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# The State of Iowa's Capacity Development Strategy for Public Drinking Water Systems


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# The State of Iowa's Capacity Development Strategy for Public Water Systems

**Iowa Department of Natural Resources Drinking Water Program**

## Introduction

The Safe Drinking Water Act (SDWA) amendments of 1996 authorized a Drinking Water State Revolving Fund (DWSRF) loan program to help public water systems finance the infrastructure improvements needed to achieve or maintain compliance with SDWA requirements and to achieve the public health protection objectives of the Act.

Section 1420(c) of the Act directed the Administrator of the U.S. Environmental Protection Agency (EPA) to withhold a 10% portion of a state's 2001 DWSRF monies, 15% in federal fiscal year 2002, and 20% in each fiscal year thereafter, if the state did not develop, implement, and continue a capacity development program to assist existing Public Water Systems (PWS) in acquiring and maintaining technical, managerial, and financial (TMF) capacity. Technical, managerial, and financial capacities are explained below:

- *Technical:* provide and maintain adequate amount of water required by community the PWS serves, have well maintained infrastructure, use up-to-date technology, and have qualified and knowledgeable staff to operate the system.
- *Managerial*: utilize an effective organization and governance of the water system, accountability, properly certified operators, and have cooperative relationships and communications between boards, councils, management, and staff.
- *Financial*: generate sufficient revenue to cover current costs and future needs, maintain fiscal controls and credit worthiness.

To comply with the SDWA, Iowa was required to solicit stakeholder input, develop, and begin implementation of a strategy by August 6, 2000 to assist existing public water supplies in acquiring and maintaining capacity. Section 1420(c)(2) of the SDWA also required that states consider, solicit public comment on, and included as appropriate the following:

- The methods or criteria that the state will use to identify and prioritize the public water systems most in need of improving technical, managerial, and financial capacity;
- A description of the institutional, regulatory, financial, tax, or legal factors at the federal, state, or local level that encourage or impair capacity development;
- A description of how the state will use the authorities and resources of this title or other means to assist public water systems in complying with the national primary drinking water regulations, encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, and assist public water systems in the training and certification of operators;
- A description of how the state will establish a baseline and measure improvements in capacity with respect to national primary drinking water regulations and state drinking water law; and
- An identification of the persons that have an interest in and are involved in the development and implementation of the capacity development strategy (including all appropriate agencies of federal, state, and local governments, private and nonprofit public water systems, and public water system customers).

### Initial Strategy Development: The Viability Assessment Advisory Group

In response to the 1996 SDWA requirement, the Iowa Department of Natural Resources (DNR) identified all relevant public and industry stakeholders that warranted involvement in the strategy development process. The process began with the formation of the Viability Assessment Advisory Group, a subset of DNR's SDWA Advisory Group. The SDWA Advisory Group consists of public water system operators from all sizes and treatment types, technical assistance providers, state and local agencies, financial advisors, professional organizations, technical specialists, environmental and agricultural groups, and the League of Cities. The group exists to assist DNR in the development and implementation of SDWA rules and programs. Each member of the SDWA Advisory Group was invited to join the Viability Assessment Advisory Group prior to its first meeting. The purpose of the Viability Assessment Advisory Group was to provide public input to DNR that would be used in development of an existing water system capacity development strategy. The group met on a monthly basis for a period of approximately ten months.

Meetings with the Viability Assessment Advisory Group were facilitated by the Environmental Finance Center located at Boise State University in Boise, Idaho. Tasks the group accomplished included:

- The development of a decision model DNR could use to identify and prioritize the public water systems most in need of improving technical, managerial and financial capacity;
- The development of a list of institutional, regulatory, financial, tax, legal, and other factors at the federal, state, and local level that encourage or impair capacity development;
- Comments and input on how DNR can use the authority and resources of the SDWA and other means to help existing systems develop and improve capacity;
- Comments and input on Iowa's plan to establish a baseline and measure improvements; and
- The development of a list of interested stakeholders to be invited to join the Viability Assessment Advisory Group, along with comments and suggestions on DNR's plan for additional public participation.

Minutes of each meeting were sent to each identified stakeholder and multiple public meetings were held. Products of the group's meetings, the list of identified stakeholders and meeting participants, minutes from each meeting, and the list of comments followed by discussion and any necessary action to be taken by DNR in response to the comments are contained in the *Report of Findings on Improving the Technical, Financial and Managerial Capacity of Iowa's Public Water Systems (The Report of Findings)*, finalized in March of 2000. *The Report of Findings* discussed all five elements contained in Section 1420(c)(2)(A-E) and public comment was solicited on the entire document.

A link to *The Report of Findings* is located in Appendix A**.**

### Strategy Development

The Iowa Department of Natural Resources then utilized the *1999 Report of Findings* and developed a strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity. A copy of Iowa's original *Capacity Development Strategy for Existing Public Water Systems August 3, 2000,* can be found in Appendix B.

Continued Stakeholder and Drinking Water Program staff input led to subsequent revisions in 2005 and 2010. A copy of Iowa's *Capacity Development Strategy for Existing Public Water Systems as Amended in August 2005 and December 31, 2010,* can be found in Appendix B.

### Current Revision (2022)

The 2018 America's Water Infrastructure Act (AWIA), Section 2012, requires state drinking water programs to consider and include, as appropriate, asset management into their state capacity development strategies. As Iowa opened its strategy to add this required element, it was decided to take this opportunity to gather stakeholder input, evaluate current strategy implementation practices, and to identify and prioritize future capacity building initiatives.

Therefore, the DNR over 2021 and 2022 engaged staff, the public, industry associations and a subcommittee of Iowa's SDWA Advisory Group called the "Capacity Development Strategic Planning Team," comprised of industry stakeholders and staff, to update the current strategic plan. See Appendix F for the list of current planning contributors. Although regulations, new emerging contaminants, technologies, and socio-economic factors have changed over the last twenty years, still relevant today are the basic elements that were identified and addressed by Iowa's initial strategy as part of the five key strategic elements designed to further advance and enhance the capacity of Iowa's public water systems. **This current strategy adjusts the existing five element goals to address and update outdated implementation barriers, to incorporate new industry stakeholder input, and adds a sixth element that delineates Iowa's existing and future goals for the promotion of the development and assistance in the implementation of asset management plans.**

## Strategy

### Required Elements

The required elements of this strategy are as follows:

A. Methods & Criteria for Prioritizing Systems
B. Factors that Encourage or Impair Capacity Development
C. Authority and Resources

D. Asset Management
E. Measuring Capacity Improvement
F. Stakeholder Involvement

The required elements in this strategy each include a goal, a description of current implementation activities for the element, future initiatives for implementation of the element, and suggested outcome measures for the element.

## A. Methods & Criteria for Prioritizing Systems

### Goal

Continued use and enhancement of Iowa's system of identifying and prioritizing public water supply systems in need of technical, managerial, and/or financial technical assistance.

### Current Implementation

A capacity development program's foundational tool in building system capacity is the identification and prioritization of the public water systems most in need of improving technical, managerial, and financial capacity before they are "out of compliance." Iowa's goal is to identify and aid a system before they appear in the Environmental Protection Agency's Enforcement Targeting Tool.

#### New Systems

Iowa's control points for the new systems capacity development program have not changed since 1999. The control points for the program are construction permit issuance and operation permit issuance. Iowa uses a Viability Self-Assessment Manual to evaluate the viability of new systems and classifies systems as viable, not viable, or in rare cases, we will designate system viable upon the condition that the system corrects identified deficiencies. New systems are then tracked by the department until they become active and for three years following activation; being evaluated for their compliance status as to whether these systems have scored more than eleven points on the Enforcement Response Policy Targeting Tool as generated by EPA's Office of Enforcement and Compliance Assurance. Systems that are inactive within the three-year review period will not be tracked as new systems once they have been inactivated; if the system becomes active at some later date, it will be considered an existing system. Viability Self-Assessments are linked in Appendix C and Appendix D. Regulations describing the control points can be found in Part 567 of the Iowa Administrative Code, Chapter 43. Iowa Administrative Code (IAC), 567 – Chapter 43.8(5). Chapter 43 of the IAC is available in Appendix E.

#### Existing Systems

The rules governing existing systems in 567 IAC Chapter 43 were developed in conjunction with the rules for new systems and were adopted in September of 1999. They pertain to all classifications of public water systems and require submittal of a viability self-assessment if any one of the following conditions are identified:

1. A system is applying for DWSRF loan funds,
2. A system is categorized as being in significant noncompliance by the department, due to a history of failure to comply with drinking water standards,
3. A system is identified by the department via a sanitary survey as having technical, financial, or managerial problems as evidenced by such conditions as poor operational control, a poor state of repair or maintenance, vulnerability to contamination, or inability to maintain adequate distribution system operating pressures,
4. A system is identified by the department via negative answers to TMF questions flagged on our Electronic Sanitary Survey program (Viability Status Component), or
5. A system is unable to retain a certified operator.

In all cases the Self-Assessment Manual is evaluated and a determination of the system's viability is provided to the system in writing. If corrective action is necessary, DNR may refer the system to our technical assistance contractor who can provide expertise in the necessary area, or use a bilateral compliance agreement to put the system on a schedule to make the corrections. Failure to complete corrective actions will result in denial of all construction permit applications and enforcement action to include the assessment of administrative penalties, and may include denial or revocation of the operating permit.

Systems applying for DWSRF funds must undergo capacity development review as required by the amended Safe Drinking Water Act and a process for conducting these reviews is in place. If a system applying for a DWSRF loan is lacking in viability, the loan funds must be used to assist the system in attaining viable status. If a system making a loan application is found to be not viable and loan funds will not be sufficient or available to ensure viability, the system must undertake corrective action(s) to the Department's satisfaction prior to qualifying for loan funds.

Upon system request or as a requirement for return to viability status, field office personnel or Iowa's Capacity Development technical assistance provider will attend the system's management meeting (i.e., board, council, or homeowner's association meeting) to explain the results of the sanitary survey and self-assessment evaluation. This meeting is used to educate system managers as to the technical, financial, and managerial requirements of operating a water supply system.

Iowa added another prioritization tool to their "toolbox" in May of 2006 when they officially joined Region 6 of EPA's Area Wide Optimization Program (AWOP). This program is voluntary and focuses on improving public health protection by optimizing turbidity removal at surface water treatment plants. Each year the performance of each plant is evaluated and improvements in water quality are documented. One of the elements of the state's optimization program is a status component used to rank the surface water systems in order of relative risk. The state chose to focus primarily on turbidity to rank the systems, so that the systems with the most consistently low turbidity numbers coming out of the individual filters represent the lowest risk and the systems with the most variable and highest turbidities coming out of the filters represent the highest risk. Each year this data is collected from the monthly operating reports and entered into spreadsheets for each plant. The data from the spreadsheets is then used to populate the status component. Staff working in the AWOP program evaluate this data and determine the assistance actions that are most appropriate for the systems.

Iowa's primary prioritization tool for existing systems remains the Sanitary Survey. The department has been performing sanitary surveys in compliance with the requirements of the Interim Enhanced Surface Water Treatment Rule, the Long-Term 1 Rule, and the Ground Water Rule since those rules were implemented. In 2020, Iowa finished the development and testing of their tablet based "Electronic Sanitary Survey" (ESS), that contains the eight required elements. The second version of Iowa's ESS was released in May of 2022 that included Level 1 Assessments. ESS implementation has assisted DNR in capturing data and information regarding the managerial and financial capabilities of the systems. It also requires the inspectors to determine, based on what they have seen during the course of the survey, whether or not the system is viable. These surveys are the primary vehicle for the provision of technical assistance to systems.

In considering how Iowa's ESS can be used to prioritize systems, questions are flagged as "viability questions" or questions that indicate technical, managerial and financial health. Staff analyzes the percentage of viability questions answered with a "deficiency answer". For example, if the question is, "Does the PWS develop and use an annual budget?" and the system answers, "No," this will be counted as a deficiency answer. The more of these TMF questions answered as "deficient", the higher you go on the list for TA or, at the very least, warrants staff discussion on reasons behind the deficient answers or identification of any troubling trends.

To clarify, this query is developed using answers that the field inspectors provided during the most recent sanitary survey. Since surveys are only conducted once every three to five years, the circumstances could have changed since the survey was conducted and moved the system up or down the list. In addition, since each inspector answers questions according to their unique training and experience, there is some subjectivity in the rankings. The ranking is a starting point for a discussion with field staff to verify which systems will be most in need of assistance during each year. Various verification exercises have indicated that the list is a fairly good indicator of systems having technical, financial, or managerial difficulties. It is important to remember that some of the systems at the top of the list will be considered recalcitrant if they have not responded to previous offers of assistance. In those cases, enforcement is typically the most efficient means of obtaining improvement so technical assistance resources will not be targeted to those systems.

Viability status progress is tracked in the Iowa DNR's Water/Wastewater Information System and Records Database (W/WISARD). Permit, enforcement, and operator certification progress is tracked in the Iowa DNR's Water Supply Operations database, "The Water Container." The connectivity between Field Services, Engineering, SRF staff and

Operator Certification programs that these databases have opened up has expanded our ability to integrate capacity development into the drinking water program and appears to be a prioritization scheme that the department has the resources to support.

### Future Initiatives in Support of Element A

The following future initiatives were suggested via the Strategic Planning Advisory Board for Element A:

- Evaluation of our current and the development of more comprehensive *"DNR Drinking Water Electronic Sanitary Survey*" technical, managerial and financial questions with an emphasis on the addition of questions targeting asset management planning, resiliency and cyber security;
- Review and revision of current Viability Self-Assessment Manuals to improve data quality and relevance for viability determinations for financial and managerial topics in particular, and to improve the educational aspects for those completing the manuals;
- Addition of a "required" visit to all new systems, operators AND management at the point of "operation permit issuance" by Iowa's Capacity Development technical assistance provider to ensure that the operator and owners understand their permit requirements, the value of asset management best practices to their PWS, and other fiduciary responsibilities; and
- Standard operating procedure (SOP) development and training for all DNR Drinking Water staff, Field Office staff and SRF staff on Capacity Development principles.

### Suggested Outcome Measures for Strategic Element A

The suggested outcome measures for assessing work within Element A of the strategy are as follows:

- New system tracking: new public water systems data and compliance status,
- The number of Viability Self-Assessments and Origin of Self-Assessment requirement,
- The number of construction permits or approvals Issued,
- The turbidity data ranking of surface water treatment systems in order of relative risk using AWOP data,
- The number of technical assistance visits and record of "on-going" assistance, and
- The number of public water supply system's management meetings (i.e., board, council, or homeowner's association meetings) attended by Iowa's technical assistance provider or staff.

## B. Factors that Encourage or Impair Capacity Development

### Goal

Continued identification and evaluation of local, state or federal regulatory factors that encourage or impair capacity development and develop policies, plans, and/or strategies to address barriers and further enhance capacity for water systems.

### Current Implementation

When stakeholders identify enhancements and barriers to capacity, many of the regulatory factors provide the greatest number of enhancements, primarily as a result of the SDWA and the commitment of EPA and DNR to enforce nationally adopted drinking water standards. Financial factors also account for a large percentage of the enhancements since funding for the DWSRF, the DWSRF set-asides, and continued funding for state public drinking water programs are seen as a benefit to the capacity of public water systems.

#### Financing

Ensuring that financing resources are available and understandable is essential to the enhancement of Iowa's PWS capacity development. DNR participates in the Water/Wastewater Infrastructure Financing Coordination (WIFCO) effort with the agencies that fund drinking water improvements. These agencies/programs include the State Revolving Fund, Community Development Block Grants, and USDA Rural Development. These three funding sources are explained in further detail below.

#### State Revolving Fund (SRF)

The Iowa DNR partners with the Iowa Finance Authority to operate the Drinking Water SRF. This revolving loan fund is able to finance all eligible projects with below-market interest rate loans for planning, design, and construction. DNR educates program users through conference presentations, webinars, listserv articles, the IowaSRF.com web site, and

individual consultations. The Drinking Water SRF can finance all eligible projects each year, from new treatment plants to replacement of aging water mains. Special provisions for loan forgiveness have been available since 2010.

### Community Development Block Grants (CDBG)

The Iowa Economic Development Authority (IEDA) operates the CDBG program, using funds from the U.S. Department of Housing and Urban Development. Each year IEDA identifies fundable water system projects that meet criteria of serving low to moderate income people and being shovel-ready. Since these grant funds are limited, projects are usually co-funded with either SRF loans or USDA-Rural Development financing. DNR Water Supply and SRF staff meet regularly with IEDA officials to coordinate funding and assess project readiness to ensure that the CDBG funds are used in a timely manner for high priority needs.

### USDA-Rural Development (RD)

An annual allocation from the U.S. Department of Agriculture funds water system improvements in Iowa's smallest, neediest communities and rural water districts. USDA-RD uses a combination of grant and loan funds to help make projects more affordable in rural areas. DNR Water Supply and SRF staff meets regularly with USDA-RD staff to coordinate funding and ensure that state design criteria are met.

### Enhancement Initiatives

Current initiatives focused on enhancing capacity include source water protection, use of communication tools, a focus on emerging contaminants, promotion of resiliency, and collaboration between different sections of the Department. More information about these initiatives are included below. Additionally, all DNR standard forms have been made available on-line, in one convenient location and in an electronic format.

### Source Water Protection

The first step in a multiple-barrier approach to drinking water protection and to a system's capacity development is preventing contamination of drinking water sources. Iowa has a voluntary, non- regulatory Source Water Protection (SWP) Program.

### Listserv

To overcome institutional and regulatory impairments at the state and federal levels, DNR utilizes the dynamic, electronic delivery of updates on rule development, modification and implementation via our DNR listserv. Participants in our listserv encompass all facets of the industry including, but not limited to, operators, owners, customers, vendors, governing bodies, educational institutions and the general public.

### Emerging Contaminants

The department leads a proactive research and planning effort concerning new and emerging contaminants in drinking water.

### Resiliency

Providing public water supplies with the resources needed to adapt to extreme weather events and climate change factors.

### Inter-departmental Collaboration

The Department is continuously working on addressing intradepartmental communication with the water supply, wastewater, source water, and field services sections through periodic meetings with capacity development topics on the agenda, as well as, "system specific" meetings that include across agency staff. The collaboration of these sections provides a benefit of comprehensive capacity building for public drinking water systems.

### Future Initiatives in Support of Element B

The following future initiatives were suggested via the Strategic Planning Advisory Board for Element B:

- The provision of resources for the planning, marketing and implementation of regional partnerships and tools for fostering the understanding of the benefits of partnerships to small communities, local governments, and customers;

- Provide continuing education credit for partnership workshops;
- The provision of resources concerning cyber security;
- Encouragement and assistance for small systems in developing local cooperative buying agreements to procure chemicals and equipment at more competitive costs; and
- The expansion of the Iowa DNR's Capacity Development website for resource sharing.

### Suggested Outcome Measures for Strategic Element B

The suggested outcome measures for assessing work within Element B of the strategy are as follows:

- SRF funding totals,
- Source Water Protection project summaries,
- The number of listserv participants,
- Emerging contaminant data and summary of findings, and
- The number, including topics or trends discussed,
- of intradepartmental meetings concerning capacity issues.

## C. Authority and Resources

### Goal

Provide sustained education, training, and technical assistance that builds Iowa public water supply system capacities.

### Current Implementation

Stakeholders, twenty years ago and today, recognized a need for public education and for everyone to understand the true cost of producing water. Iowa will use the authorities and resources of this title or other means to assist public water systems in complying with the national primary drinking water regulations, encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, assist public water systems in the training and certification of operators, and to educate operators, water system owners, governing boards, legislators, and customers.

For this purpose, Iowa has developed an infrastructure with the following initiatives in place;

- Workforce development programs that engage the public from elementary age to retirement age;
- Extensive, hands-on "New Operator" basic training;
- High school internships;
- Post high school diploma programs that include managerial and financial objectives in the curriculum, with managerial and financial exercises included in the checklist for completion of internships;
- Board and management training and technical assistance available through both in-person and virtual formats;
- Board and management training including content such as:
    - Asset management with the five core elements as outlined in Element D, and
    - Long-term planning, financial management and full-cost financing;
- Rate setting and water audit workshops and corresponding technical assistance.
- General public booths/conference presentations on the "true cost" of water;
- New and existing rules and regulations training and updates presented by state staff at industry association conferences and Basic Water Training operator schools as well as periodic virtual trainings;
- Support for "water citizen" training programs; and
- Inclusion of City Clerks and Mayors in our management training courses.

#### Area Wide Optimization Program

A significant current initiative is participation in the Area Wide Optimization Program (AWOP). this program gives the department access to many training opportunities and tools, including Performance Based Training. Performance Based Training provides an opportunity for operators and managers of five to eight water treatment plants to go through a series of presentations and workshops that focus on optimizing the process of surface water treatment. The training provides leadership and management skills to the operators, such as data-based decision making and presentation skills in addition to technical training aspects. For the DNR staff that work one on one as facilitators with plant personnel, the training offers a chance to visit several treatment plants in addition to obtaining advanced technical treatment

experience on water plant operation. The training is an excellent networking opportunity for operators since they work together in groups at each session and have many opportunities to talk with each other over the five sessions, including visits to at least two plants during the training series.

Performance Based Training is just one example of a resource that is provided through the optimization program that the state can use to assist public water systems in complying with the national drinking water regulations, to encourage partnerships between public water systems to enhance their capacity, and to assist public water systems in the training and certification of operators.

#### Drinking Water State Revolving Fund 2% Technical Assistance Set Asides

Drinking Water State Revolving Fund (DWSRF) 2% technical assistance set asides are used to provide and support resources for capacity development. These set aside funds are used for the following:

- Very small systems technical assistance and education (in-person and virtual);
- Surface Water Treatment Training (hands-on and virtual workshops);
- New operator training; and
- On-site technical assistance contracts.

Iowa will use the authorities and resources of this title or other means to assist public water systems in complying with the national primary drinking water regulations, encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, and assist public water systems in the training and certification of operators.

### Future Initiatives in Support of Element C

The following future initiatives were suggested via the Strategic Planning Advisory Board for Element C:

- Re-evaluation and overhaul of DNR's "Contract Operations" program, looking at Iowa's contract operator rules in 567 IAC Chapter 81, requirements and guidelines. As the face of the drinking water industry's workforce changes, there is a need to be ready to address and provide resources on issues such as regionalization, operator sharing, managerial oversight minimums and remote operation;
- Provision of resources and technical assistance to Iowa's disadvantaged communities; and
- Hold collaborative workshops for all technical assistance providers and the DNR to discuss what each organization can do for specific PWSs with specific capacity issues.

### Suggested Outcome Measures for Strategic Element C

The suggested outcome measures for assessing work within Element C of the strategy are as follows:

- Report out AWOP activity and outcomes,
- The number of drinking water certification exams given,
- The number of certified drinking water operators reported by type and grade,
- The number of enhanced sanitary surveys completed,
- The number of operator certification courses offered and number of attendees,
- The number of other training events held by DNR and number of attendees,
- The number of systems visited for on-site assistance,
- The number of systems voluntarily submitting viability self-assessment manuals,
- Documentation of efforts for standardization of the inspection and reporting process by DNR, and
- The number of DNR Drinking Water website hits.

## D. Asset Management

### Goal

Promotion of the development and incorporation of future best practices for public water supply asset management planning.

Iowa will, as appropriate, encourage the development by public water supplies of asset management plans that include best practices for asset management and assist, including through the provision of technical assistance, public water

supplies in training operators or other relevant and appropriate persons in implementing such asset management plans.

The department will promote, for the development of asset management best practices, the following "Five (5) Core Question Asset Management Framework":

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 is 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?

### Current Implementation

Iowa's Capacity Development Program has historically supported this goal even though specific asset management language was not included in the original strategy.

Asset management concepts are indirectly addressed during the electronic sanitary survey (ESS) process, with engineers and consultants during capital improvement projects, and during the completion of a Viability Self-Assessment Manual.

We have supported multiple in-person and virtual trainings throughout the past decade that concentrated on the above "Five (5) Core Question Asset Management Framework", specifically concentrating on the small systems that typically do not have the staff or budget to utilize in the exercise of developing, implementing and maintaining an asset management plan. We also engaged contractors to do in-person classes with follow up technical assistance that are geared toward not only the operators, but also city clerks and city administrators.

The main barrier with asset management plan implementation is the follow through. Developing an asset management plan is only the first step. Implementation and maintenance of an asset management plan is ongoing and this is where many systems struggle, citing either insufficient staff for plan implementation or due to lack of buy-in by administrators.

Educating Department staff, operators, all city administrators and the general public on the correlation between asset management and system sustainability is key. Asset management concepts are incorporated into board training presentations and new operator trainings. Continued expansion of accessible plan development resources such as templates, software, materials and training with follow up technical assistance needs to be explored in the future.

### Future Initiatives in Support of Element D

The following future initiatives were suggested via the Strategic Planning Advisory Board for Element D:

- Identifying lucrative "incentives" to PWS that develop an asset management plan and follow through with implementation;
- Fund GIS mapping activities;
- Fund plan development with follow up technical assistance for implementation guidance;
- Follow up survey on asset management plan implementation to assess if it is being used after development;
- Implement strategies for extensive marketing of the value of asset management to administrators and customers; and
- Conduct a yearly workshop with technical assistance partners to discuss comprehensive state initiatives concerning asset management.

### Suggested Outcome Measures for Strategic Element D

The suggested outcome measures for assessing work within Element D of the strategy are as follows:

- The number of asset management courses given,
- The number of city clerks or administrators engaged in asset management courses,
- The number of PWS engaged in asset management courses, and
- The number of asset management technical assistance interactions.

## E. Measuring Capacity Improvement

### Goal

Continued use and enhancement of a measurement tool that is used to document Iowa public water supply system baseline capacities.

### Current Implementation

#### Viability Status Component

Iowa has been using the viability status component developed as part of the AWOP integration pilot to establish a baseline and prioritize technical assistance activities. The questions and answers used to populate the status component are taken from the Electronic Sanitary Survey. In considering how this might be used as a means of measuring the outcome of the program, the state is reporting annually on the percentage of viability questions answered with a "deficiency answer". For example, if the question is "does the PWS develop and use an annual budget?" and the system answers, "no," this will be counted as a deficiency answer.

The viability status component query is run yearly and the deficiency answers were counted as a percentage of the deficiency questions included in sanitary surveys and compared to the year before. All surveys in the database were used. The range of dates queried is 2012 - current date, but only the most recent sanitary survey was used if there was more than one for a given facility during that time period. When the viability status component was being tested internally for accuracy, field inspectors noted that systems with less than seven deficiency answers generally were not in need of assistance. As a result, the DNR considers systems with at least seven deficiency answers lacking in viability.

Over the years, the systems at the top of the list and their corresponding list of deficiency questions are discussed among staff and the appropriate technical assistance is provided. As technical assistance is focused toward the systems with the most deficiency answers over time and further capacity development strategies are implemented to all PWS, systems should perform better during subsequent sanitary surveys and the percent of deficient systems should decrease.

### Future Initiatives in Support of Element E

The following future initiative was suggested via the Strategic Planning Advisory Board for Element E:

- Use of more delineated technical, managerial and financial questions, including asset management questions within the Electronic Sanitary Survey; this will result in the need to establish a new baseline.

### Suggested Outcome Measures for Strategic Element E

The suggested outcome measure for assessing work within Element E of the strategy are as follows:

- Comparative graph of the yearly percentage of systems with 7 or more deficiency answers compared to a baseline.

## F. Stakeholder Involvement

### Goal

Dynamic enhancement of the development and implementation of Iowa's technical, managerial, and financial Capacity Building Strategy for public water systems through continued stakeholder involvement.

### Current Implementation

The DNR, over 2021 and 2022, engaged staff, the public, industry associations and a subcommittee of Iowa's SDWA Advisory Group called the "Capacity Development Strategic Planning Team," comprised of industry stakeholders and staff, in the process of updating of this current strategic plan. The list of those who participated in this process is available in Appendix F.

The Department will hold a "Capacity Development Strategic Planning Team" workshop or meeting yearly to assess the efficacy of the current strategic elements and to identify, prioritize and set implementation goal timelines for any new capacity building initiatives.

### Future Initiatives in Support of Element F

The following future initiatives were suggested via the Strategic Planning Advisory Board for Element F:

- Yearly "Capacity Development Strategic Planning Team" meetings following the completion of Iowa's annual Capacity Development Strategic Plan Report to the EPA Administrator;
- Post of committee meeting minutes on the Capacity Development website; and
- Holding a public meeting(s) following the triennial submittal of "The Report to the Governor of Iowa and to the Public on the Efficacy of Iowa's Capacity Development Strategy."

### Suggested Outcome Measures for Strategic Element F

The suggested outcome measures for assessing work within Element F of the strategy are as follows:

- Records of formal meetings held for the purpose of discussing the technical, managerial, and financial capacity of Iowa's public water systems to include dates, the participant list, and a meeting summary, and
- Committee meeting minutes posted on the Capacity Development website annually.

## Ongoing Reporting & Program Efficacy

### Report to the State Governor

By August 6, 2002, and every three years thereafter, DNR will submit a report to the Governor of Iowa and to the public detailing the efficacy of the state's capacity development strategy and outlining the progress made towards improving the technical, financial, and managerial capacity of the public water systems in the state. The DNR posts this report on a public website and notice of its posting is widely advertised for maximum exposure to the public. Links to Iowa's reports to the Governor are shared on our website at www.iowadnr.gov/ws-viability.

### Enforcement Targeting Tool (ETT)

The Enforcement Targeting Tool (ETT) is a tool created by the Environmental Protection Agency (EPA) to help state drinking water programs track public water systems (PWSs) that are deemed by EPA to be significantly out of compliance with the Safe Drinking Water Act regulations. The Department will continue to work with the Region VII office in Kansas City, KS to prepare and update the list of significant noncompliers (SNCs) on a quarterly basis. At the end of each calendar quarter, EPA sends the current SNC list to DNR. The Department verifies the list and provides an explanation of the actions that have been taken in an effort to return the system(s) to compliance. Iowa Capacity Development staff will continue to meet quarterly with Region VII staff to continue discussions on any technical, managerial or financial trends identified in the ETT.

### Report to the EPA Administrator

Yearly, DNR will submit a report to the EPA Administrator detailing the efficacy of the state's capacity development strategy and outlining the progress made towards improving the technical, financial, and managerial capacity of the public water systems in the state. Included will be the status of Iowa's success with enforcement mechanisms and capacity development efforts in assisting the public water systems on the Significant Non-Compliance (SNC) list in improving their technical, managerial, and financial capacity.

## Conclusion

The Iowa Department of Natural Resources will continue to utilize the existing developed strategies for new and existing public water supplies for the protection of public health. As identified in this strategy, almost every aspect of the water supply program has a connection to capacity development, and each of the set-asides are being used to further the capacity of systems in the state. The Department will dynamically engage this strategy, staff, and stakeholders on identifying barriers, and will implement solutions to overcome these barriers for the sustainable technical, managerial, and financial capacity of Iowa's public water supplies.

## Appendix A: Report of Findings: 1999

https://www.iowadnr.gov/portals/idnr/uploads/water/wse/report_of_findings.pdf

## Appendix B: Original Strategy from 2000, with 2005 and 2010 Amendments

https://www.iowadnr.gov/Portals/idnr/uploads/water/wse/cap_dev_strategy.pdf

The original strategy is found on pages 1-22 of the linked document. The August 29, 2005 amendment is located on pages 23-35. The December 31, 2010 amendment is located on pages 36-38.

## Appendix C: Viability Self-Assessment Manual for Rural Water Associations and Municipalities

https://www.iowadnr.gov/Portals/idnr/uploads/forms/5420623.pdf

## Appendix D: Viability Self-Assessment Manual for Well Water & Hydropneumatic Tank Systems: HOAs, MHP & Very Small Systems

https://www.iowadnr.gov/Portals/idnr/uploads/forms/5420624.pdf

## Appendix E: 567 Iowa Administrative Code 43.8(5)

https://www.legis.iowa.gov/docs/iac/chapter/02-23-2022.567.43.pdf

## Appendix F: Strategic Planning Advisory Team Members (2021-2022)

- Aaron Pickens, Environmental Specialist Senior, DNR Field Office Region 6
- Ben Stracuzzi, Environmental Specialist, DNR Field Office Region 6
- Brian Bohnsack, Program Manager, Environmental Finance Center, Wichita State University
- Nick Willis, Senior Program Manager, Environmental Finance Center, Wichita State University
- Jenny Puffer, Des Moines Water Works Director of Water Distribution, IA Chapter of American Water Works Association Representative
- Jill Soenen, Director of Member Communications, Iowa Association of Municipal Utilities
- Jim Utter, Retired Grade 4 Water Treatment Operator, Iowa Water Environment Association Representative
- Jodi Hilsabeck, Internal Program Manager, Midwest Assistance Program
- John Martens, Retired Grade 4 Water Treatment Operator, Atlantic, Iowa
- Julie Sievers, Senior Water Solutions Specialist, ISG Inc.
- Laurie Sharp, Environmental Specialist Senior, DNR Capacity Development Coordinator, DNR
- Mickey Shields, Director of Membership Services, Iowa League of Cities
- Purva Deshmukh, Statistical Research Analyst, DNR Water Supply Operations Section
- Robert Dunlevy, Ground Water & Drinking Water Branch, US EPA Region 7
- Scott Shover, Executive Director, Iowa Rural Water Association
- Scott Wilson, Supervisor, DNR Field Office Region 3
- Steve Marsh, Water Services Coordinator, Iowa Association of Municipal Utilities
- Tara Naber, Environmental Engineer, DNR Water Supply Engineering Section
- Theresa Enright, State Revolving Fund Coordinator, DNR Water Quality Bureau