Capacity Development and Operator Certification 101

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EPA United States Environmental Protection Agency

Office of Water

The Value of State Capacity Development and Operator Certification Programs

- **Protect public health** by building the Technical, Managerial, and Financial (TMF) capacity of drinking water systems
  - To achieve safe, reliable drinking water and long-term sustainability

- **Helps drinking water systems** through capacity building resources:
  - Outreach, training, and technical assistance
  - Establishes professional standards for operators, promotes compliance, provides training & certification, and encourages continuous learning

- **Operator Certification Adds Value to Operators and the Community**
  - Compliance and risk mitigation with better understanding and adherence to water treatment regulations
  - Certification helps operators with career growth opportunities by demonstrating professionalism and commitment.

Resources to Support Capacity Development and Operator Certification Efforts

- **Funding**
  - Support for state programs available through Drinking Water State Revolving Fund set-asides
  - Bipartisan Infrastructure Law funding set-asides can be used as well
- **EPA Water Technical Assistance (WaterTA)**
  - In coordination with states, Tribes, territories, grantees, community partners, and stakeholders, we help communities solve their water challenges
  - Connect communities to federal funding

EPA WaterTA Supports Communities to:

- Identify water challenges
- Plan for solutions
- Increase community engagement
- Improve compliance and access to safe and clean water services
- Build technical, financial, managerial capacity
- Develop application materials to access water infrastructure funding

Visit www.epa.gov/waterta for more information

SAVE THE DATE

2024 National Capacity Development & Operator Certification Workshop

August 7 – 9, 2024

Madison, Wisconsin

- **Goal:** Foster coordination and encourage collaboration between the Capacity Development and Operator Certification programs.
- Let's **share** success stories; **brainstorm** new ideas on program implementation; **learn** best practices for building water system sustainability through workforce development, technical assistance, community engagement; **and more!**
- Registration will be free to all.
- **Register and view the preliminary workshop agenda now online**.

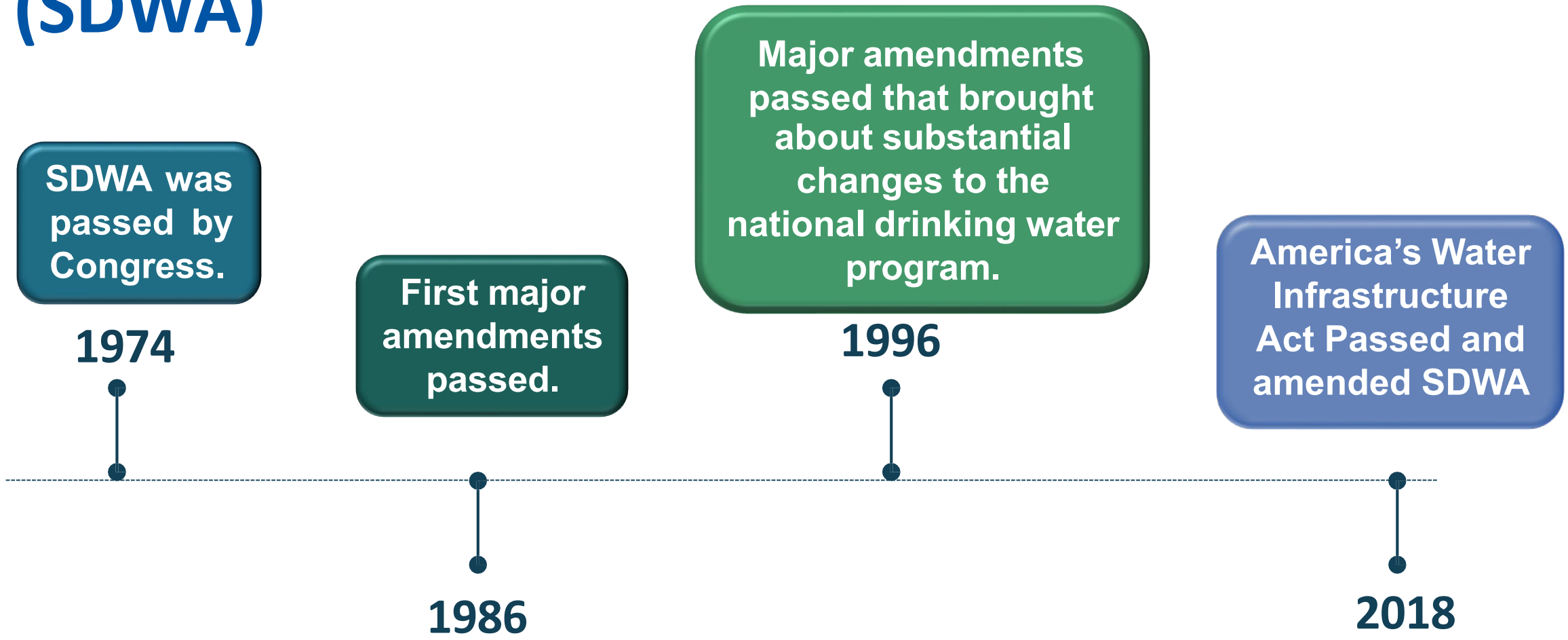
EPA, primacy agencies, tribes, and technical assistance providers are welcome to attend.

EPA

asdwa

Contact Alison Flenniken (Flenniken.Alison@epa.gov) for more information

History of the Safe Drinking Water Act (SDWA)



1996 SDWA Amendments

§ 1419

Operator Certification Program

- Ensures PWSs have operators to perform key compliance functions
- Required States to:
  - Implement a new program or
  - Enhance an existing state program

§ 1420

Capacity Development Program

- Strengthens PWS capabilities to reliably deliver safe drinking water
- Required States to develop and implement a capacity development strategy
- Required report to Governor and public

§ 1452

Drinking Water State Revolving Fund (DWSRF)

- Supports states by offering set-aside funds for administration of drinking water programs, including capacity development and operator certification
- Offers affordable financing to help PWS achieve and maintain compliance

America's Water Infrastructure Act of 2018 (AWIA)

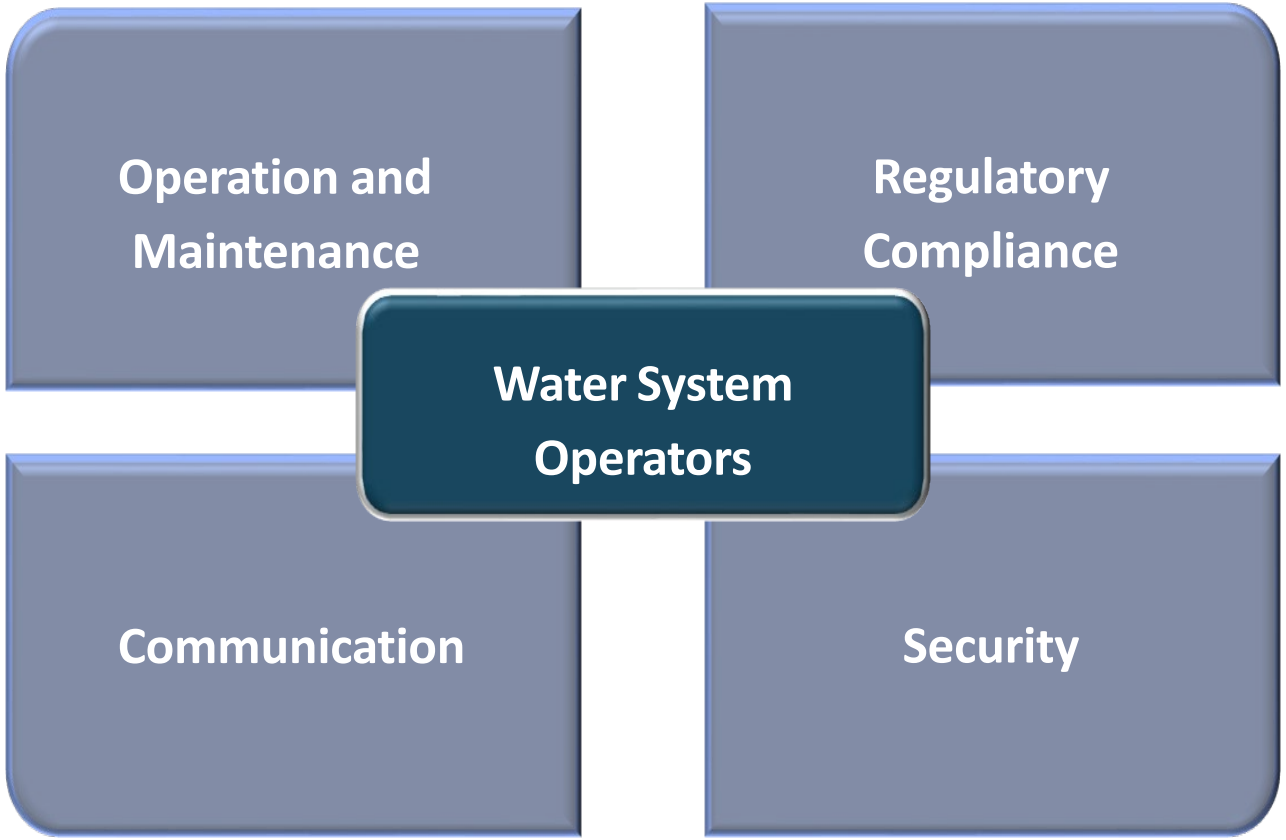
- AWIA Section 2012 amended the SDWA and required:
  - States to amend their capacity development strategy to include a description of how the state encourages development of asset management plans.
  - States to address asset management promotion in their triennial Governor's reports by **September 30, 2023**, and every three years thereafter.
  - EPA to review and update, if appropriate, asset management documents and trainings every five years.

SDWA § 1452: EPA must withhold 20% of the DWSRF capitalization grant funds from states that do not meet SDWA requirements for operator certification and capacity development.

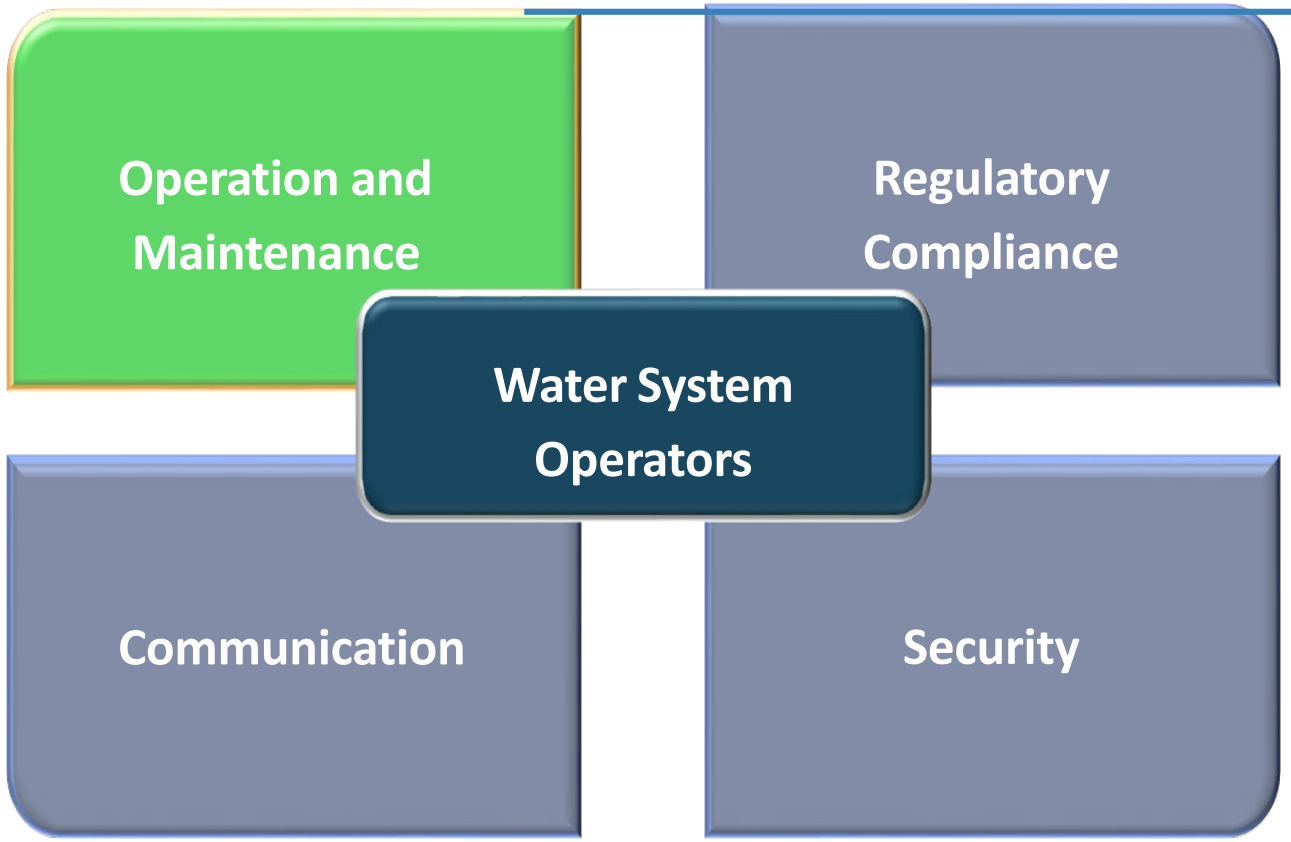
Operator Certification

How Does Operator Certification Support Public Health Protection?

Water System Operator Duties and Responsibilities



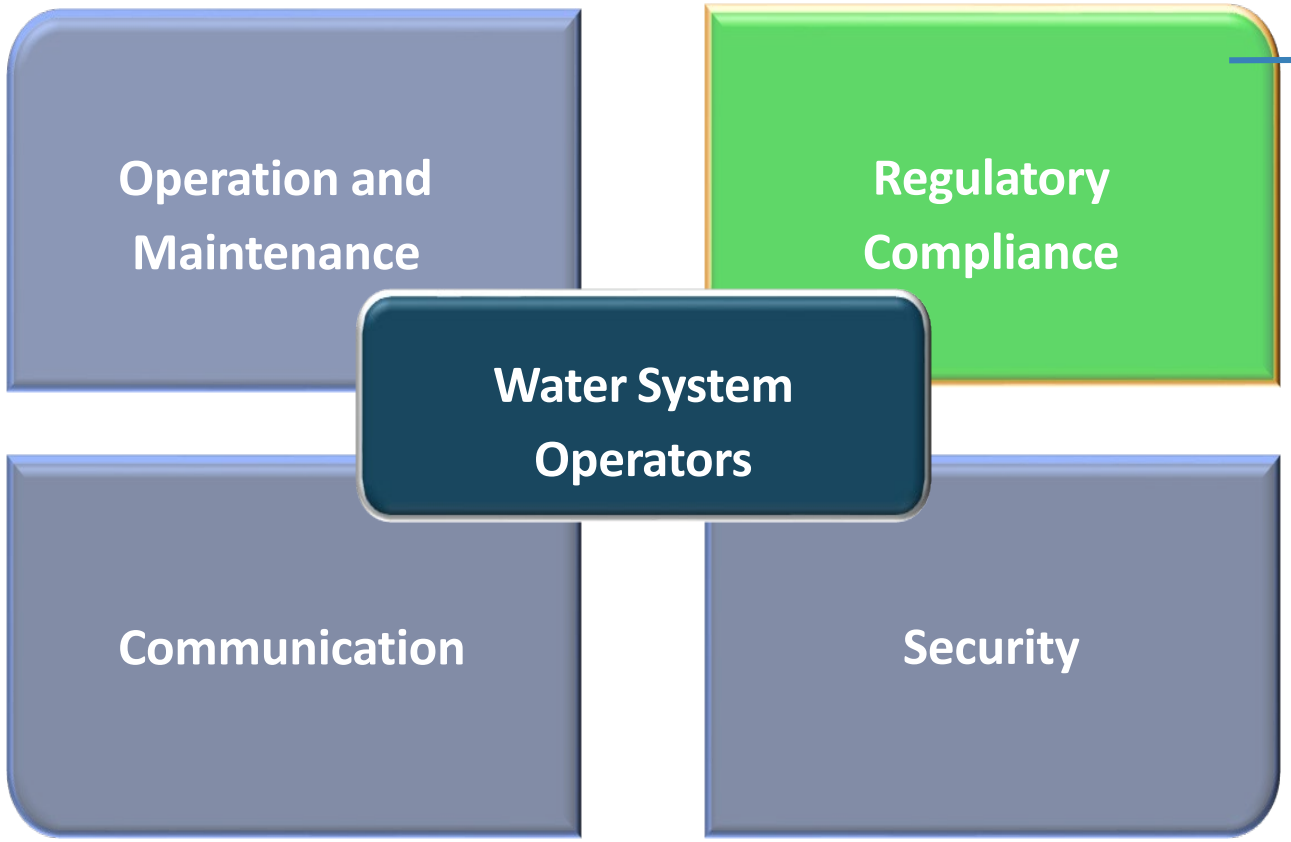
Water System Operator Duties and Responsibilities



System O & M

Water system operators make sure the system functions efficiently and effectively, which includes taking care of the system components (i.e., source, treatment, storage, and distribution).

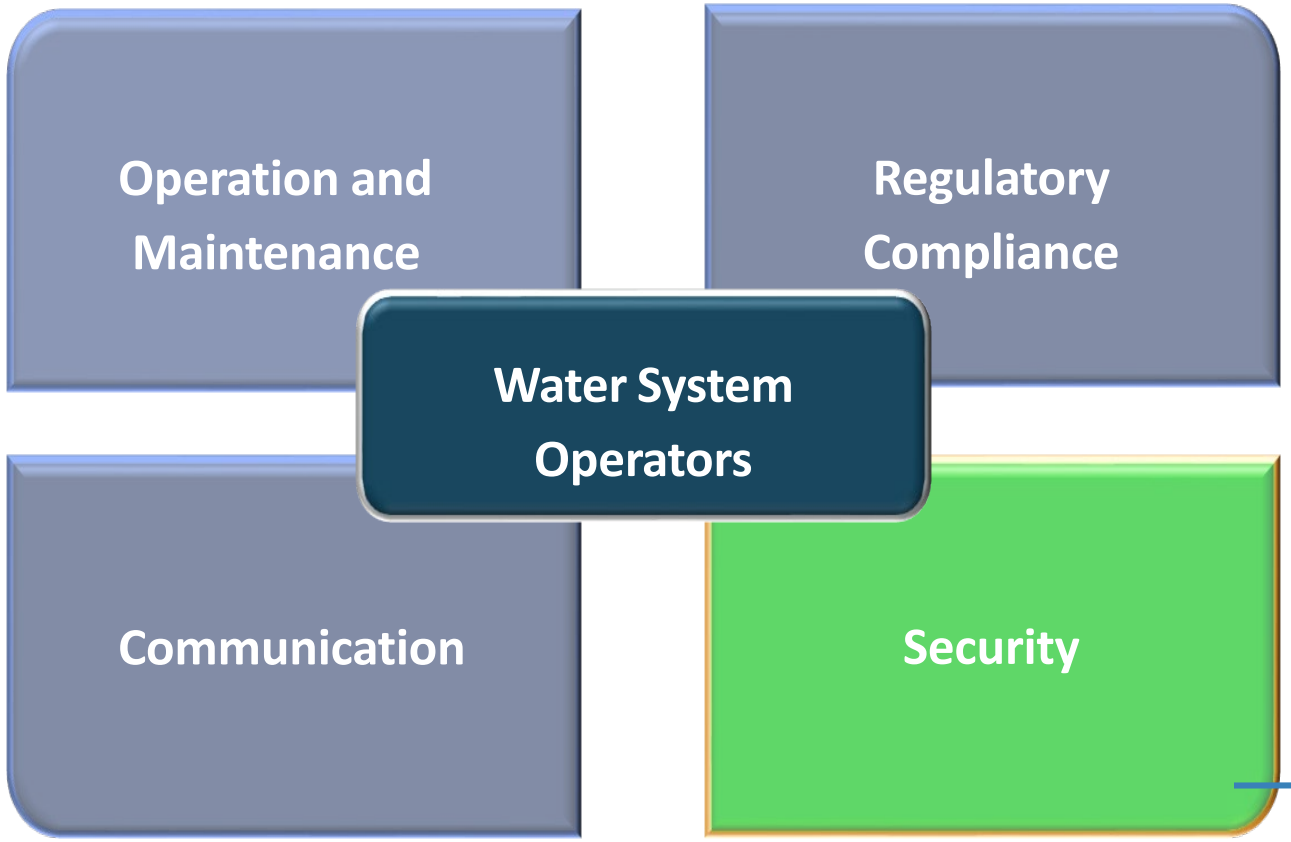
Water System Operator Duties and Responsibilities



Regulatory Compliance

Operators ensure that the system is in compliance with relevant drinking water regulations to protect public health.

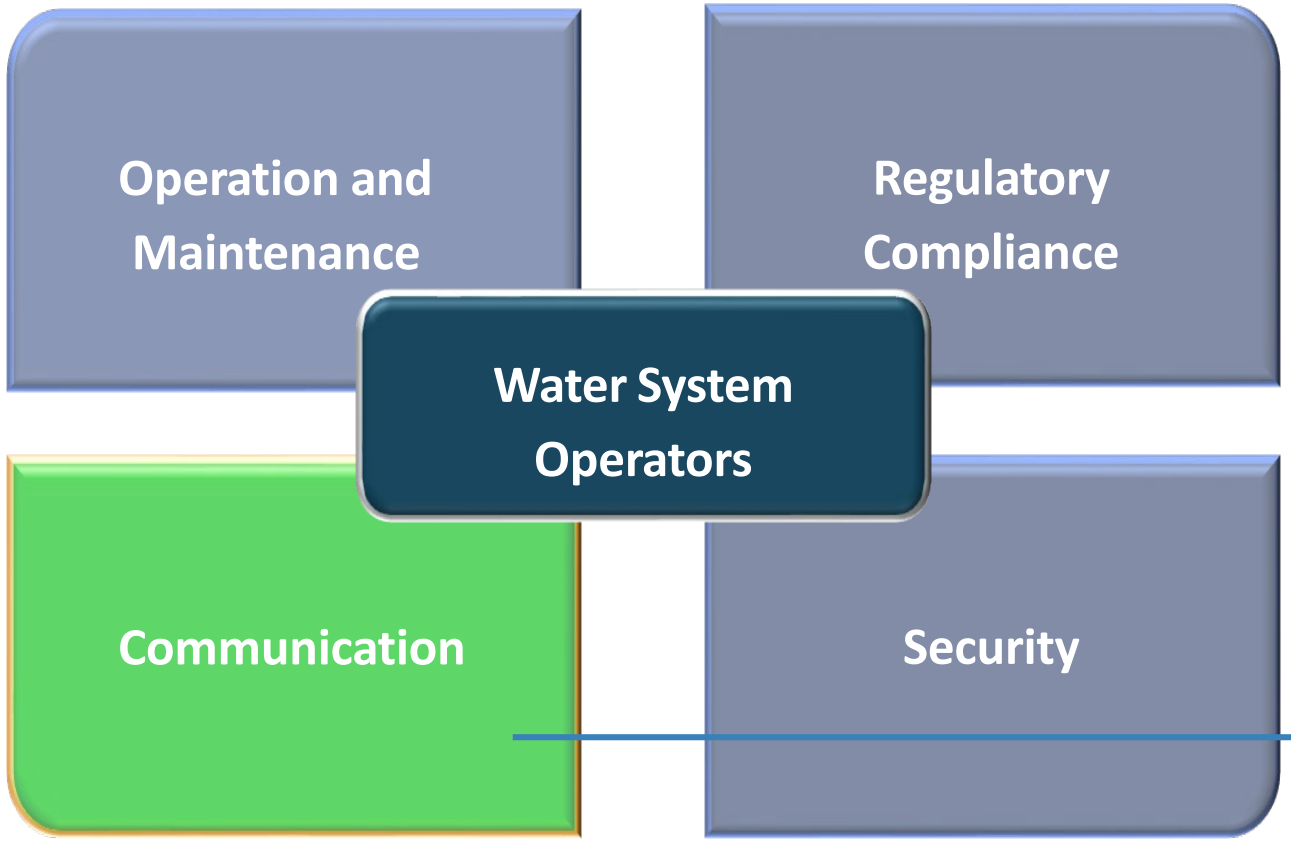
Water System Operator Duties and Responsibilities



System Security

Operators protect water systems against natural disasters and respond to emergencies. Certification requirements are defined by state and therefore vary by state.

Water System Operator Duties and Responsibilities

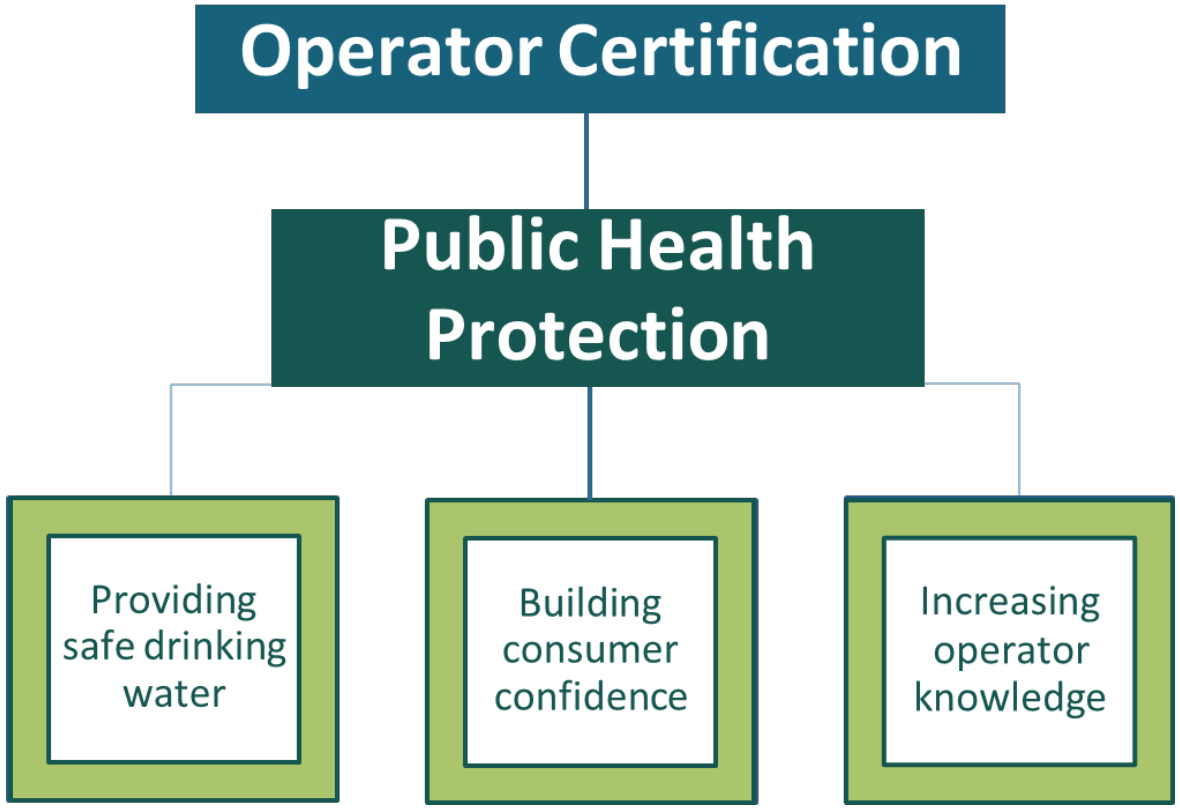


Communication

Operators must communicate effectively and maintain a good relationship with customers, system decision makers, and regulators.

Operator Certification

- Establishes minimum professional standards for the operation and maintenance of PWSs
- Ensures that skilled professionals are overseeing the treatment and distribution of safe drinking water
- States required to establish an Operator Certification program
  - Ensure operators are trained to run specific system (size and type) and treatment
  - State programs vary across states



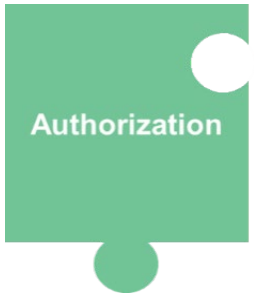
State Operator Certification Programs: 9 Baseline Standards

Minimum standards that each state must incorporate into Operator Certification Programs

State Operator Certification Programs: 9 Baseline Standards

AUTHORIZATION

Statutory and regulatory citations that authorize the Operator Certification Program and the implementing agency or agencies.



Authorization

- States must have legal authority to implement Operator Certification Program
- Program authority lies primarily in state agencies focused on public health or environmental/natural resources
- Some states have assigned authority to other agencies, such as licensing agencies or certification boards

State Operator Certification Programs: 9 Baseline Standards

CLASSIFICATION

Description of the method by which the state classifies its water supply systems, such as by system type, complexity of system components, or size.

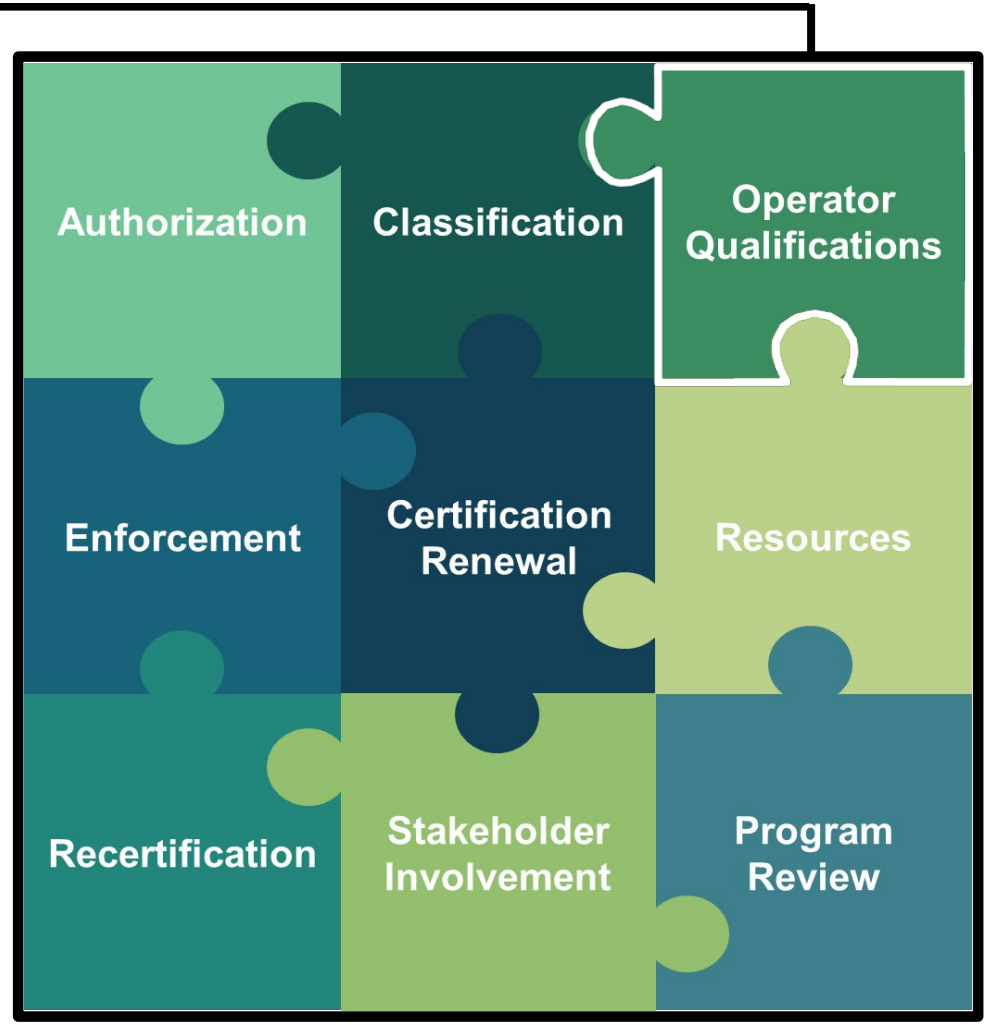
Classification of Systems, Facilities, and Operators

- Classification of all CWSs and NTNCWSs based on indicators of potential health risk
- Owners must place direct supervision of their water system under responsible charge of an operator
- All personnel making decisions affecting water quality or quantity must be certified
- Designated certified operator must be available for each operating shift

State Operator Certification Programs: 9 Baseline Standards

OPERATOR QUALIFICATIONS

Qualifications required for certification.



Operator Qualifications

- Operators must pass an exam that demonstrates they have the necessary skills, knowledge, ability and judgment
- All exam questions must be validated
- Operators must have as a minimum a high school diploma or GED
- Operators must have a defined minimum amount of on on-the the-job experience
- Grandparenting (no longer permitted)

Certified = Qualified

Qualified ≠ Certified

State Operator Certification Programs: 9 Baseline Standards

ENFORCEMENT

Description of the methods used by the state to enforce operator certification requirements and the agency or agencies that carry out enforcement actions.

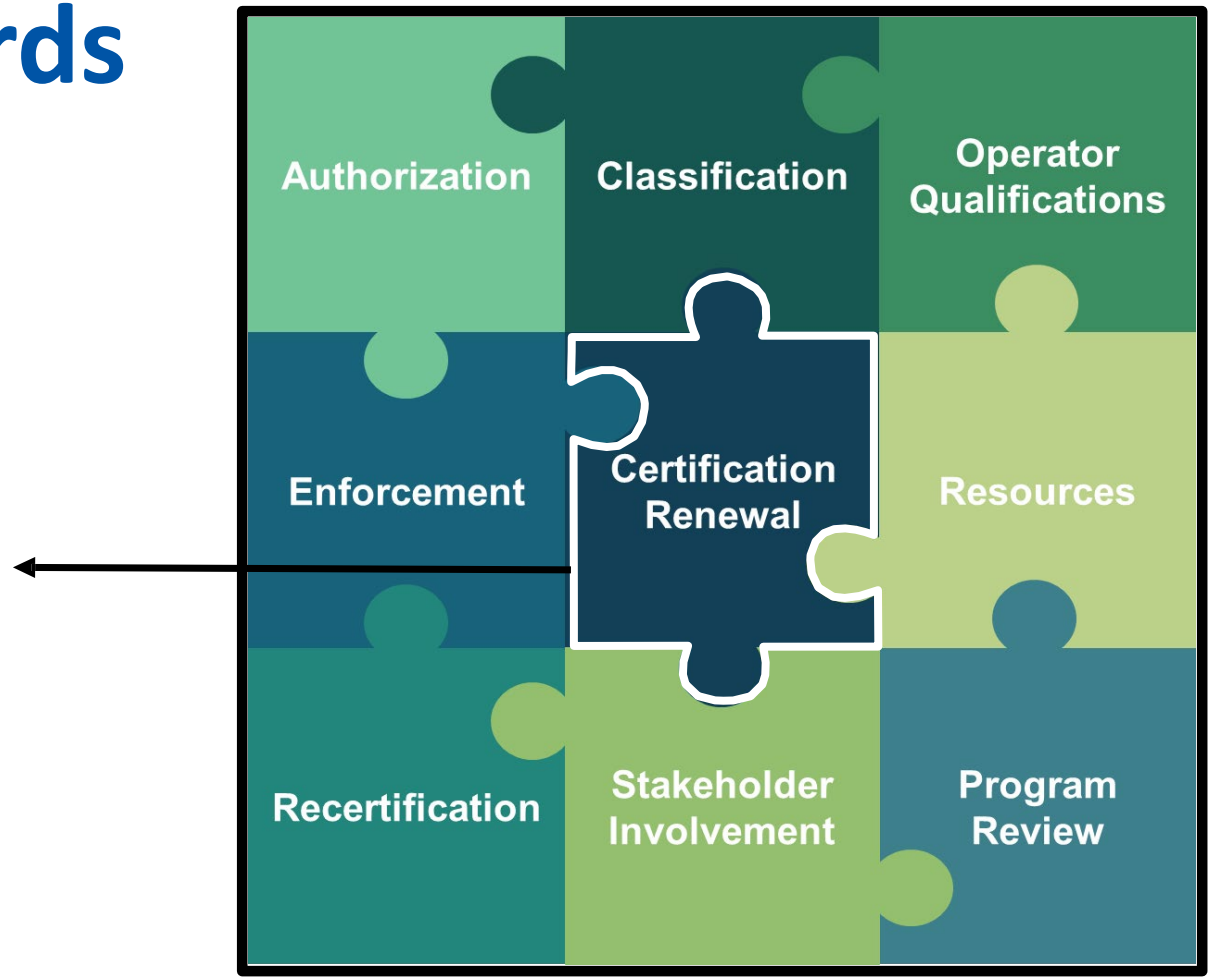
Enforcement

- States with PWSS program primacy must have regulations that meet guidelines
- States must have the ability to revoke operator certifications
- States must have the ability to suspend operator certifications, or take other appropriate enforcement action for operator misconduct

State Operator Certification Programs: 9 Baseline Standards

CERTIFICATION RENEWAL

Ongoing requirements that an operator must meet to maintain a certification.



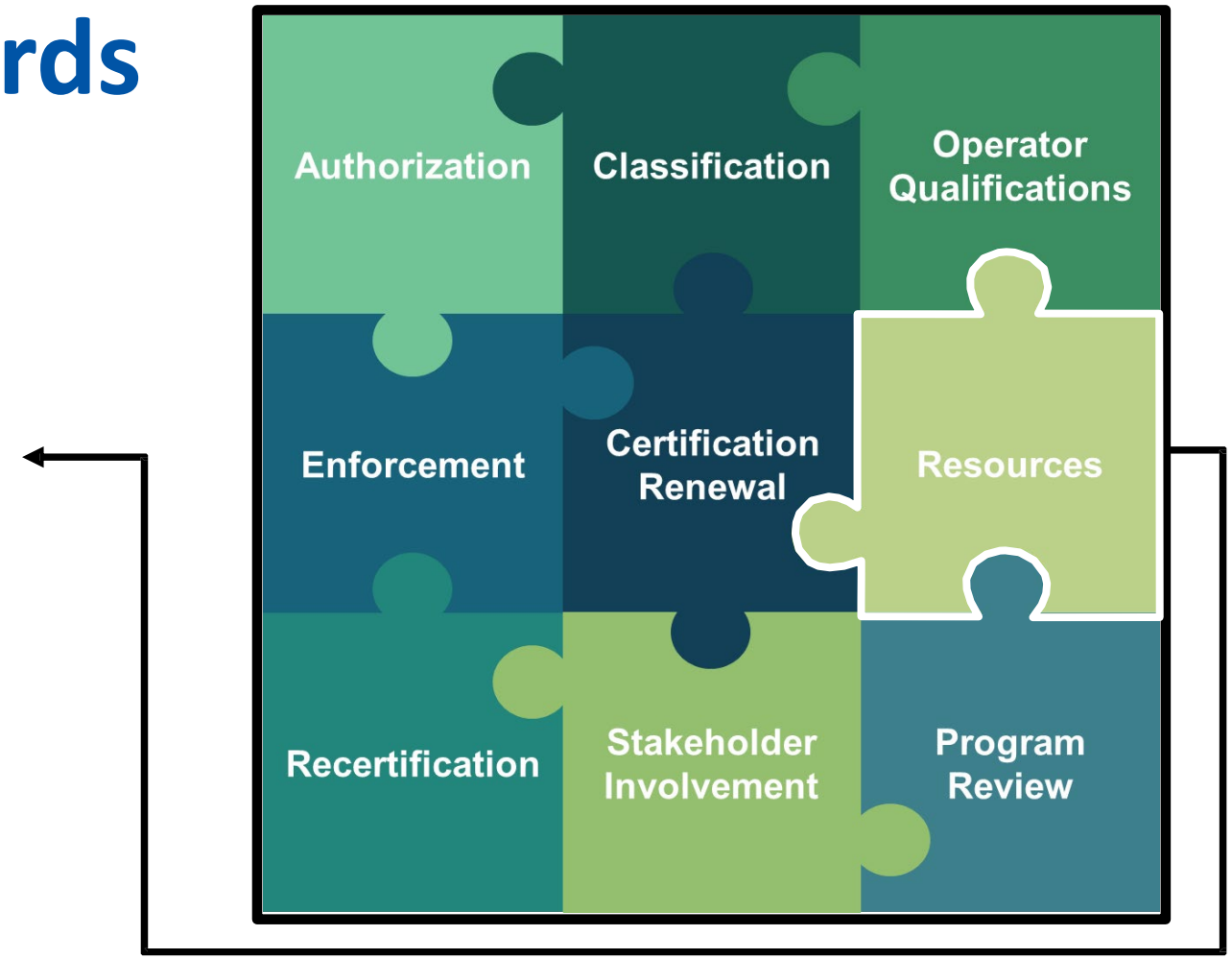
Certification Renewal

- States must establish training requirements for renewal
- States must require all operators to acquire state-approved training
- States must have a fixed cycle of renewal
- States must require an individual to recertify if the individual fails to renew or qualify for renewal
- Whether an operator must renew a certificate annually, biannually, or triennially varies by state

State Operator Certification Programs: 9 Baseline Standards

RESOURCES

List of funding sources, including fee-based programs, staffing resources, budget, and data management activities.



Resource Needed to Implement the Program

- States must provide sufficient resources to adequately fund and sustain the program
- EPA recommended establishing a self-sufficient fund

State Operator Certification Programs: 9 Baseline Standards

RECERTIFICATION

Identification of recertification requirements to renew a certificate, or loss of a certificate due to expiration, revocation or suspension.

Recertification

- States must have a process for recertification of individuals
- Recertification process must include review of experience, training, and reexamination
- States can develop more stringent requirements for expired, revoked or suspended certificates

State Operator Certification Programs: 9 Baseline Standards

STAKEHOLDER INVOLVEMENT

Description of stakeholder involvement in Operator Certification Program implementation and review.

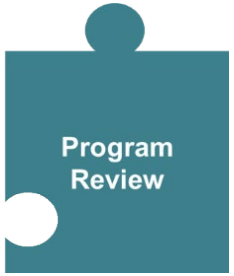
Stakeholder Involvement

- States must include ongoing stakeholder involvement the program
- Public comment on rule revisions alone is not adequate
- Recommendation: establish a stakeholder board or advisory committee

State Operator Certification Programs: 9 Baseline Standards

PROGRAM REVIEW

Information on whether there is a regular formal review (internal or external) process for the state's program.



Program Review

- States perform reviews of their programs:
  - ✓ Internal reviews every 3 years
  - ✓ External or peer reviews every 5 years

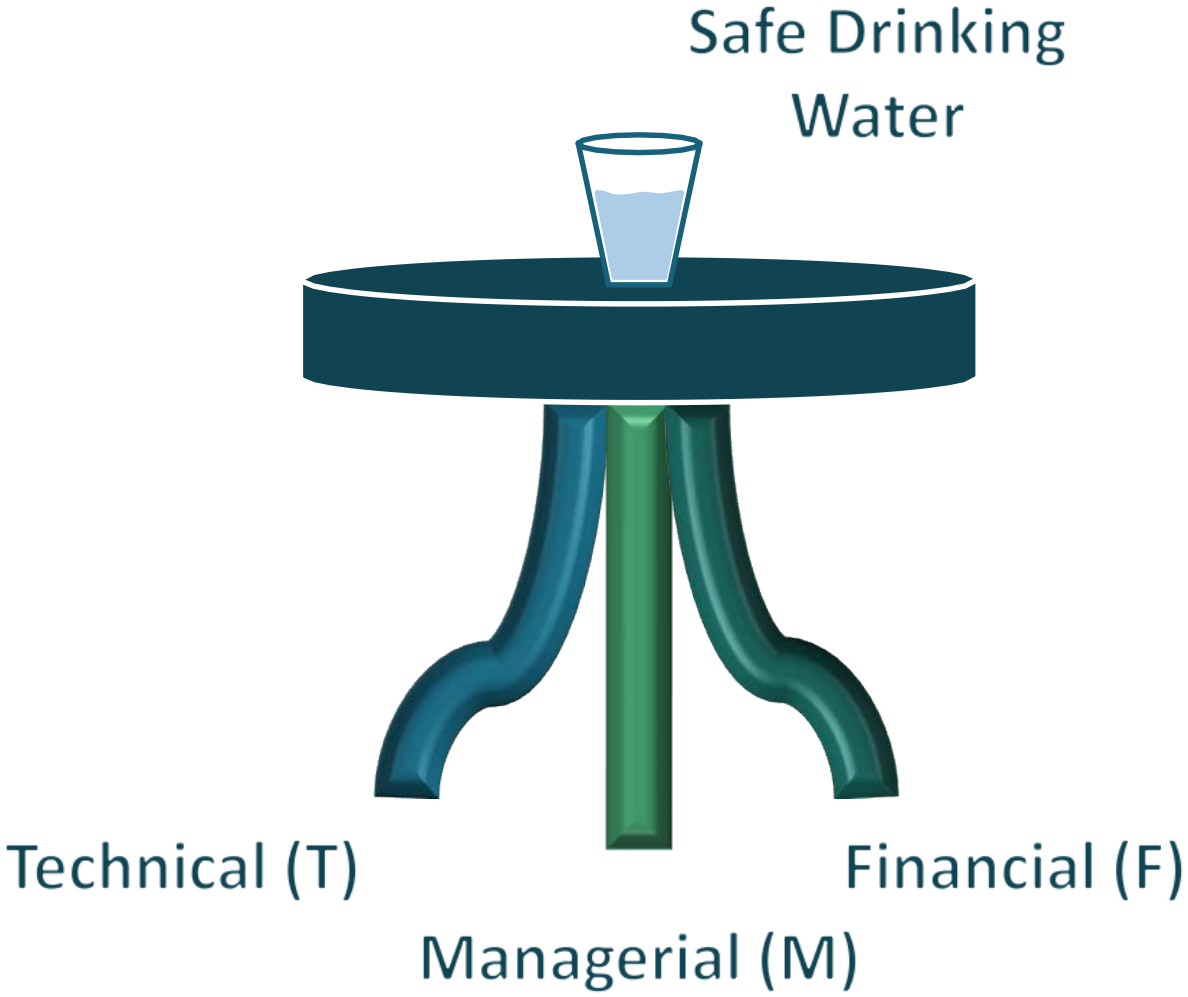
Capacity Development

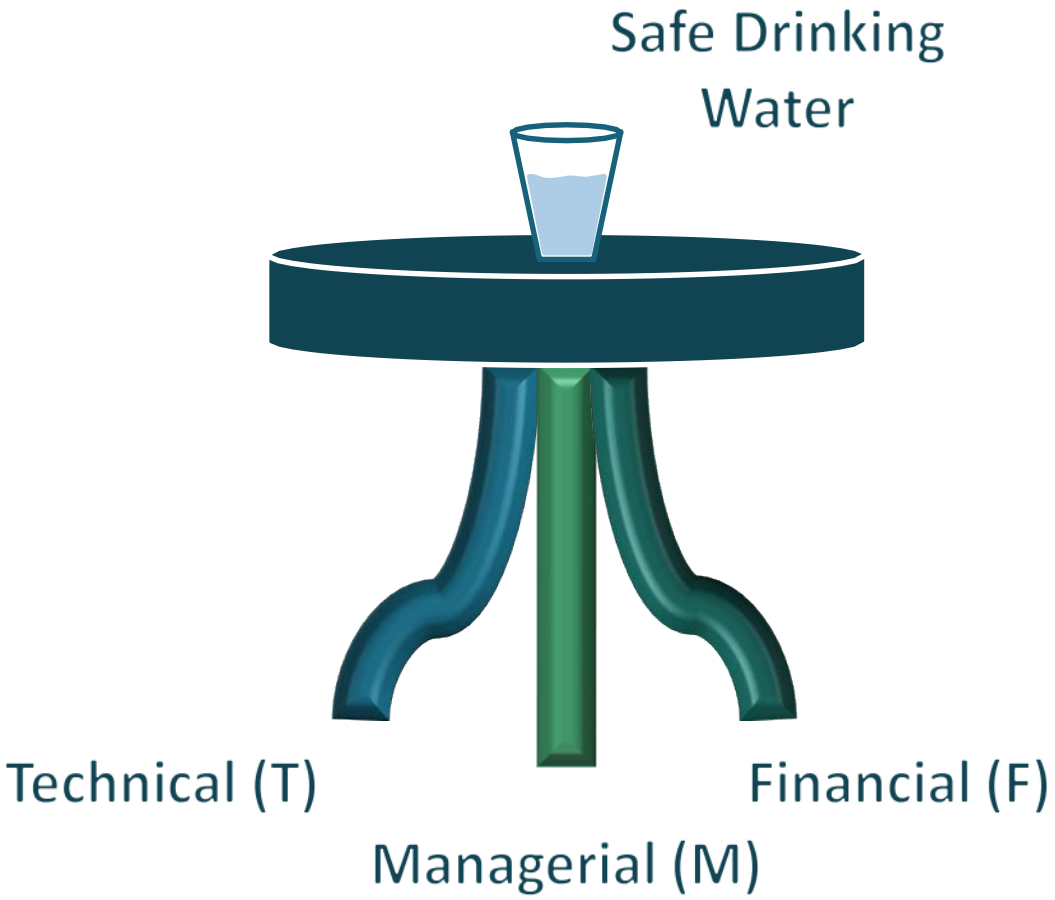
What is Capacity?

The ability to plan for, achieve, and maintain compliance with applicable drinking water standards

Includes sufficient capabilities in 3 areas:

Technical (T), Managerial (M), Financial (F)


Safe Drinking Water
Technical (T)
Financial (F)
Managerial (M)

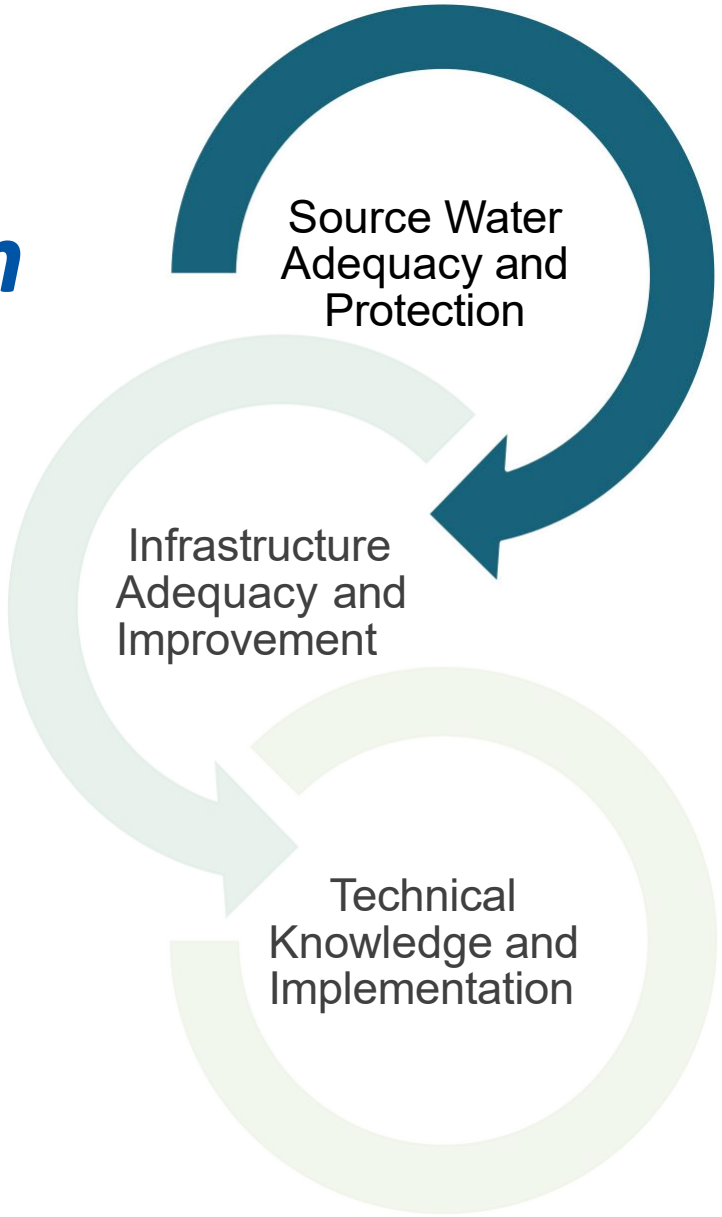


Technical Capacity:
The physical and operational ability of a water system to meet SDWA requirements, including the adequacy of physical infrastructure and the technical knowledge and capability of personnel.

Maintaining high quality source water, replacing outdated infrastructure, and ensuring an operator is certified are all examples of technical capacity.

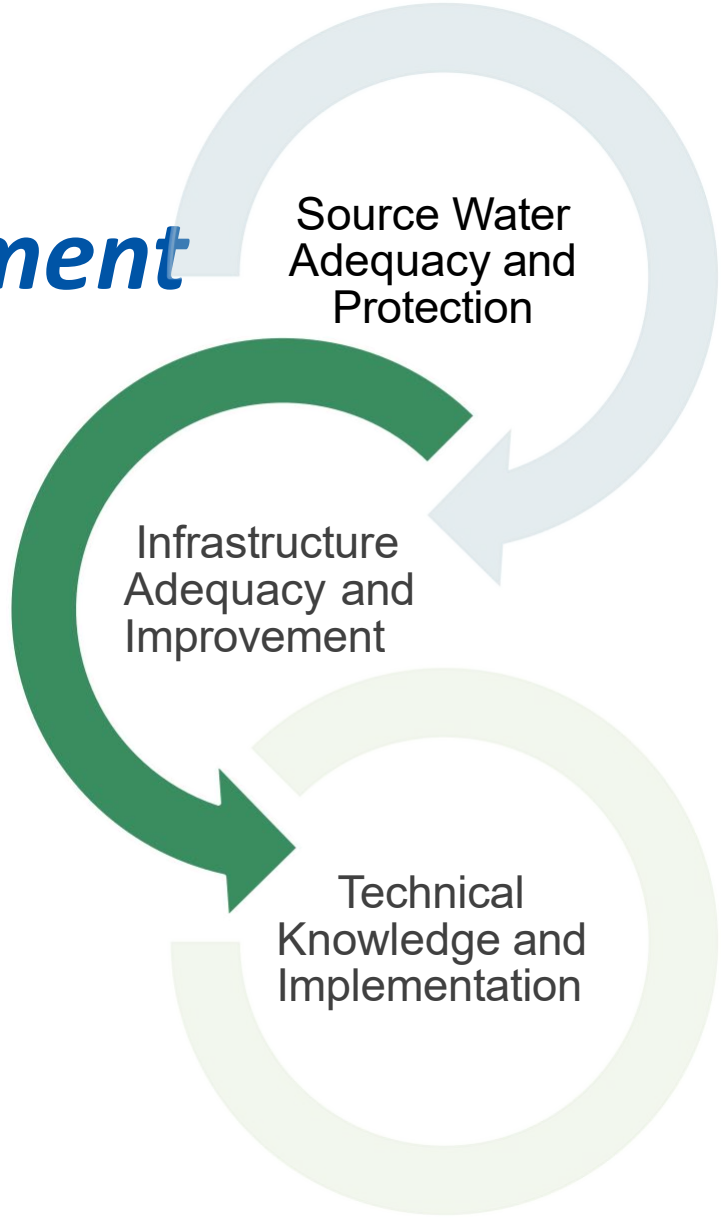
Elements of Technical Capacity:
Source Water Adequacy & Protection

- Source Water Adequacy Means:
  - Reliable source of drinking water
  - High quality and adequately protected
  - Safe yield to meet current and future demands
- "Best" Source of Supply



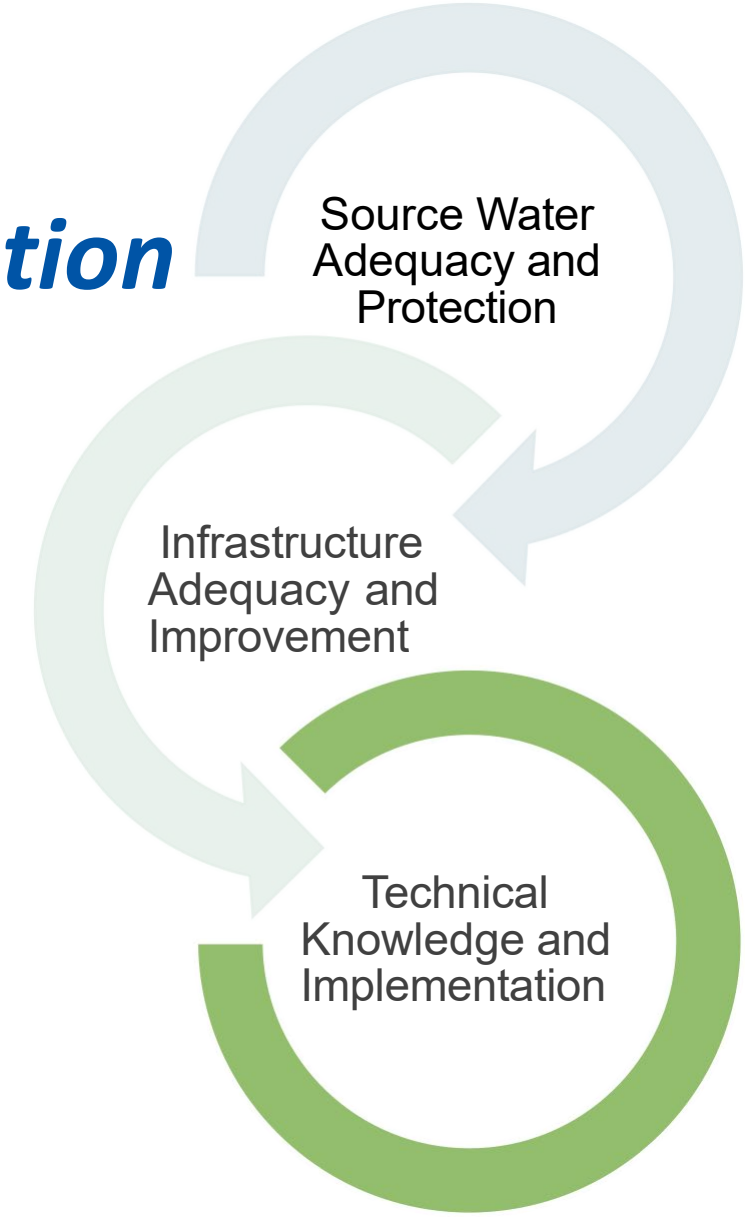
Elements of Technical Capacity:
Infrastructure Adequacy & Improvement

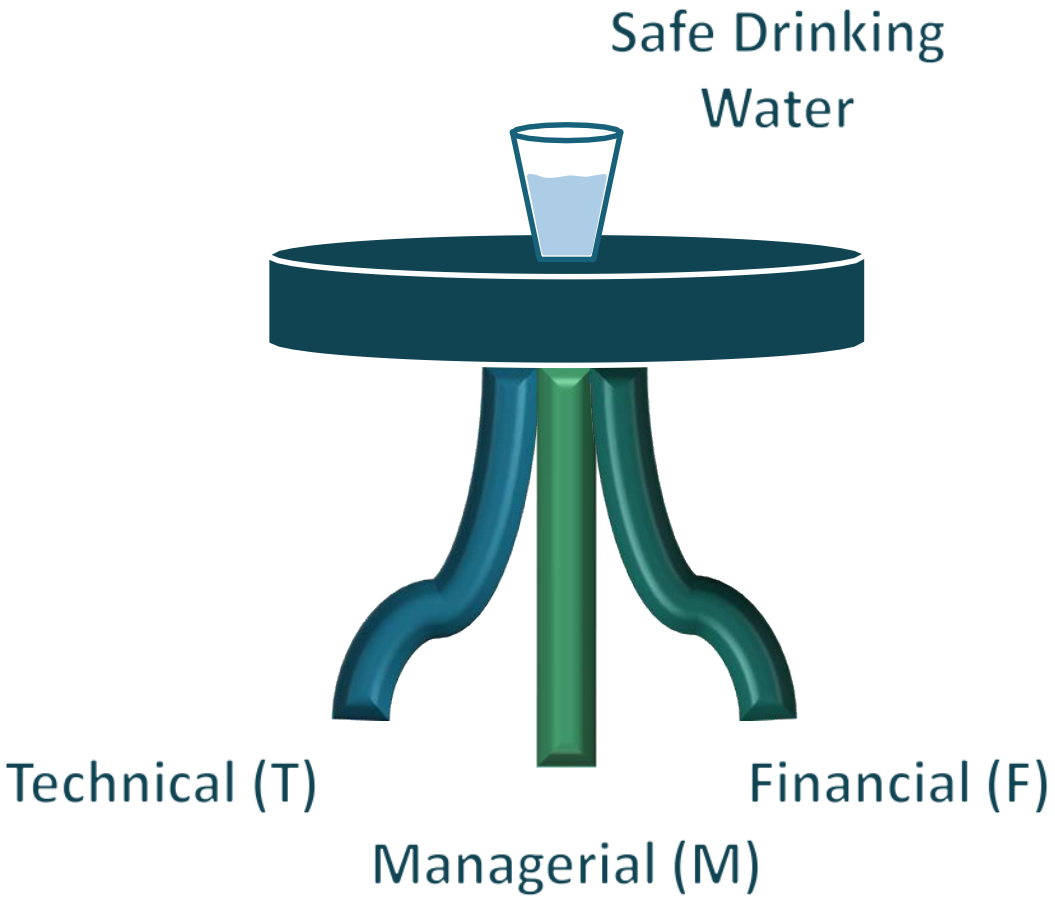
- Water meets SDWA standards
- Adequate infrastructure, from source of supply to distribution
- Adequate planning to ensure timely infrastructure repairs and replacement



Elements of Technical Capacity:
Technical Knowledge & Implementation

- Operators have:
  - Appropriate certification
  - Sufficient technical knowledge and the ability to implement that knowledge
  - Understanding of systems' technical and operational characteristics
- System has effective Operation & Maintenance (O&M) strategies





Managerial Capacity:
The ability of a water system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with SDWA requirements, including institutional and administrative capabilities.

Identifying system ownership, staffing the appropriate personnel, and communicating regularly with customers are all examples of managerial capacity.

Elements of Managerial Capacity: *Ownership Accountability*

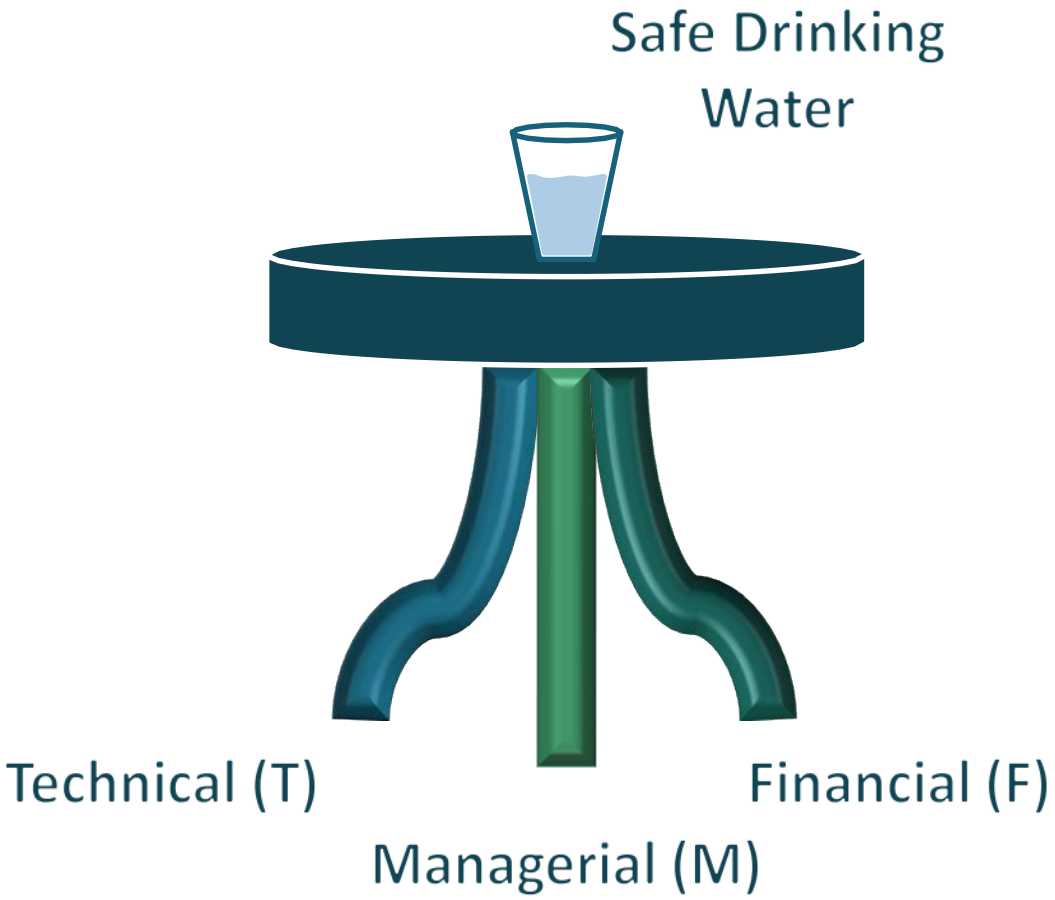
- Clear identification of system operators and managers
- Key attributes include governing body transparency and accountability, as well as clear and well-communicated policies

Elements of Managerial Capacity:
Staffing & Organization

- Proper organization and staff with adequate expertise that:
  - Understand regulatory requirements
  - Obtain appropriate licenses and certifications
- Key attributes include training and monitoring certification compliance

Elements of Managerial Capacity:
Effective External Linkages

- Effective interaction with key stakeholders
- Awareness of available external resources and partnership opportunities
- Key attributes include customer engagement, planning, asset management, compliance, and water loss

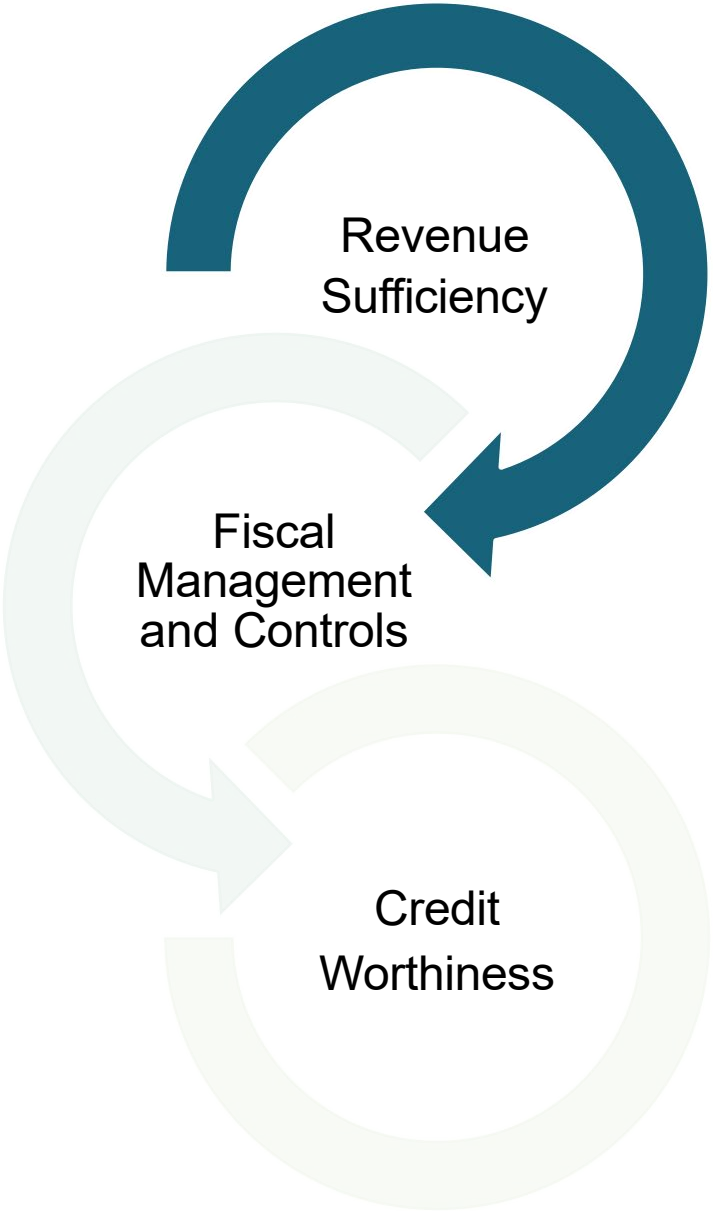


Financial Capacity:
The ability of a water system to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements.

Ensuring revenues exceed costs, maintaining financial records, and establishing good credit are all examples of financial capacity.

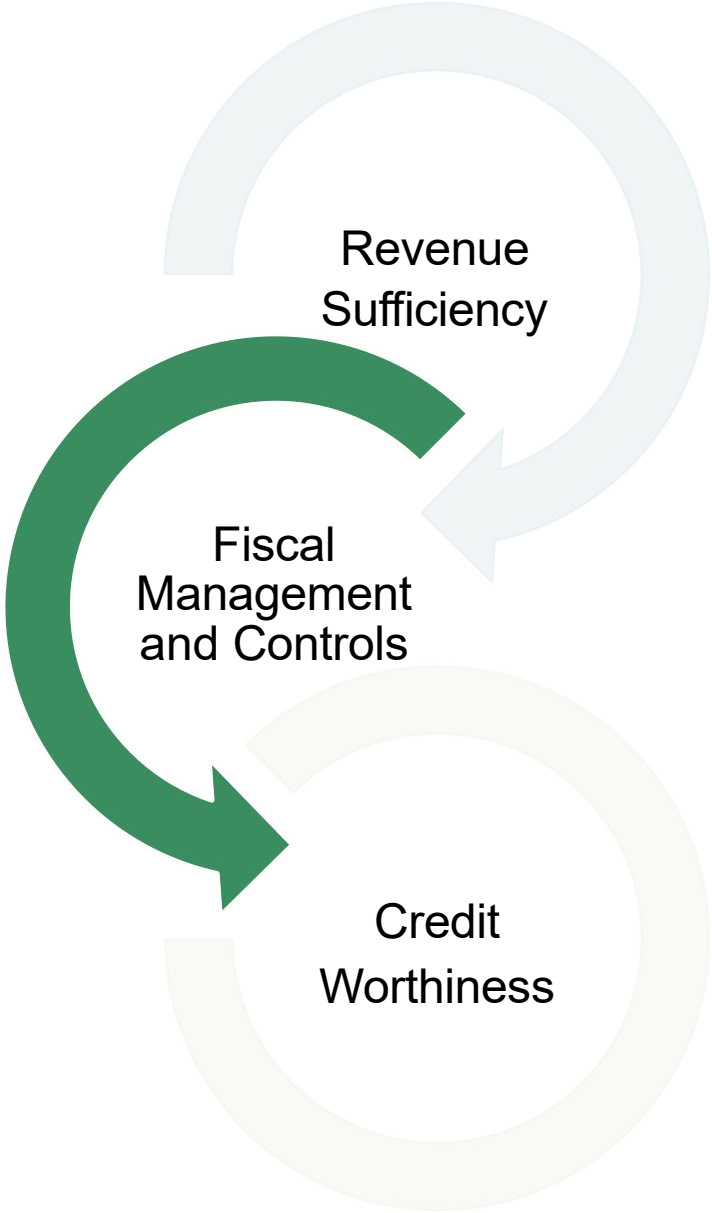
Elements of Financial Capacity:
Revenue Sufficiency

- Known/measurable costs and revenues
  - Revenue from water sales, fees, and subsidies
  - Costs from salaries, materials, and debt interests
- Assets properly valued and reflected in rates
- Revenues from rates and charges cover system's operational costs



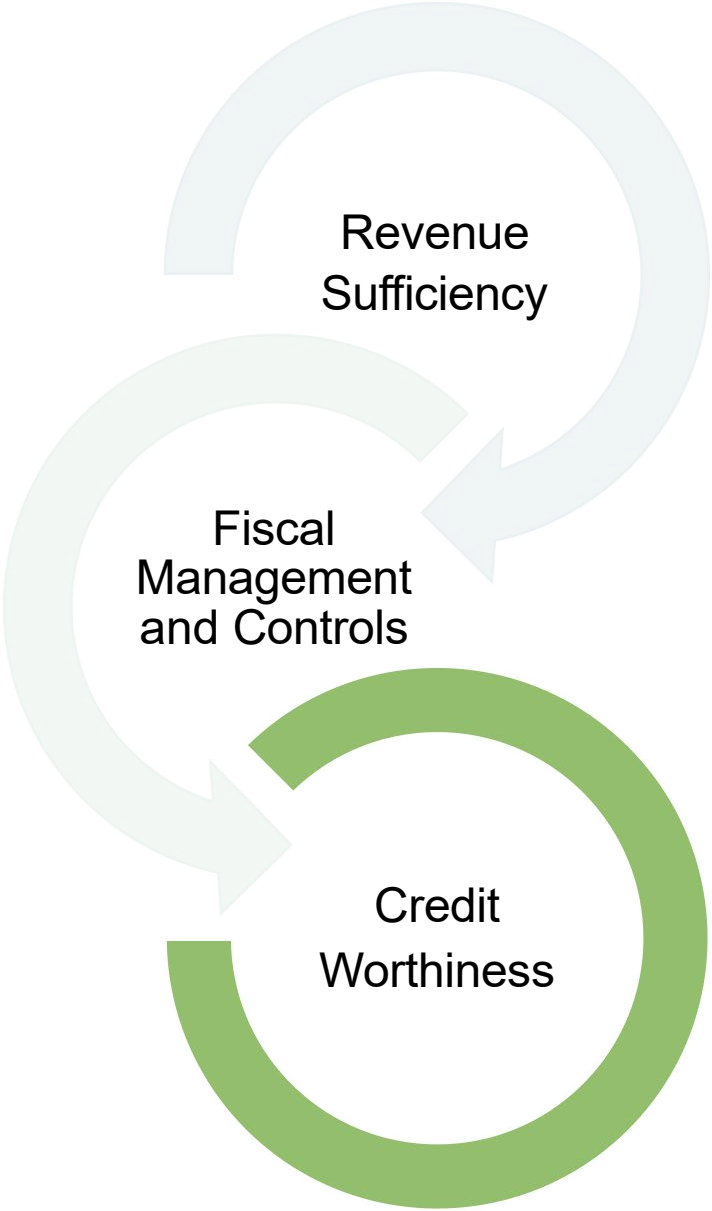
Elements of Financial Capacity:
Fiscal Management & Controls

- Sound financial management
  - Books and records maintained
  - Budgeting, accounting, and financial planning
  - Revenue management



Elements of Financial Capacity:
Credit Worthiness

- Financial health (measured through indicators, ratios, and ratings)
- Credit record and access to capital
- Assurance of repayment



Benefits of Capacity Development

Decreased Need For Direct Technical Assistance

Improved Compliance

Better Prepared And Positioned To Respond To New Regulations And Any Type Of Emergency

SDWA §1420

- States must establish programs to assist in developing the TMF capacity of PWSs.
- Public water systems (PWSs) are categorized into “new” and “existing” when considered within a capacity development framework.
- States must also assess the TMF capacity for PWSs applying for DWSRF loans

New Systems

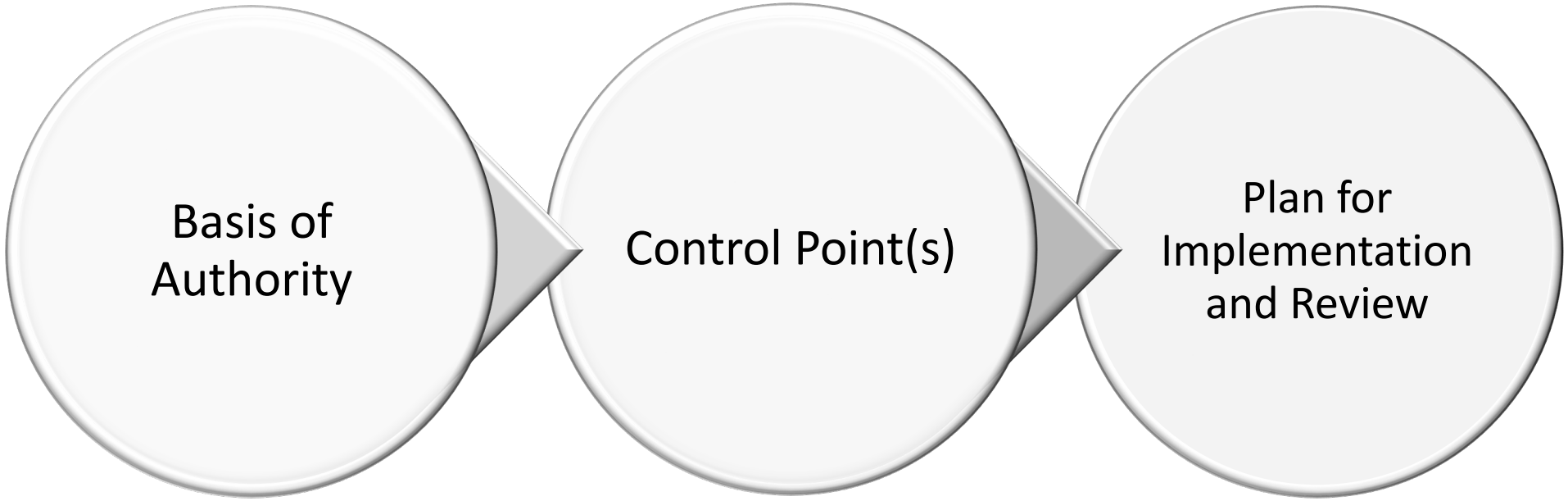
Must demonstrate TMF Capacity prior to providing service to the public

Existing Systems

Must build and maintain TMF Capacity in order to be eligible for DWSRF

SDWA §1420 (a) New Systems Program

When a state considers capacity development, the following three key components of state documentation must be kept in mind:



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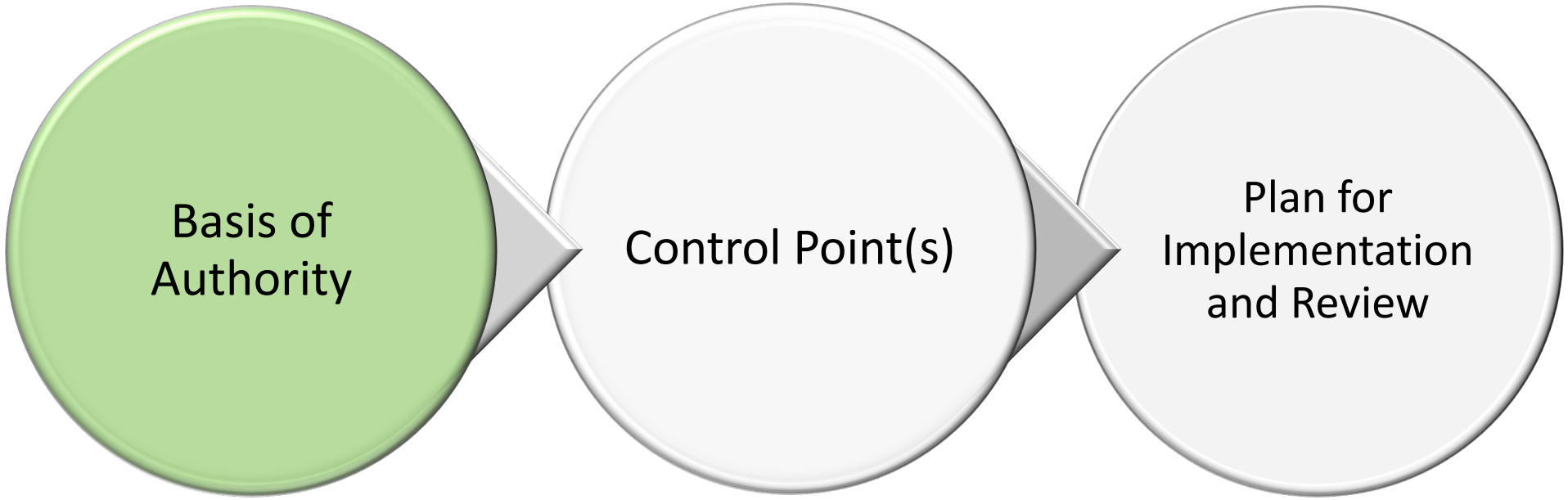

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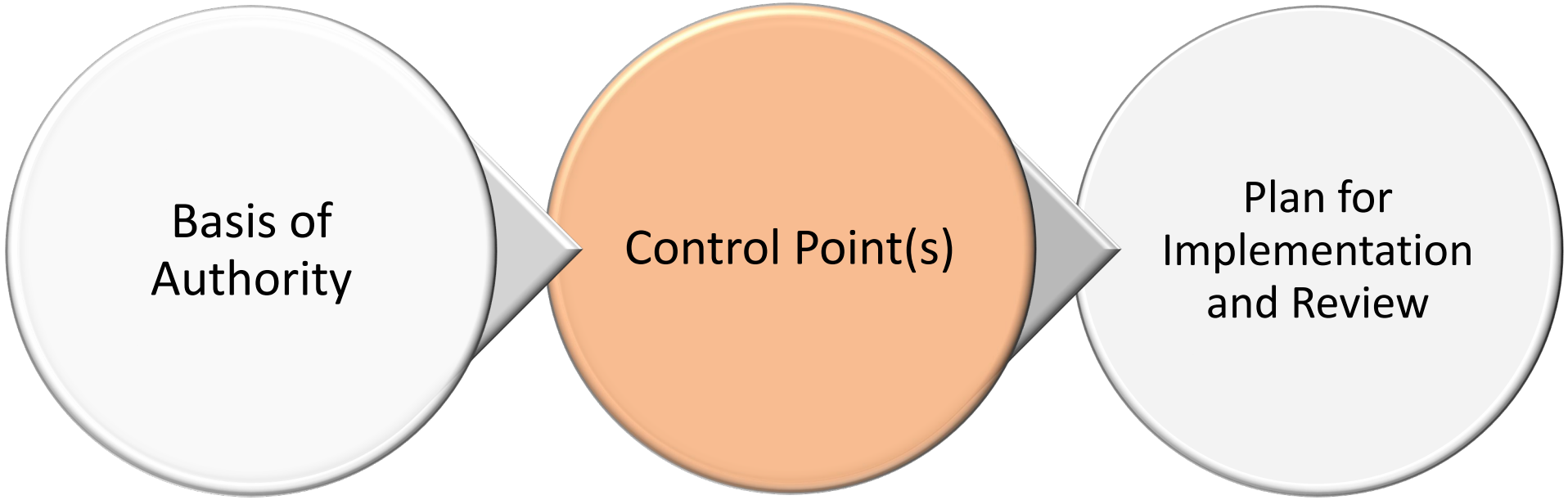

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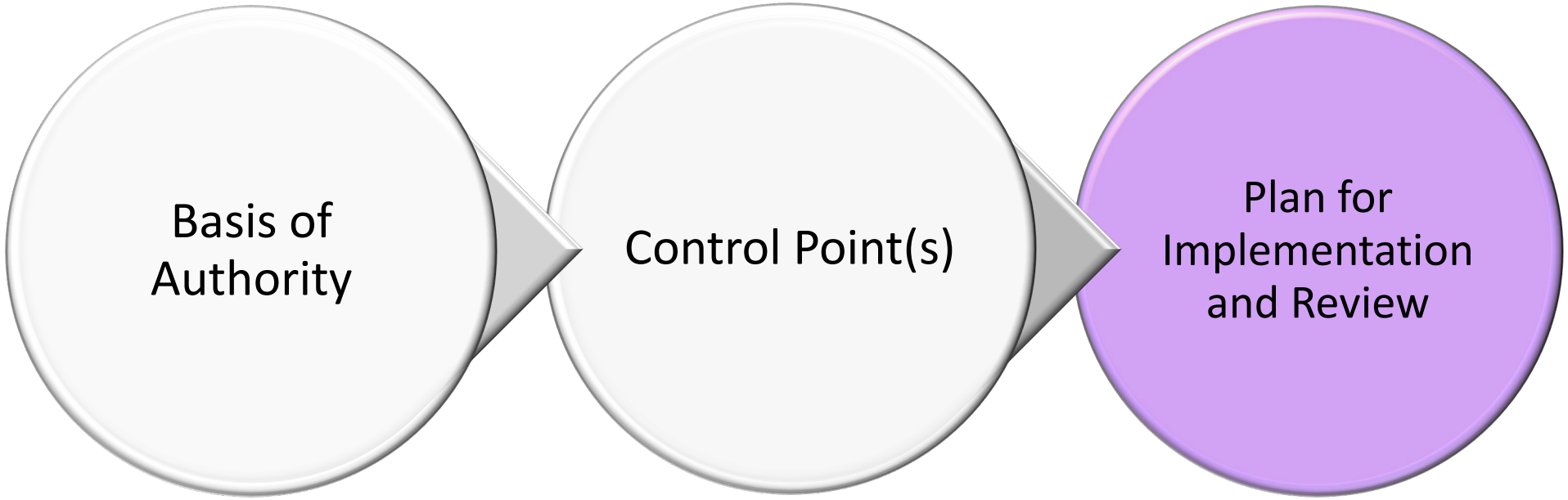
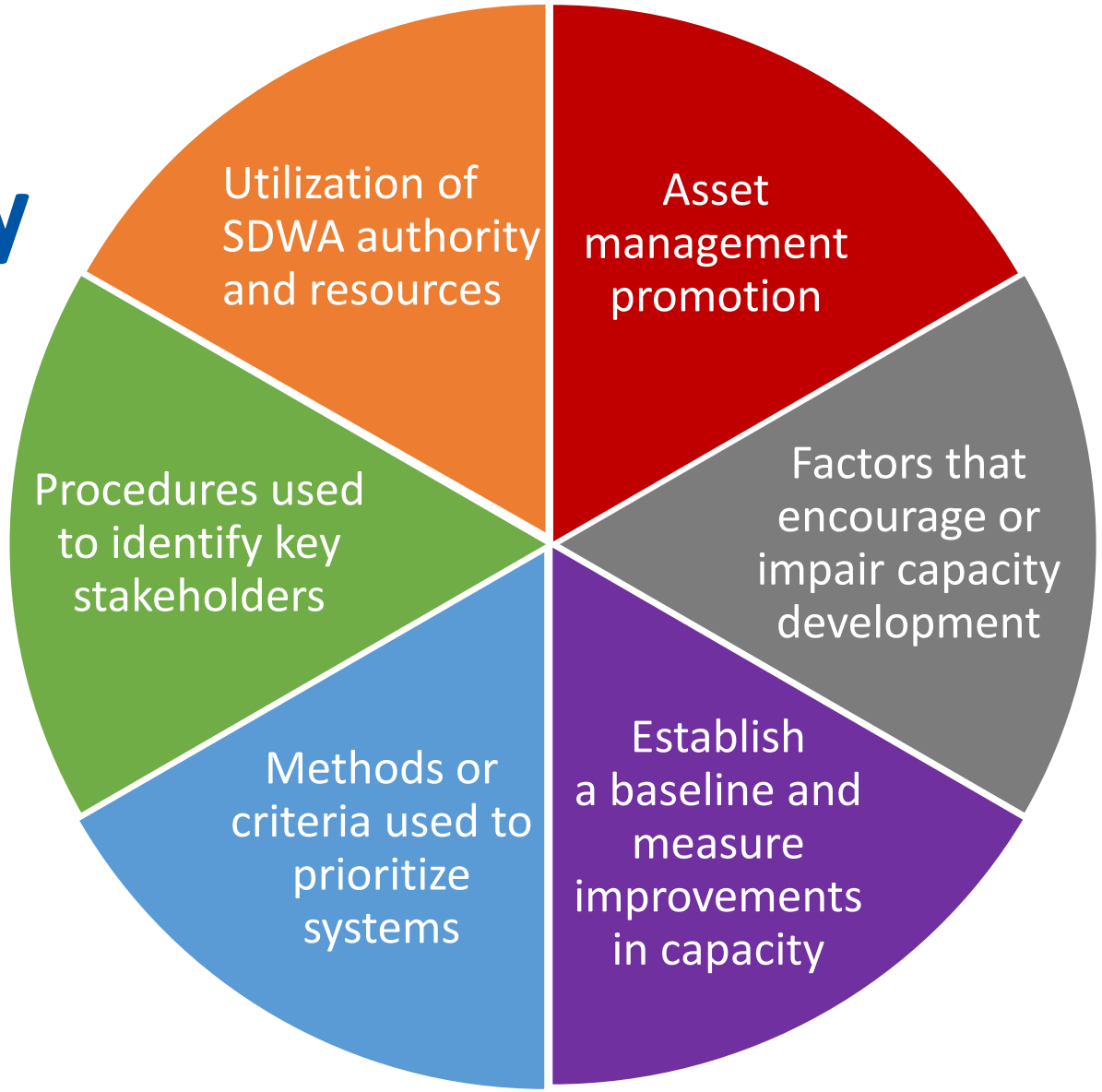


State Responsibilities for New Systems Program

- ☑ Evaluate implementation and on-going effectiveness of the capacity development program
- ☑ New systems should not have a violation in the first three years of operation
- ☑ Potential new systems program reevaluation and revision if violation trends occur

SDWA §1420 (c)(2) Existing System Strategy

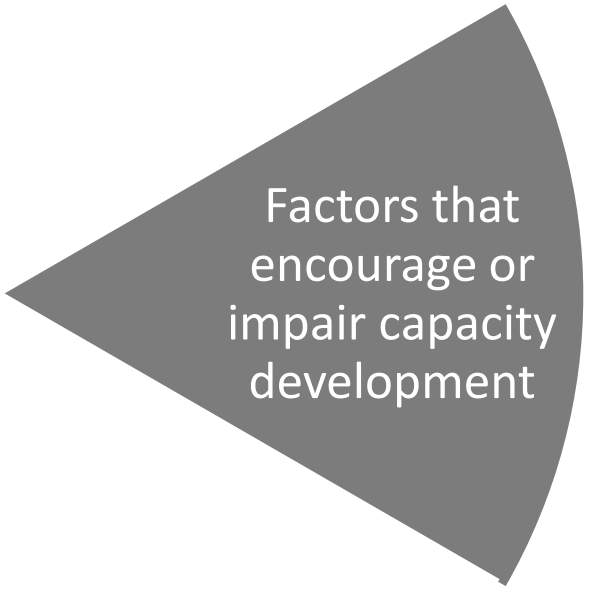
When a state establishes their capacity development program, the following six key elements are to be considered, solicit public comment on, and be included in the state's strategy:



SDWA §1420 (c)(2)
Existing System Strategy

Institutional, Regulatory, Financial, Tax, or Legal Factors at the Federal, State, or local level

Factors that Encourage	Factors that Impair
• Technical assistance programs through the state and third-party organizations • Legal or regulatory authority to encourage consolidations and water system partnerships • Source water protection and water conservation efforts	• Limitations to legal or regulatory authority in the state to enforce capacity building activities • Insufficient state or local funding for infrastructure improvements • Lack of reciprocity of operator certification



SDWA §1420 (c)(2)
Existing System Strategy

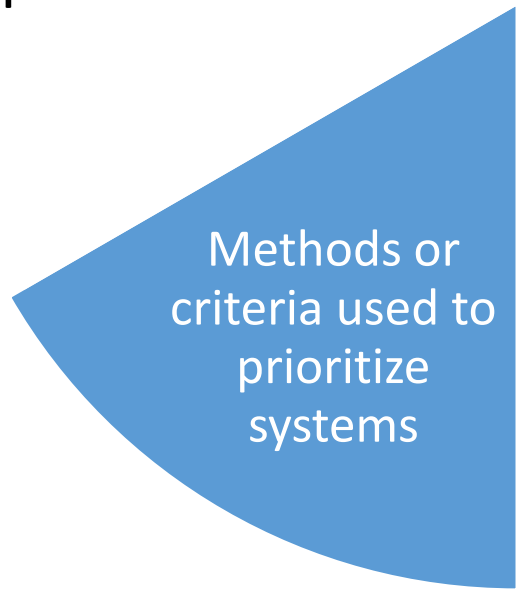
States need to establish baselines to measure improvements and fulfil their responsibility in reporting the success and efficiency of their program to the EPA and the Governor. Examples include:

- Volume of Activity
- Operator Certification
- Planning Mechanisms
- Compliance Data

SDWA §1420 (c)(2)
Existing System Strategy

How states are identifying and prioritizing systems that need to improve their TMF capacity. State can consider and adopt one or more approaches including:

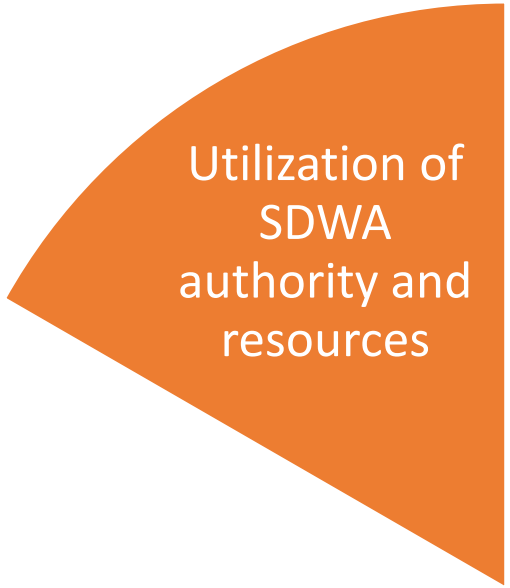
- Capacity Assessment Forms (state survey or self-assessment form)
- Compliance Data
- DWSRF Loan Applications
- Sanitary Surveys
- Site Inspections
- Permitting Requirements



SDWA §1420 (c)(2)
Existing System Strategy

When developing a state-level strategy, it is key to identify individuals who are involved in the development and implementation of the Capacity Development program, and who can provide valuable input on drinking water challenges and their solutions.

SDWA §1420 (c)(2) Existing System Strategy



States to use the authority and resources of the SDWA to

- Assist PWSs in complying with NPDWRs
- Enhance TMF capacity by encouraging partnerships between PWSs
- Assist in the training and certification of water system operators

Tools to exercise authority

Enforcement Records, Public Education Programs, Permit Requirements, Sanitary Surveys, Water Conservation Plans, Restructuring, Operator Training and Testing, Rate Structure Reviews, Water Quality Studies, Emergency Response Plans, Operator "Peer Review" programs, Coordination with other Agencies, and more!

SDWA §1420 (c)(2)
Existing System Strategy

The purpose of this element is for states to include in their state Capacity Development strategies a description of how they will encourage development of asset management plans and assist with its implementation.

Framework of Asset Management

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?

Creating an Effective Strategy

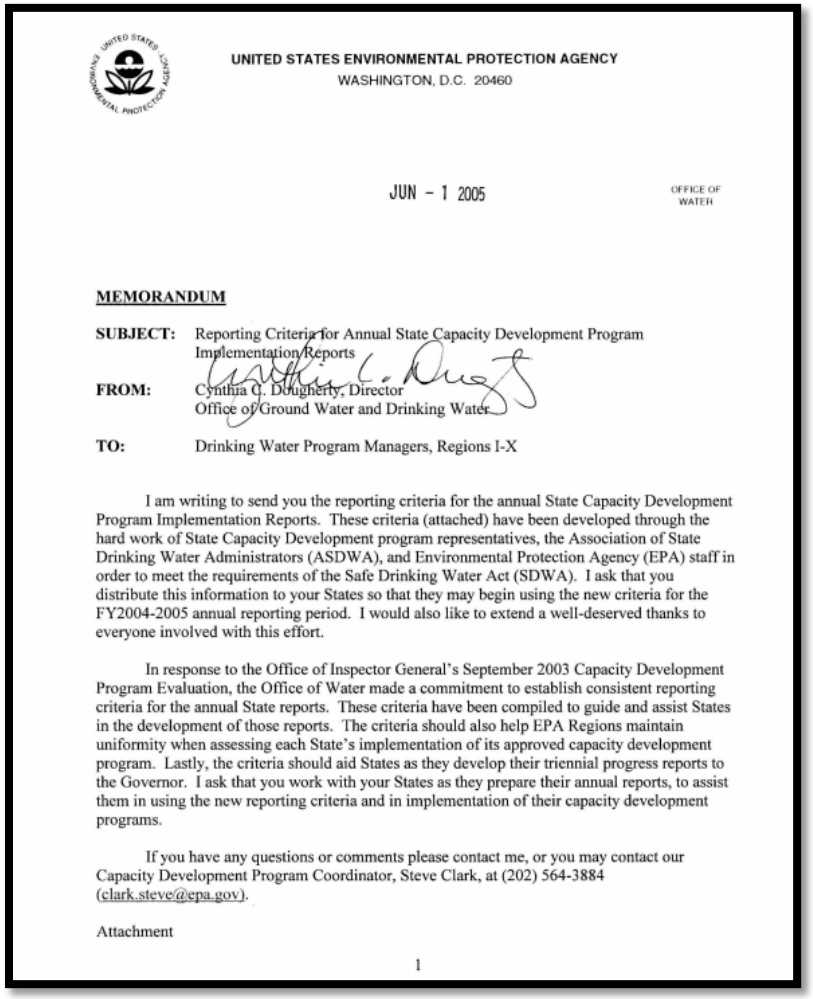
- ✓ Flexible
- ✓ Proactive
- ✓ Integrated
- ✓ Accountable
- ✓ Collaborative
- ✓ Measurable

- × Too Specific
- × Too General or Vague
- × Static Endpoint
- × Reactive

State Capacity Development Program Implementation Report

Annual reports must be submitted to EPA Regional Office within 90 days of the end of the reporting period

States can refer to EPA's "Reporting Criteria for Annual State Capacity Development Program Implementation Reports" memo for guidance on the development of annual state implementation reports.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 1 2005

OFFICE OF WATER

MEMORANDUM

SUBJECT: Reporting Criteria for Annual State Capacity Development Program Implementation Reports

FROM: Cynthia C. Dougherty, Director
Office of Ground Water and Drinking Water

TO: Drinking Water Program Managers, Regions I-X

I am writing to send you the reporting criteria for the annual State Capacity Development Program Implementation Reports. These criteria (attached) have been developed through the hard work of State Capacity Development program representatives, the Association of State Drinking Water Administrators (ASDWA), and Environmental Protection Agency (EPA) staff in order to meet the requirements of the Safe Drinking Water Act (SDWA). I ask that you distribute this information to your States so that they may begin using the new criteria for the FY2004-2005 annual reporting period. I would also like to extend a well-deserved thanks to everyone involved with this effort.

In response to the Office of Inspector General's September 2003 Capacity Development Program Evaluation, the Office of Water made a commitment to establish consistent reporting criteria for the annual State reports. These criteria have been compiled to guide and assist States in the development of those reports. The criteria should also help EPA Regions maintain uniformity when assessing each State's implementation of its approved capacity development program. Lastly, the criteria should aid States as they develop their triennial progress reports to the Governor. I ask that you work with your States as they prepare their annual reports, to assist them in using the new reporting criteria and in implementation of their capacity development programs.

If you have any questions or comments please contact me, or you may contact our Capacity Development Program Coordinator, Steve Clark, at (202) 564-3884 (clark.steve@epa.gov).

Attachment

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State Capacity Development Program Implementation Report

New System Program Criteria

- Any changes to the state's legal authority
- Any changes to the state's control points
- A list of new systems that started operation within the past 3 years and if any were Enforcement Priorities

Existing System Strategy Reporting Criteria

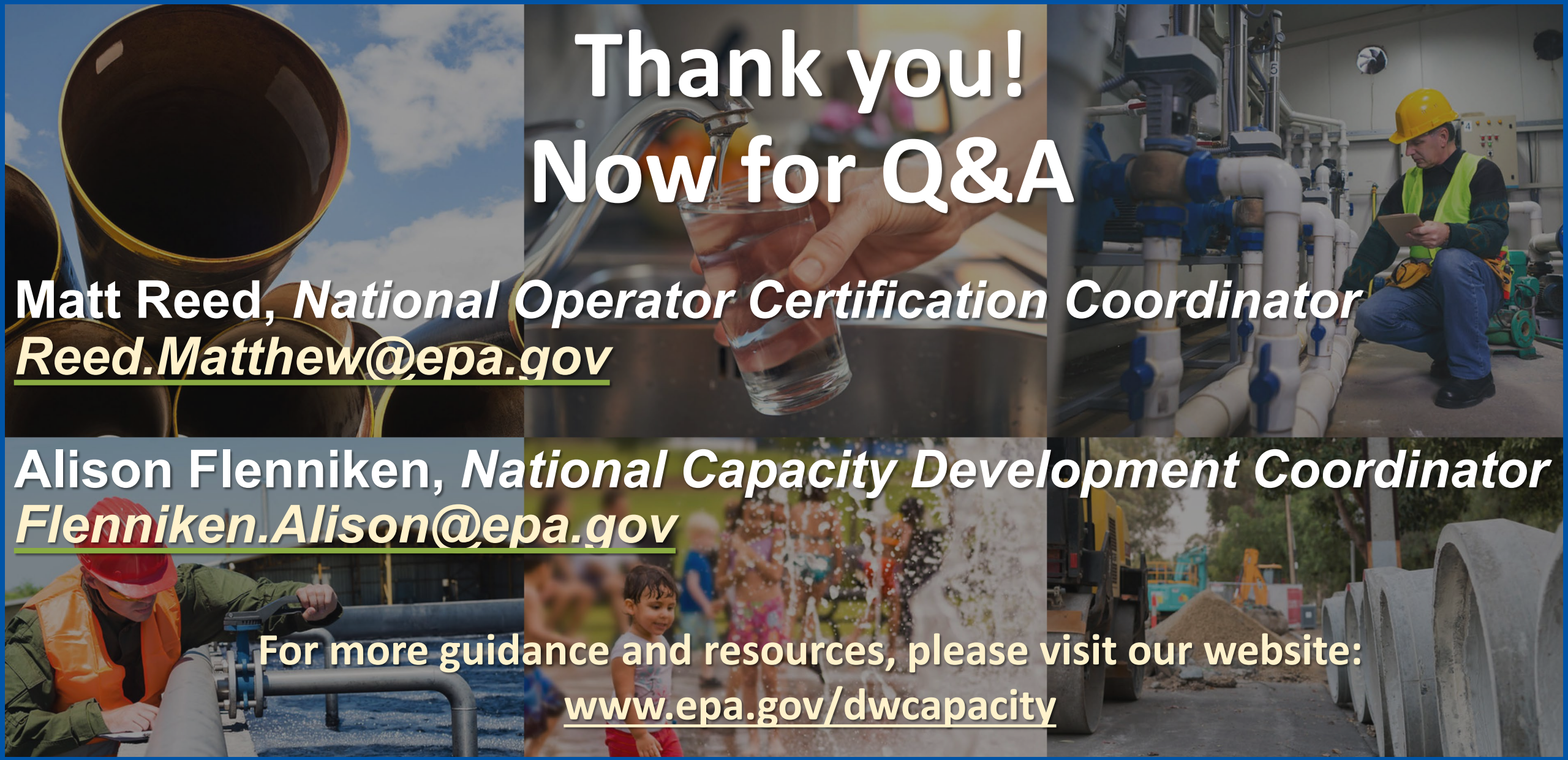
- Programs and activities utilized to build and maintain system capacity
- Strategies to identify, select or prioritize PWSs needing assistance
- Methods for addressing capacity concerns
- Any program review findings or program modifications (if applicable)

State Capacity Development Program Triennial Report to the Governor

The 1996 SDWA Amendments mandate that each state prepare a triennial report to the Governor conveying the status of the PWS Capacity Development Program.

The tri-annual report to the Governor should include:

- Progress made in improving the TMF capacity of PWSs
- Adequacy of strategy and progress made toward water system improvements



Thank you!
Now for Q&A

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For more guidance and resources, please visit our website:
www.epa.gov/dwcapacity