNPSM) and DEP's Bureau of Safe Drinking Water (BSDW) Technical Assistance Section Chief. The approval is valid for a period of 12 months from the signature date.

PENNVEST Capability Approval Evaluation - This evaluation is completed by the CEF for all PENNVEST drinking water applicants. For many of the systems in Pennsylvania with adequate PRS and ETT scores, this is the only evaluation that is needed for the capability assessment. Upon completion, the form is signed and emailed to the BPNPSM's Financial Assistance Section, DEP's PENNVEST Project Engineer, and the BSDW's Technical Assistance Section Chief.

Systems having a PRS score $\geq$ 200 or an ETT score $\geq$ 11 require an onsite TMF assessment. The following two documents are needed in order to complete the onsite capability assessment:

1. TMF Self-Assessment Tool (TMFSAT) - This document is emailed to PENNVEST applicants having a PRS score $\geq$ 200 or an ETT score $\geq$ 11. The applicant completes the multiple choice TMFSAT and returns the results to the CEF. The TMFSAT is not a complete evaluation of all capability needs and is not a substitute for a complete onsite TMF assessment; it provides CEFs with information to help prepare them for the onsite TMF assessment. The CEF schedules the onsite TMF Assessment after the water supplier returns the TMFSAT.

2. PENNVEST Capability Checklist - The CEF uses this checklist to document the system's TMF capability weaknesses during the onsite assessment. If **no** TMF capability weaknesses are found, the CEF completes the PENNVEST Capability Approval Sheet, signs it and emails it to the BPNPSM's Financial Assistance Section and the BSDW's Technical Assistance Section Chief. If capability weaknesses **are** identified, the water supplier is notified by email of the capability weakness and copies the BPNPSM's Financial Assistance Section and the BSDW's Technical Assistance Section Chief. The PENNVEST Capability Checklist includes a narrative with details about the identified weaknesses that is also attached to the email. The email should also offer assistance through the Outreach Assistance Provider Program (OAPP). The CEF follows-up with the water supplier by phone to verify receipt of the email and discusses assistance options through the OAPP. PENNVEST Applicants are required to address their capability weaknesses either prior to receiving DWSRF funding or as part of the funded project. PENNVEST Applicants that have entered into a Consent Order Agreement (COA) with DEP to address their capability weaknesses may proceed with their DWSRF funding application process and consideration for DWSRF funding, provided that the project addresses the identified capability weaknesses.

2.2 Factors that impair or encourage capacity development. [§1420(c)(2)(B)]

These include the "institutional, regulatory, financial, tax, or legal factors" that exist at the Federal, State, or Local level that encourage or impair capacity development.

2.2.1 Factors that can impair capacity development:

Demographics, economy of scale, local government organization and past resource development practices make it difficult to solve the state's drinking water problems. ~~Ninety-one (91) percent of the state's drinking water systems serve less than 3,300 customers.~~ The basic infrastructure necessary to operate drinking water systems does not exist for many of Pennsylvania's systems that lack the financial and managerial resources to implement safe drinking water requirements. ~~Most of Pennsylvania's 2,409 community water systems (CWS) and 1,200 non-transient non-community (NTNC) systems are small water systems that may lack the financial and managerial resources to implement the 1996 Amendments to the Federal Safe Drinking Water Act. Excluding the private investor owned systems (389), 31 percent of the drinking water systems are owned and operated by a municipality or municipal authority. The remaining systems are associations (229), institutions (241), manufactured housing (731) and apartment complexes (61). These systems are not in the primary business of providing drinking water. Because of the size and cost of providing a certified operator, 25 percent of Pennsylvania's drinking water systems do not have one.~~ Many systems lack operation and maintenance plans, emergency response plans, asset management plans and capital budgets.

DEMOGRAPHICS

- Pennsylvania is unique, having more metropolitan areas than most states while maintaining one of the largest rural populations in the nation. Additionally, Pennsylvania has the second oldest population in the nation with a high proportion living in rural communities.

- Urban and suburban areas of the state are generally provided drinking water by large investor-owned drinking water companies, while rural areas are served by isolated small drinking water systems. The small drinking water systems are primarily owned by municipalities, unincorporated communities, homeowner associations or the manufactured housing industry.

- Small rural drinking water systems serve stable or declining communities with little or no economic growth. The household income in these communities is generally less than the growing suburban areas of the state with an older population on fixed incomes.

- During the past ten years, small systems in close proximity to investor-owned companies have been purchased and upgraded. However, isolated small systems have not been consolidated with investor-owned companies since costs are prohibitive due to the greater distance these small systems are from an established investor-owned system.

- The result is a demographic scenario where thousands of detached small water systems are serving communities comprised increasingly with aged and ~~low income~~low-income customers, leaving the systems with limited resources to meet regulatory standards.

ECONOMY OF SCALE

- Small water systems lack the customer base of a larger system to disperse the fixed cost per unit of production (i.e., cost to produce 1-gallon of potable water).

- As operational costs (utilities, qualified labor, chemical treatment, system maintenance and compliance analytical testing) increase, the small system has fewer customers to distribute the increase in cost when compared to a larger system.

- The only means a small system has to balance the increasing costs is to increase revenue by increasing rates. However, as described above, the small system's customers are predominantly low-income and elderly and do not possess the funds to pay the higher rates.

- Meanwhile, a larger system has many of the same fixed costs as a small system but can distribute the costs among a greater number of customers.

Thereby, each customer of a large system pays a lower percentage of the system's fixed costs when compared to a small system.

LOCAL GOVERNMENT

- Pennsylvania has more governmental units than any other state in the nation. There are approximately 2,700 different units of local government, including counties, boroughs, cities and townships.

  In Pennsylvania, the boroughs, cities and townships have the authority to make virtually all decisions regarding zoning, land use, police protection, education and water/sewerage services. These governmental units tend to be independent and hesitant to transfer authority to larger governmental organizations.

- The DEP is the primary regulator of drinking water systems at the state level and does not have the luxury of delivering a program to the county or another regional level. ~~Except for two county health departments, regulation of drinking water systems cannot be transferred to a county authority or multiple township organization.~~ The DEP finds itself working one-on-one with local levels of government throughout the state.

  Many of Pennsylvania's small drinking water systems ~~(42 percent)~~ are not municipally-owned or operated, serving small unincorporated communities, private manufactured housing or private land development associations.

- Municipal governments in Pennsylvania are not required to assume any responsibility for drinking water systems within their boundaries; therefore, the basic infrastructure within local government does not exist for many small water systems in the state. This seriously impairs water systems' ability to meet the federal requirements and prevents capability enhancement due to the lack of resources this infrastructure provides.

- Drinking water systems owned by associations, non-municipal authorities, municipal authorities and the manufactured housing industry cannot be forced to participate in regional planning efforts. The inability to force consolidation of multiple small water systems hinders system TMF. Much remains to be done despite numerous state grant programs to promote countywide water resource planning, regionalization studies and the formation of water authorities.

SYSTEM OWNER QUALIFICATIONS

- Many small water systems are not in the utility business but are public water suppliers nonetheless, such as manufactured housing facilities, apartments, non-community systems, etc. Officials and managers of the state's drinking water systems are not required to have any background in managing or financing drinking water system operations. This may be one

of the most important factors that impairs capability enhancement in Pennsylvania.

- Those responsible for assuring adequate resources to successfully operate a drinking water system often lack an understanding of what is required to meet the federal and state requirements.

- Small systems often do not possess the funding or resources to maintain a professional staff. Lack of professional staff familiar with water system financing results in underestimating system revenue needs until a financial crisis arises.

- Without these critical elements, there is no commitment to long-term viability, which is best demonstrated by implementation of an on-going capital improvements program.

HISTORICAL RURAL DEVELOPMENT

- Many of Pennsylvania's small communities are the result of resource development. During the middle to late 1800s, the coal mining and lumbering industries took advantage of the state's abundant resources. Hundreds of thousands of acres of woodland were timbered. Hundreds of mines were opened to extract coal. This activity required labor, and that labor required housing. The company town was created.

- These communities sprung up everywhere; on the sides of mountains, at the top of watersheds and along thousands of miles of streams. They tended to be isolated and small. The companies that owned many of these communities also owned and operated the rudimentary drinking water and wastewater treatment systems serving these communities.

- After World War I, the demand for coal and lumber dramatically decreased. As a result, the companies abandoned many of these small communities. The declining housing was either sold to their occupants or bought up by absentee landlords. By default, ~~T~~the people in these communities inherited ~~-~~the wastewater and drinking water systems; in most cases with limited resources and no sustainability plan.

- Local municipal government had no legal obligation to assume responsibility for these systems of undetermined design or condition. ~~Hundreds~~ A considerable number of these water systems still exist today on the fringe of compliance with state and federal drinking water standards.

- Starting during the late 1960s, the growth of "second home retreats" created additional small water systems throughout the state. Developers developed hundreds of thousands of lots. Because many of these developments depended upon on-lot sewage systems and were generally

less than 1/3 of an acre, a centralized water system was provided. Each landowner became a member in the association water system.

- Eventually, the developers left town and the new landowners took over the water system. Many of these owners were only weekend residents. They had no idea of their responsibilities to maintain either their sewage or water system.

- The results are small declining rural communities, with little financial base, poor economies of scale and lack of knowledge to operate and maintain a water system that also complies with state and federal regulations.

GENERAL PUBLIC

- In most communities, the public lacks awareness of the costs of water production, treatment and distribution. Often, the public (as well as the governing body) is unaware of the true cost of producing safe water.

- Frequently, the drinking water bill is combined with wastewater service fees, or the rate is set politically and not reflective of the actual cost of service.

- Customer pressures to avoid cost increases prevents public water systems from keeping up with operating expenses, maintaining adequate reserve funds and properly investing in capital facilities.

2.2.2 Factors that can enhance capacity development:

FEDERAL FUNDING

- EPA provides DWSRF funding to States to provide low interest loans and grants for capital improvement projects. A portion of this funding, called DWSRF Set-aside, can be used by states to provide technical assistance for improving system T~~F~~MF capacity.

- DWSRF Set-aside funding can be used by states to develop technical assistance programs which enhance TMF capacity.

- Low-interest loans through the DWSRF for capital improvements can assist in building capacity of an existing system.

- Low-interest loans through the United States Department of Agriculture Rural Development program for capital improvements can assist in building capacity of an existing system.

STATE GENERAL FUNDING

- State funding and complement support maintains adequate staffing to implement the state's Safe Drinking Water programs.

STATUTORY AND REGULATORY

- The federal SDWA has provided a statutory and regulatory basis for what states and local water systems must do at a minimum to provide safe drinking water.

- The amount of research and the commitment by EPA to work with states and the regulated community through Technical Advisory Workgroups when establishing national drinking water standards is an enhancement to T~~F~~MF capacity.

- Regulations are developed in a manner that should assist systems in prioritizing issues that need to be addressed in providing safe drinking water to the public.

PARTNERSHIPS

- Maintaining state and federal partnerships with third party technical assistance providers that provide technical assistance to small water systems can enhance TMF capacity.

2.3 How the State will use the authority and resources of the SDWA. [§ 1420(c)(2)(C)]

~~[§ 1420(c)(2)(C)]~~ States should describe how they will use the authority and resources of the SDWA or other means to:

1. *Assist PWSs in complying with NPDWRs.*

2. *Enhance technical, managerial and financial capacity by encouraging the development of partnerships between PWSs.*

3. *Assist PWSs in the training and certification of their operators.*

2.3.1 Program Goals and Objectives

- Minimize risk to public health through substantial implementation of a source water protection strategy.

- Promote Source Water Protection efforts through site-specific outreach and Source Water Protection Staff.

- Expand outreach to identified water systems based on the results of the data collected from special projects that show influence upon a system's capability (i.e., stream impairment designation).

- Enhance the capabilities of system operators to operate their systems in the most professional, effective and efficient manner.

- Enhance the financial and managerial expertise of system owners, board members and operators.

- Empower public water system personnel with information that allows them to address any factor that limits their capability to produce quality water and a sufficient quantity of water in a reliable and efficient manner.

- Support sustainable systems which meet drinking water demand while protecting public health and the environment and insuring continued economic growth and development.

- Provide assistance to small water systems in attaining a public water supply that is affordable as well as compliant.

- Support compliance with all rules and regulations through improved TMF capability.

2.3.2 Program Components

Along with utilizing other factors listed in Section 2.2 of this strategy, the CEP primarily accomplishes its goals using program components which will include, but are not limited to:

Capability Enhancement Facilitators

Facilitators provide site-specific and global assistance to drinking water systems through assessments and facilitation of outreach. The facilitators are the primary assistance providers for the CEP.

Source Water Protection Program Staffing

An integral component of our capacity enhancement strategy is to provide technical assistance to public water suppliers as they develop and implement their own source water protection plans. The capability enhancement facilitators will work closely with the source water protection staff to accomplish a common goal of improving the long-term capability of public water supplies in Pennsylvania.

Conduct source water assessments for all sources serving public water systems, provide support for surface water assessment activities, support, promote and track development and implementation of local source water protection programs, promote and facilitate inter program support of local source water protection programs and promote the long-term sustainability of Pennsylvania's drinking water infrastructure through the implementation of the Capability Enhancement Program regional source water protection (SWP) implementation plan to help move towards the state's goal for substantial implementation of SWP activities.

Outreach Assistance Provider Program (OAPP)

DEP's OAPP provides on-site operational services to both publicly- and privately-owned facilities. OAPP utilizes part-time wage payroll instructors who are certified operators to provide on-site technical, managerial and financial assistance to water system owners and operators. OAPP services are offered to any owner or operator at no cost. Participation in the program ~~may be~~is voluntary. Sometimes an initial request for assistance occurs after ~~ or the result of~~ an enforcement action; ideally the need for assistance is identified prior to a major breakdown in treatment. The program responds to system needs identified by DEP CEFs, regional staff, local government associations or the system itself. On-site assistance is most often provided via one-on-one training targeted to address specific problems. In some instances, a ~~and training is provided through a~~ combination of videos, classroom and web-based training ~~and one-on-one assistance to address specific system problems~~may also be used.

Professional Engineering Services Contract

This DEP program provides engineering and consulting services for capability enhancement identified systems. A DEP-contracted private firm provides these services at no cost to the system. Currently, priority is given to systems that have reoccurring water shortages, nitrate and maximum contaminant level (MCL) violations. Assistance in the preparation of PENNVEST funding applications can also be provided as well as financial planning and legal services to promote consolidation with another water system.

Operator Certification Program

The Pennsylvania State Board for Certification of Water and Wastewater Systems Operators is responsible for the administration of Pennsylvania's Operator Certification Program. All operators of CWS and NTNC drinking water systems and wastewater treatment systems in the state must pass a test certifying their technical competence to operate their system. They must also complete a minimum number of years' experience operating a system with the corresponding treatment technologies. To maintain an operator's certificate an operator must document completeion of a prescribed amount of applicable continuing education within each three-year renewal cycle.

Operator Training and Certification Administration Program (OTCAP)

OTCAP administers operator certification exams, processes applications for certification, certificate upgrades and renewals; provides outreach assistance to operators; implements the training approval process; and develops and implements the regulatory administrative requirements of the Operator Certification Program.

Operator Certification Program Compliance

The need for drinking water systems to have a certified operator can be used as a compliance assistance tool to help water systems to improve their technical, managerial and financial capability. The primary task of this program is to coordinate the training and testing of candidate operators for certification.

Operator Training Development Program

Provides resources for on-site trainings and the design and development of web-based training courses, with the objective of ~~eventually~~ making on-line training available on topics covering all drinking water regulations and related technical topics.

Surveillance and Optimization Programs

Sanitarians in DEP's drinking water program provide day-to-day compliance oversight and inspection of drinking water systems, while Compliance Assistance Specialists focus on problematic and/or more complex cases. In addition, resources are available for the Filter Plant Performance Evaluation (FPPE) Program, Area Wide Optimization Program (AWOP), Business Planning for new systems, and the Partnership for Safe Water Program.

Source Water Assessment and Protection (SWAP) Program

The SWAP Program conducts assessments of all water sources serving public water systems for their susceptibility to contamination. The assessment results are made available to the public. The program also promotes the development of local, voluntary source water protection programs through financial and technical assistance, and integration with other related environmental, natural resource and health programs.

Source Water Protection Technical Assistance Program (SWPTAP)

SWPTAP provides technical assistance to community water systems and municipalities in developing local source water protection programs.

PENNVEST "traditional" drinking water system funding

PENNVEST provides funding for capital needs at drinking water systems.

PENNVEST non-point source funding in support of source water protection

PENNVEST also provides funding for non-point source pollution control, making it a potentially important tool in source water protection.

Earthwise Academy

The Earthwise Academy is DEP's web-based university for drinking water system operators and drinking water program staff.

Drinking Water System Compliance Assistance Program

This program provides technical assistance where appropriate in dealing with systems having difficulty meeting current regulatory requirements and works with the staff involved in Operator Certification Program compliance.

Distribution System Optimization Program

This program establishes distribution system specific best management practices and encourages water system staff to work towards water quality goals. This program enhances the technical, managerial and financial capability of the critical distribution system portion of drinking water systems in Pennsylvania. DEP ~~central office~~Bureau of Safe Drinking Water (BSDW) staff takes the lead on developing, implementing and managing the program statewide.

Partnership for Safe Water, FPPE Program and AWOP

The goals of these programs are to:

- Prevent waterborne diseases and control disinfection byproducts for over 8 million people and numerous tourists who receive some or all of their drinking water from the Commonwealth's filter plants.
- Provide statewide program development, management and coordination of the Partnership program and FPPE program.
- Facilitate water system participation in the Partnership program and help provide training on the Partnership's technical elements to DEP's field staff and water system operators and administrators.
- Assist systems with progressing through the 4 phases of the Partnership for Safe Water program, i.e. Program enrollment (Phase I), data collection/assessment (Phase II), self-assessment/correction plans (Phase III), and excellence in water treatment (Phase IV).
- Assist with implementation of the National Partnership for Safe Water Distribution Optimization Program.
- Assist operators and field staff in optimizing the performance of surface water treatment plants for the removal of microbial contaminants and the control of disinfection byproducts.

Pennsylvania Rural Water Association (PRWA)

PRWA can provide a multitude of site specific and global training and technical, managerial and financial assistance for water systems.

2.3.3 Program Organization and Administration

The cornerstone of DEP's Capacity Development ~~the~~ S~~s~~trategy is the coordination done by the CEFs. To do this, they work with DEP's regional Environmental Program Manager and other regional staff to develop "site specific" and "global" Assistance Implementation Plans (AIPs) with specific Action Item Tasks (AITs) for water systems that have capability issues within their respective regions of responsibility. The CEF, under the direct supervision of the Chief of the Technical Services Section in the Division of Training, Technical and Financial Services, will:

- Apply the Priority Rating System (PRS) to assess and prioritize all public drinking water systems in the state for technical, managerial and financial capability enhancement needs.

- Determine the specific capability needs of a drinking water system identified through the PRS or referred from a DEP regional office through application of the TMFSAT, site visits and other means.

- Typically conduct a site visit to provide a more thorough TMF evaluation of the system by focusing~~honing in~~ on areas of weakness identified by answers provided on the AT.

- Develop an AIP. The AIP is a report which describes TMF issues that should be addressed through an Action Item Task list. The AIT list catalogs, in priority order, steps that can be taken to address TMF weaknesses. The water system reviews the list and can set a date for a goal of completion of each task and can also request OAPP assistance to meet milestones.

- Identify appropriate assistance providers and facilitate assistance with the system.

- Monitor the progress of implementation and facilitate completion of action items identified in the AIP~~,~~ and serve as contract managers when Commonwealth contracts are utilized in AIPs.

- Coordinate and oversee improvements initiated by the system and the delivery of services by the providers.

- Annually re-evaluate all target drinking water systems to measure improvement or lack of success.

- Document whether a DWSRF applicant has adequate TMF capability to support a funding recommendation (or allowing a funding recommendation in spite of TMF deficiencies if the project will correct the deficiencies).

- CEFs also take responsibility for "global" activities. If for example there is a need to provide asset management training to a group of systems, a CEF can develop the means to address the problem in a global AIP.

Working in cooperation with the regional DEP staff, the CEF markets the CEP, addresses regional capability issues, coordinates resources and acts as "facilitator" to promote the goals and objectives of the program. The CEF decides when, where and how much of the program's resources need to be allocated to a target community. At times, the CEF may have to collect pertinent data, analyze the data, and then apply the results of the data to extend outreach efforts to targeted systems.

DEP has full time CEF staff which have full statewide program development duties that reach across all regional boundaries; however, each CEF implements the capability enhancement program within ~~only~~ assigned DEP ~~regional offices~~regions. Regional groupings and CEF assignments may change based on program resources and priorities.

2.4 How the State will establish the baseline and measure improvements. [§ 1420(c)(2)(D)]

~~*[§ 1420(c)(2)(D)]*~~ *States should describe how they will establish a baseline and measure improvements in the capacity of PWSs under their jurisdiction. This potential programmatic element provides the tools that State primacy agencies must have to produce and submit a report to their Governors on the efficacy of their capacity development strategy and progress made toward improving the technical, managerial and financial capacity of PWSs in their State.*

As noted in Section 2.1, Pennsylvania will implement a PRS to rank all water systems based upon various rating factors. The final rating list will serve as a mechanism to focus on systems with the most need for assistance while also serving as a baseline rating for comparison for next year's rating. Each year, when a new rating list is prepared, the final rating scores for each system can be used to measure improvement or deterioration on the ratings list. The following comparisons can be made to determine program effectiveness.

- Percentage of systems below the target threshold.

- Number/Percentage of systems with an improved rating.

- Number/Percentage of systems with a deteriorated rating.

- Change in ratings score for systems CE has worked with in the past year.

- Number of new systems (< 3 years old) on ETT or incurring violations.

2.5 Procedures to identify interested persons. [§ 1420(c)(2)(E)]

States should identify and involve stakeholders in the creation and implementation of their capacity development strategy.

The Capability Enhancement Strategy receives stakeholder ~~involvement~~input through the Small Water Systems Technical Assistance Center (TAC) Advisory Board. In addition, the Capability Enhancement Strategy is published in the Pennsylvania Bulletin for public comment when revisions are proposed.~~The Capability Enhancement Strategy was published as draft in the *Pennsylvania Bulletin* on April 4, 2015 for public comment. No public comments were received.~~

2.6 How the State will encourage the development of asset management plans and assist with implementation of asset management plans. [§ 1420(c)(2)(F)]

States should describe how they will, as appropriate:

1. *Encourage development by public water systems of asset management plans that include best practices for asset management; and*
2. *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.*

Pennsylvania will ~~encourage and assist water systems with developing and implementing asset management plans~~ meet items #1 and #2 listed above via the following activities:

- Pennsylvania's TMF self-assessment tool includes multiple questions related to operations and maintenance, asset inventories and asset management plans. The results of the TMF self-assessment tool are used to help water systems develop specific action items for improving system capability. One of the most common action items identified by the TMF self-assessment tool at small water systems is the need to develop and implement an asset management plan.

- The existence of an asset management plan is one of the TMF capability criteria that is evaluated during the PENNVEST capability review and ranking process. An asset management plan that is being actively implemented is worth up to 5 PENNVEST priority ranking points. This is a strong incentive to both develop and implement an asset management plan.

- Asset Management questions have been added to Module 8 of the Sanitary Survey Checklist for full inspections of water systems. Lack of an asset management plan can be identified as a violation of 25 Pa. Code § 109.4 if it is contributing to a significant deficiency and adversely affecting operations.

- Pennsylvania does not currently have the capability to generate a complete statewide list of all systems needing an asset management plan. However, if this capability becomes available, such a list could be used to target water systems for attending asset management plan training, webinars and techncial assistance. In the interim, DEP regional staff will continue to alert BSDW staff to system needs as they become aware.

- PENNVEST will provide up to $25,000 toward the development of an asset management plan.

- 25 Pa. Code § 109.503(a)(3) requires the development of a business plan as part of the permitting process for new community water systems. New community water systems that have prepared the required business plan will be better prepared to develop and implement asset management as some of the financial concepts are similar.

- 25 Pa. Code § 109.702 requires all community water systems to develop an operations and maintenance plan. Water systems that have prepared the required operations and maintenance plan, ~~in doing so,~~ have begun the process to identify and inventory their assets. In addition, water systems implementing an operations and maintenance plan and performing preventative maintenance will help extend the useful life of their existing assets.

- 25 Pa. Code § 109.706 requires all public water systems (except BVRBs) ~~water systems~~ to prepare a system map ~~(all but BVRB systems)~~ which includes specifc details (e.g. pipe type, pipe size, pipe age, etc). Water systems that have prepared the required system map, ~~in doing so,~~ have already begun the process to identify and inventory their distribution system assets which is one of the first steps in preparing an asset management plan.

- The Environmental Finance Center occasionally offers a 1-day Asset Management Workshop through the EPA Technical Assistance Grant. In addition, DEP offers a two hour web-based training course on EarthWise Academy called "Leadership and Decision Making for Sustainable Water and Wastewater Infrastructure" that discusses the benefits of asset management. Pennsylvania will continue to work with third party technical assistance providers to make asset management training available in Pennsylvania.

- Pennsylvania's Operator Outreach Assistance Program has staff available that can provide one-on-one on-site assistance to help water systems develop an asset management plan. The availability of this technical assistance is advertised through the outreach assistance program brochure which can be found on DEP's elibrary. Copies of the brochure can also be shared with interested water suppliers during DEP inspections, FPPEs, at technical conferences, PENNVEST planning consultation meetings and ~~as well as~~ through email and paper mailings.

- Pennsylvania will continue to encourage interested water suppliers to participate in asset management planning, rate setting, capital improvement planning, and other managerial and financial related webinars hosted by EPA and/or third party technical assistance providers. This will be accomplished by forwarding webinar announcements to water industry organizations and individual water system staff that have expressed interest in asset management.

- Pennsylvania will continue to encourage water suppliers to follow EPA's existing asset management guidance in preparing their asset management plans. Water suppliers may also use their own or a third party's asset management resources, tools, rates setting dashboards, level of service goals, asset management software, inventory and mapping tools, etc. In all cases, Pennsylvania will strongly

encourage water systems to incorporate ~~as long as~~ the EPA's~~following~~ five-core principals ~~questions~~ framework ~~are incorporated~~ into the asset management planning process:

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?

Although Pennsylvania strongly encourages all water suppliers to develop and implement an asset management plan, Pennsylvania's capacity enhancement strategy does not condition DWSRF eligibility based on whether a system has developed an asset management plan. DEP believes that this type of conditioning could discourage some water suppliers from making important infrastructure improvements that are needed to strengthen public health protection.