



# Capacity Development Strategy For Existing Public Water Systems

Drinking Water Program

South Dakota Department of Agriculture and Natural Resources (DANR)

2022 Revision

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## **I. Introduction**

The Safe Drinking Water Act (SDWA) amendments of 1996 required South Dakota to develop and implement a Capacity Development Strategy. The initial strategy approved by the U.S. Environmental Protection Agency (EPA) in 2000 is included in Appendix 2. Amendments to the SDWA as mandated by the America's Water Infrastructure Act of 2018 (AWIA) have required the state to reevaluate and update its Capacity Development Strategy. The AWIA amendments to the SDWA encourage that the tools in asset management be incorporated into the existing system capacity development strategy to build the technical, managerial, and financial capabilities to provide sustained safe, clean, and reliable drinking water.

South Dakota incorporates asset management into the definition of technical, managerial, and financial capacity as:

- **Technical Capacity:** having adequate source water, infrastructure, technical knowledge, and asset management to inform this technical capacity to ensure best technical practices are employed.
- **Managerial Capacity:** having adequate ownership, staffing, organization, and asset management to support management that best practices produce safe drinking water.
- **Financial Capacity:** utilizing asset management principles to ensure reliable drinking water by having sufficient revenue to maintain the system and pay for future improvements and appropriate fiscal management and controls.

If the state does not update the strategy, the AWIA amendments to the SDWA direct the U.S. EPA Administrator to withhold a portion of the State's annual Drinking Water State Revolving Fund (DWSRF) allotment.

This *Capacity Development Strategy for Existing Public Water Systems* describes how South Dakota is going to assist existing public water systems in acquiring and maintaining technical, managerial, and financial capacity that now includes asset management in the SDWA § 1420(b), (c)(2)(A-F) and (3).

## **II. Components of the Capacity Development Strategy for Existing Systems [SDWA 1420(c)(2)(A-F)]**

SDWA section 1420(c)(2)(A-F) (including as amended by the AWIA) requires the state to consider, solicit public comment on, and include as appropriate the following six elements:

- A. 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.
- B. A description of the institutional, regulatory, financial, tax, or legal factors at the Federal, state, or local level that encourage or impair capacity development.
- C. 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 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.

- D. 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.
- E. 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).
- F. A description of how the state will, as appropriate, encourage development by public water systems of asset management plans that include best practices for asset management, and 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.

#### **A. Prioritization of Systems**

SDWA § 1420(c)(2)(A) states that South Dakota must consider “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.” South Dakota is including asset management into the methods and criteria that will help encourage systems to develop and implement asset management plans, when appropriate, to identify and prioritize systems most in need of improving technical, managerial, and financial capacity. Asset management is a tool that can build and retain technical, managerial, and financial capacity.

Tools that currently exist to identify and prioritize systems include:

- DANR's Drinking Water Database: this database contains live information on monitoring, operator certification, and violations. For systems that incur acute violations, level 2 assessments, and multiple sanitary survey significant deficiencies, the state will utilize a technical assistance provider to help the system complete the Capacity Assessment Worksheets which include asset management, when deemed appropriate.
- Enforcement Tracking Tool (ETT) score > 11 list: this list is produced by DANR and the EPA. Systems that trigger an ETT of 11 or greater will be referred to a technical assistance provider to help the system complete the Capacity Assessment Worksheets which include asset management, when deemed appropriate.
- Sanitary Survey Information. Systems will be completing new questions on technical, managerial, and financial capacity including asset management that will assist the state to evaluate technical assistance and training needs for asset management.
- Drinking Water State Revolving Fund (DWSRF) loan applications. Any system applying for a DWSRF loan is required to complete the Capacity Assessment Worksheets that include asset management.



- State Water Plan applications.
- Consumer Confidence Reports. Systems that fail to submit a consumer confidence report will be referred to technical assistance providers to help the system complete the Capacity Assessment Worksheets, when deemed appropriate.
- Source Water Assessments. When appropriate, information regarding building technical, managerial, and financial capacity including asset management will be integrated into these activities.
- Reports from Technical Assistance Providers. Reports will now include a section on technical, managerial, and financial capacity, including asset management, which allows for a continuous feedback loop for training needs for technical, managerial, and financial capacity including asset management.
- Capacity Assessment Worksheets. These worksheets now include questions on asset management.

These tools encourage systems to develop and implement asset management plans. Through these methods the state and systems will be encouraged to implement best practices for asset management. Technical assistance providers that work with systems to complete the Capacity Assessment Worksheets will be able to provide valuable information on how training should be tailored to better assist systems. This will provide a continuous feedback loop that will provide a baseline to measure improvements (section D) and enable the state to provide continuous improvement for technical, managerial, and financial capacity (including asset management).

## **B. Factors that Encourage or Impair Capacity Development**

Under §1420(c)(2)(B) of the SDWA, South Dakota must consider developing “a description of the institutional, regulatory, financial, tax, or legal factors at the Federal, state, or local level that encourage or impair capacity development.”

### **Factors that Encourage Capacity Development**

There are a number of factors in South Dakota that currently enhance the technical, managerial, and financial capacity (including asset management) of public water systems.

#### Enhancements at the Federal Level

- Low interest loans and grants through the DWSRF for capital improvements can assist in building capacity in an existing system because the Capacity Assessment Worksheets are included with each application;
- DWSRF Set-aside funding can be used to develop technical assistance programs which will now include a continuous feedback loop between the assistance and training for technical, managerial, and financial capacity/asset management;
- 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.

#### Enhancements at the State Level

- Drinking Water Program: The drinking water program implements the Safe Drinking Water Act's core program activities which include operator certification and plans and specification review. Enhanced capacity development activities within the core program will, as appropriate, add asset management components to operator certification training, sanitary survey forms, and source water assessments for public water systems;
- Water Rights Program: The water rights program appropriates the right to access water in South Dakota and ensures wells are drilled and constructed in accordance with well construction standards established in administrative rule.
- Water and Wastewater Funding: This program is responsible for administering the DWSRF loan program, and decides financial eligibility and approves grants and loans which require systems to complete the Capacity Assessment worksheets;
- DANR and other organizations such as the South Dakota Association of Rural Water Systems, the Midwest Assistance Program, the South Dakota Section of the American Water Works Association, and the South Dakota Water and Wastewater Association provide technical assistance to water systems that also enhances capacity by including discussion about asset management plans when deemed appropriate. These organizations also routinely provide educational materials and trainings which offer licensed water operators training contact hours needed to renew their licenses. These trainings can include asset management as needed and can incorporate what they learned during technical assistance visits where asset management was discussed.

#### Enhancements at the Local Level

- South Dakota will work with the many rural water systems to encourage them to be leaders in the development and implementation of asset management plans, where deemed beneficial to the system. We will also encourage them to assist smaller public water systems through SD Water/Wastewater Agency Response Network (SDWARN) and to make presentations on their plans.

#### **Factors that Impair Capacity Development**

Just as there are factors that enhance capacity in water systems, there exist factors that impair the capacity of water systems in the state. This section is not meant to address all possible factors that impair the capacity of water systems, including how the addition of asset management will impair capacity, but rather it will highlight the more prevalent factors.

#### Impairments at the Federal Level

- All federal agencies that provide funding are not involved in capacity development;
- Federal regulations are very complex;
- Unfunded mandates;
- Not enough funding to go around; and
- Encouraging systems to develop and implement asset management plans and coordinating with technical assistance providers to create training on asset management are requirements that will take staff time, but no additional federal resources have been provided.

## Impairments at the State Level

- Limits on resources;
- Lack of education to the consumer;
- No incentives;
- Funding limited to nonprofits or governmental entities;
- No influence on water rate structures (except when a system applies for funding); and
- No additional state resources have been provided to account for the additional staff time to encourage systems to develop and implement asset management plans.

## Impairments at the Local Level

- Lack of planning;
- Lack of financial management;
- Unmetered water;
- Lack of training/education at the board level;
- Lack of public awareness;
- Failure to know/understand regulations;
- High turn-over (employees and governing body);
- Obtaining financing can be difficult;
- Population is small;
- Insufficient funds;
- Low incomes;
- Unwillingness to raise rates/pay increased rates;
- Unwillingness to regionalize; and
- The addition of asset management plans is expected to exasperate all these impairments listed which will increase the time that will be needed by staff to incorporate and explain them.

## C. Use of Authorities and Resources

Section § 1420(c)(2)(C) of the SDWA states South Dakota must consider developing “a description of how the State will use the authorities and resources of this title or other means to— (i) assist public water systems in complying with national primary drinking water regulations; (ii) encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems; and (iii) assist public water systems in the training and certification of operators.”

South Dakota has a number of existing tools it utilizes to achieve this element:

- Sanitary Surveys: Sanitary surveys are conducted on all public water systems (every 3 years for a community water system or non-transient, non-community water system, and every 5 years for a transient non-community water system). The purpose of a sanitary survey is to evaluate the adequacy of a public water system’s facilities, equipment, operation, maintenance, and monitoring compliance to produce and supply safe drinking water. South Dakota has included asset management questions in the sanitary survey. This will encourage systems to develop and implement asset management plans, when

deemed appropriate. Furthermore, the information will inform our technical assistance providers on training needs regarding technical, managerial, and financial capacity, including asset management.

- Operator Training and Certification Program: As of July 1, 2000, all public water systems are required to have a certified operator. A well-trained operator is an important factor in maintaining a water system's capacity. DANR works with the South Dakota Association of Rural Water Systems to provide operator training classes to prepare operators for certification before the exams. Several other organizations within the state also provide training opportunities for continued education for operators to maintain their certifications. South Dakota plans to incorporate information about technical, managerial, and financial capacity, including asset management, in operator certification training classes. These classes will emphasize the importance of asset management plans and will reach out to system operators because they are required to be certified. South Dakota will encourage systems to develop and implement asset management plans, as deemed appropriate, because all operators need continuing education credits to maintain their license and those trainings will now include information on asset management.
- Technical Assistance Programs: DANR staff can provide technical assistance beyond the scope of sanitary surveys. DANR also partners with third-party technical assistance providers who can provide free or low-cost assistance to public water systems deficient in technical, managerial, or financial capacity. South Dakota and technical assistance providers plan on encouraging systems to develop and implement asset management plans, as deemed appropriate, when they visit systems. They can also provide the Capacity Assessment Worksheets which include asset management and assist the system to complete the worksheets.
- Source Water Assessments: DANR encourages all public water systems to develop a source water assessment plan and update the plan as needed. Although this work is conducted mostly at the local level, when appropriate, information regarding building technical, managerial, and financial capacity including asset management will be integrated into these activities.
- Plans and specifications review: Plans for new public water systems or changes to existing public water systems of sanitary significance are reviewed by an engineer to ensure that the public water system can deliver safe drinking water to its consumers and meet all state and federal requirements. If, during a plans and specifications review, it was determined that a system would benefit from an asset management plan, a review comment will be added to the approval letter suggesting that the system owner integrate a strategy to complete an asset management plan.
- Public Education: Development of public education materials helps address the following impairments - lack of consumer education, lack of public awareness, and unwillingness to pay increased rates. Public education gives us opportunities to show how technical, managerial, and financial capacity, including asset management, can be used to ensure compliance with the National Primary Drinking Water Regulations. Systems working with the public encourage a partnership where technical, managerial, and financial capacity, including asset management, can be discussed. This partnership in and of itself is an educational experience for the public and provides a feedback loop for the system.
- Board Training: Educating board members on the public health connection of operation provides opportunities to discuss how technical, managerial, and financial capacity,

including asset management, can be used to ensure compliance with the National Primary Drinking Water Regulations. Developing a partnership between board members and operators, the state and technical assistance providers can offer opportunities to discuss technical, managerial, and financial capacity, including asset management. The training materials can include technical, managerial, and financial capacity, including asset management, and the importance of developing an asset management plan.

- **New Water System Planning Manual:** This manual helps new systems develop and implement a planning process aimed at enhancing technical, managerial, and financial capacity.
- **Capacity Assessment Worksheets:** The Capacity Assessment Worksheets address all areas of capacity including asset management. South Dakota has developed these worksheets for use in the DWSRF loan program but can also use it for systems triggered by our ranking systems, discovered systems, systems with an ETT of 11 or greater and other situations, when deemed appropriate. Water systems complete these Capacity Assessment Worksheets on their own or with help from technical assistance providers. Information from the worksheets can be used to determine the type of assistance and training the water system is most in need of.
- **Monitoring:** The water quality of public water systems throughout the state is monitored by sampling and laboratory analysis by a South Dakota certified laboratory. Systems with routine failure to monitors or contaminant exceedances will be referred to technical assistance providers, who can help the system complete the Capacity Assessment Worksheets including asset management, to help identify which capacity areas need to be improved to return to compliance.
- **Partnership Development:** South Dakota encourages public water systems to participate in the SD Water/Wastewater Agency Response Network (SDWARN), which prepares, organizes responses, and shares equipment and personnel in the event of a natural or human-caused emergency. South Dakota will encourage systems to be leaders in the development and implementation of asset management plans, and to assist other systems through the SDWARN in development of asset management plans, where deemed beneficial to the system.

#### **D. Establishing a Baseline Assessment and Measuring Improvement**

Under § 1420(c)(2)(D) of the SDWA, South Dakota must consider “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.”

South Dakota currently has certain measures in place that can be used to set a benchmark for the capacity program. These are:

- **Drinking Water Program Benchmarks:** The Drinking Water Program within DANR currently tracks certain measures/benchmarks each quarter. These measures can be used as important indicators to gauge the success of South Dakota's Capacity Development Program. They are:
  - Number of Systems (by type);

- Population Served (by type);
  - Number of systems with MCL violations (by type);
  - Percentage of systems with MCL violations (by type);
  - Number of Systems with Monitoring/Reporting Violations; and
  - Number of Systems with No Violations (by type).
- ETT > 11 List: An ongoing evaluation of the ETT list helps the state understand whether capacity program activities are effective over time.
  - Number of Certified Operators: Monitoring the number of certified operators is a tool in measuring the management capabilities of water systems.

When the above measures lead to an ETT of 11 or greater, South Dakota will send the system the Capacity Assessment Worksheets and provide technical assistance to complete them. Systems that incur two or more significant deficiencies during a sanitary survey will also be sent the worksheets and technical assistance.

In addition to the measures listed above, the volume of technical, managerial, and financial capacity activity, including asset management, will be tracked. This will include:

- The number of Capacity Assessment Worksheets including asset management completed by systems, where deemed appropriate (i.e. having an ETT of 11 or greater, discovered systems, systems triggered by our priority scheme, systems with a DWSRF loan);
- The number of site visits for technical assistance that involved capacity/asset management assistance;
- Number of training sessions given that focused on technical, managerial, and financial capacity including asset management;
- Number of Sanitary Surveys completed and the results of the asset management questions; and
- Number of Level 1 and Level 2 assessments for the revised total coliform rule where technical, managerial, and financial capacity assistance were also provided.

South Dakota plans to measure improvements by tracking systems with an ETT of 11 or greater for the next three years to determine if their compliance record has improved. South Dakota will also perform this same measurement with systems triggered by our priority scheme, discovered systems, and DWSRF loan recipients.

## **E. Identification of Stakeholders**

SDWA § 1420(c)(2)(E) states South Dakota must consider “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:** When developing the initial capacity development strategy in 2000, South Dakota formed a Capacity Development Technical Advisory Group whose purpose was to

provide public input representing drinking water organizations, associations, and water systems across the state. South Dakota held two public meetings to present the plan and obtain comments, and also posted the draft strategy on DANR’s website and issued a press release to let the public know it was available for review and comment.

**Revised Strategy:** For the 2022 revised capacity development strategy, South Dakota engaged its stakeholders by holding a meeting at the annual South Dakota chapter for the Water and Wastewater Association. The draft revised strategy which includes the asset management 5 core questions as a strategy to increase technical, managerial, and financial capacity was presented to the stakeholders and a survey was conducted, with the survey questions and responses summarized included in Appendix 1.

## **F. Encourage development of Asset Management Plans by public water systems**

Section § 4120(c)(2)(F) of the SDWA states South Dakota must include “a description of how the state will, as appropriate— (i) encourage the development by public water systems of asset management plans that include best practices for asset management; and (ii) assist, including through the provision of technical assistance, public water systems in training operators or other relevant and appropriate persons in implementing such asset management plans.”

South Dakota will use the five-core-questions framework, as appropriate, to encourage the development of, and assist in the implementation of, asset management plans. The framework is composed of the five core questions listed below, and these questions are included in the Capacity Assessment Worksheets (which can be found on SD DANR’s website).

1. What is the current state of the utility’s assets?
  - a. Prepare an asset inventory.
  - b. Develop a method to assess and prioritize assets based on condition.
  - c. Assess the asset’s remaining useful life.
  - d. Determine asset’s value and replacement cost.
2. What is the utility’s required “sustainable” level-of-service?
  - a. Analyze current customer demand and satisfaction.
  - b. Analyze anticipated customer demand.
  - c. Communicate system performance goals with the public.
  - d. Identify standard levels of services and track system performance.
3. Which assets are critical to sustained performance?
  - a. Conduct a failure analysis on all assets.
  - b. Determine probability, risk, and consequences of failure.
  - c. Prioritize system assets based on importance to system operation.
4. What is the utility’s best “minimum life-cycle cost” capital improvement plan and operations and maintenance strategies?
  - a. Implement an appropriate maintenance schedule.
  - b. Identify life-cycle costs for all assets.
  - c. Identify and compare the cost of rehabilitation versus replacement.
5. What is the utility’s best long-term financing strategy?
  - a. Regularly review system budget.

- b. Establish and fund a capital improvement account.
- c. Implement a rate structure to ensure financial sustainability.

To encourage systems most in need of technical, managerial, and financial capacity assistance and assist them to develop and implement an asset management plan, the Capacity Assessment Worksheets will be sent to the following list of systems, when deemed appropriate: systems with the highest ranking in the state prioritization scheme for systems needing capacity/asset management assistance, systems with an ETT score of 11 or greater, discovered systems, systems applying for a DWSRF loan, and other situations as determined by the state. Technical assistance providers will also be utilized to help the systems complete the worksheets when needed.

The state will also assist in capacity and asset management assistance during technical assistance visits and by providing training on asset management to the above list of systems and all systems in South Dakota. The technical assistance providers will meet with South Dakota staff on a regular basis to provide a continuous feedback loop about how best to tailor visits and training to further asset management plans.

Technical assistance providers will use the EPA's Asset Management: Best Practices Guide when working with water systems on creating asset management plans.

Additionally, South Dakota will be adding the following questions to the sanitary surveys:

- Does the system currently have an asset management plan?
- If no, are you interested in developing an asset management plan?
- If yes, how often does the system update the asset management plan?

When DANR staff determines it beneficial, public water systems will be encouraged to develop an asset management plan utilizing available templates and spreadsheets when identified as a recommendation on their sanitary survey report. This information will also inform the training needs on technical, managerial, and financial capacity including asset management.

### **III. Capacity Development Strategy Including Asset Management Implementation**

South Dakota has fully implemented a capacity development strategy to encourage the technical, managerial, and financial capacity of all water systems in the state. South Dakota believes that implementation of the amended strategy to include asset management will ensure that water systems have the proper management and infrastructure to successfully provide safe drinking water long-term. Through the tools previously listed and utilizing the criteria above to identify systems most in need of technical, managerial, and financial capacity improvements, we plan to encourage and assist in the development of asset management plans through technical assistance and trainings. The feedback from technical assistance providers and the sanitary survey questions will help inform the state on the progress of asset management implementation.

### **IV. Capacity Development Strategy Reporting Requirements**



South Dakota will submit an annual report to EPA by September 30, detailing the activities of the capacity development program over the past state fiscal year (July 1 to June 30).

South Dakota will submit a report to the governor by September 30, 2023, and every three years thereafter detailing the activities of the capacity development program since its inception in 2000.

## **Appendix 1. Asset Management Survey Questions and Summary of Responses for 2022 Revised Capacity Development Strategy.**

The following questions were asked to the stakeholders and a summary of their responses is listed below. Their input was used to help write the revised capacity development strategy.

### **Question 1: Please list your contact information (Name, Organization, Email, Phone)**

Stakeholders who completed the survey included a variety of members from public water systems, engineering firms, and partnering organizations such as Midwest Assistance Program and South Dakota Association of Rural Water Systems.

### **Question 2: Do you know what asset management is? Yes or No**

All stakeholders answered Yes.

### **Question 3: Do you see the value in having an asset management plan? Yes or No, please elaborate on your reasoning for your answer.**

All stakeholders answered Yes.

Additional comments regarding the value of asset management included:

- Can help operators be better on top of maintenance needs, and help managers develop budgets for maintenance, repair, and capital expenses.
- Helps systems be proactive vs. reactive.
- Provides management and other stakeholders a road map by identifying an organization's physical assets and their role in providing services. By knowing capacity, estimated lifespan and replacement costs of these assets, management can effectively budget future upgrades or additions and better allocate financial resources.
- Have seen years and years of systems not paying attention to their assets. A plan would be a good tool to help them budget with their leadership.
- It helps identify key items and helps budget for timely replacement of items.
- Effective budgeting, depreciation control, and cost control.

Some comments to consider regarding the practicality of asset management plans:

- City councils/water boards have to be on board. If they don't follow and approve on the financial side, there's much less benefit to an asset management plan.
- If asset management plans aren't continually updated, they can quickly become worthless.

### **Question 4: What do you see as the biggest barrier for a water system to overcome to complete and maintain an asset management plan?**

Comments from stakeholders included:

- Lack of time, money, and interest to complete a plan and keep plan current.
- Identifying and establishing a useful remaining life for its assets. Much of a water system's assets are buried underground and not easily located or inspected.
- Lack of longevity in personnel with knowledge of the system and/or lack of records.

- The perception that asset management is too “big”, “complicated”, and “difficult” to implement.
- The classical asset management approach doesn’t work for smaller systems—too involved and takes too much time.
- Lack of education that prevents “buy-in”.

**Question 5: Do you feel SD’s Drinking Water Program approach to asset management will benefit water systems? If no, please elaborate on what could be done to make it better for SD’s water systems.**

Most stakeholders answered Yes.

Suggestions for improvements and general comments from stakeholders included:

- In my opinion it will remain a general reference tool without the system utilizing this document
- Need to “sell” it. O/M cost is a major contributor to rates, asset management has a payback!
- “Forcing” something they see no value in, will not be used.
- Some may be reluctant to start a program, but with the right help most would benefit from even a small program.
- It could benefit systems but it will take many years for it to be obvious.
- Key concept is the definition of “benefit”—without a basic outline or template of actions to accomplish a minimum level of asset management, the goals of asset management will not be achieved. The “5 core questions” will not be answered, and systems will not “benefit”.
- A practical, achievable approach or method must be developed—beyond the EPA framework.

**Appendix 2. South Dakota Capacity Development Strategy for Existing Public Water Systems – July 2000.**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
DENVER, CO 80202-2466  
<http://www.epa.gov/region08>

Ref: 8P-W-MS

OCT 10 2000

Darron Busch, Program Administrator  
Drinking Water Program  
South Dakota Department of Environment and  
Natural Resources  
Joe Foss Building  
523 East Capitol  
Pierre, SD 57501-3181

Ref: Capacity Development

Dear Mr. Busch:

I am pleased to inform you of EPA's approval of South Dakota's capacity development strategy for existing drinking water systems in conformance with Section 1420(c) of the Safe Drinking Water Act (SDWA).

Our review and approval was completed using the guidelines in EPA's *Handbook for Capacity Development - Developing Water System Capacity Under the Safe Drinking Water Act as Amended in 1996*. In approving the program, we relied on our direct work with your staff as well as the description of South Dakota's program as documented in the *South Dakota Department of Environment and Natural Resources's (DENR) Capacity Development Strategy for Existing Public Water Systems*, dated July 2000. Within that document, you addressed how the State considered, solicited public comment on and included the five elements required under SDWA §1420(c)(2)(A-E):

- Methods or criteria to prioritize systems [§1420(c)(2)(A)]
- Factors that encourage or impair capacity development [§1420(c)(2)(B)]
- How the State will use the authority and resources of the SDWA [§1420(c)(2)(C)]
- How the State will establish the baseline and measure improvements [§1420(c)(2)(D)]
- Procedures to identify interested persons [§1420(c)(2)(E)]

We look forward to the ongoing implementation of your strategy, including the development and implementation of new tools you deem appropriate to help in your efforts such as source water assessments, utility board training, water system training manuals, drinking water handbooks and enhanced sanitary surveys. We encourage you to continue to look for opportunities to best utilize the SDWA and its related funding to help water systems build the capacity to provide safe water and comply with the National Primary Drinking Water Regulations on a continuing basis.



As you noted in your strategy, there are ongoing reporting requirements associated with the capacity development provisions of the SDWA. These reports will give us all an opportunity to determine what is and what isn't working and allow you the opportunity to adapt your strategy to best meet the needs of the water systems in South Dakota:


- Each year, as a stand-alone submittal or as part of the State's capitalization grant application, South Dakota must demonstrate the ongoing implementation of the capacity development strategy.
- By August 6, 2001 (five years after the enactment of the 1996 SDWA) South Dakota must report to EPA on the success of its enforcement mechanisms and initial capacity development efforts in helping community water systems and non-transient, non-community water systems having a history of significant noncompliance improve their capacity.
- Every 3 years, the State must submit to EPA a list of community water systems and non-transient, non-community water systems that have a history of significant noncompliance and, to the extent practicable, the reasons for their noncompliance. DENR submitted South Dakota's first list in August 1997 and its second list in August 2000. The next list will be due by August 6, 2003.
- Not later than 2 years after South Dakota adopts its capacity development strategy, and every 3 years thereafter, DENR must submit a report to the Governor on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the State. The report shall also be made available to the public.

Failure to implement the State's strategy or to provide these reports will serve as a basis for withholding of capitalization grant funds, as stipulated in §1452(a)(1)(G)(i).

I want to thank you for the continuing effort your staff has made to work with local, State and Federal stakeholders throughout the development of your strategy. You have laid the foundation for an excellent program and have provided national leadership in the process.

If you have any questions or if we can be of any assistance, please call me at 303-312-6241 or have your staff call Ms. Tracy Eagle, Municipal Systems Unit, Chief, at 303-312-6245.

Sincerely,



for

Kerrigan G. Clough  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance



South Dakota Department of Environment and Natural Resources

# Capacity Development Strategy for Existing Public Water Systems

*Drinking Water Program  
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<http://www.state.sd.us/denr>*



July 2000

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# Capacity Development Strategy for Existing Public Water Systems

*South Dakota Department of Environment and Natural Resources  
Drinking Water Program*

## Introduction

The Safe Drinking Water Act (SDWA) amendments of 1996 authorize a Drinking Water State Revolving Fund (DWSRF) loan program to help public water systems finance the infrastructure 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 directs the Administrator of the U.S. Environmental Protection Agency (EPA) to withhold a portion of a state's allotment under § 1452 unless the state develops and implements a capacity development program to assist existing public water systems (PWS) in acquiring and maintaining technical, managerial, and financial capacity.

South Dakota must be developing and implementing a strategy to assist PWSs in acquiring and maintaining capacity to comply with the Act by August 6, 2000. Section 1420 requires that states consider, solicit public comment on, and include as appropriate the following:

- A. The methods or criteria that the state will use to identify and prioritize the PWSs most in need of improving technical, managerial, and financial capacity.
- B. A description of the institutional, regulatory, financial, tax, or legal factors at the Federal, state, or local level that encourage or impair capacity development.
- C. 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 National Primary Drinking Water Regulations (NPDWRs), 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.
- D. A description of how the state will establish a baseline and measure improvements in capacity with respect to NPDWRs and state drinking water law.
- E. 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 PWSs and PWS customers).

According to the EPA document, *Guidance on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996*, South Dakota must document the following to demonstrate that it has met the basic requirements of §1420 (c):

- **Public Comment:** South Dakota must verify that it solicited public comments on the five elements listed above as part of the preparation of its capacity development strategy. South Dakota must describe relevant public comments and its responses to them.
- **Consideration of §1420(c)(2)(A-E):** South Dakota must describe which of the listed elements (A-E) were included or excluded from its strategy, and why each element was included or excluded.
- **Capacity Development Strategy:** South Dakota must describe how the selected elements together can be rationally considered to constitute a strategy to assist PWSs in acquiring and maintaining technical, managerial, and financial capacity.
- **Strategy Implementation:** South Dakota must describe how it will implement its strategy and evaluate its progress toward improving PWS capacity.
- **Ongoing Reporting Requirements:** Not later than 2 years after the date on which South Dakota first adopts a capacity development strategy, and every 3 years thereafter, the head South Dakota's primacy agency shall submit to the Governor a report on the efficacy of the strategy and progress toward improving the capacity of public water systems in the state.

Every 3 years, South Dakota must submit to the EPA Administrator a list of community water systems (CWSs) and nontransient noncommunity water systems (NTNCWSs) that have a history of significant noncompliance, and to the extent possible, the reasons for noncompliance.

By 2001, South Dakota must submit to the EPA Administrator a report on the success of enforcement mechanisms and initial capacity development efforts in helping systems in significant noncompliance achieve and maintain capacity.

This *Capacity Development Strategy for Existing Public Water Systems* describes how the South Dakota Department of Environment and Natural Resources (DENR) is going to assist existing water systems in acquiring and maintaining technical, managerial, and financial capacity and meet the requirements detailed in §1420(c) of the SDWA to ensure that the state receives its full DWSRF allotment.

## Public Comment

### Capacity Development Technical Advisory Group

DENR has been very proactive in involving the public or stakeholders in the strategy development process. The starting point for the strategy development process was the formation of the *Capacity Development Technical Advisory Group* (CDTAG). The purpose of this group was to provide public input to the department that would be used in development of an existing water system capacity development plan. The members of the CDTAG represent drinking water organizations and associations and drinking water systems from across the state.

Members include:

Mike Baker, SDDENR, Drinking Water Program  
Sol Brich, SDDENR, Minerals and Mining Program  
Kirk Chaffee, Meade County Planning and Zoning  
Rod Coker, Indian Health Service  
Deene, Dayton, Legislative Audit  
Delvin DeBoer, P.E., South Dakota State University  
Joe Dvorak, Midwest Assistance Program  
Pat Gilligan, Brookings Deuel Rural Water System  
Greg Goebel, Custer State Park  
Andrea Griese, SDDENR, Drinking Water Program  
Jim Harris, Meade County School District  
Randy Jencks, P.E., Kingbrook Rural Water System  
Rob Kittay, SDDENR, Drinking Water Program  
Gregg Magera, Attorney at Law  
Tom Marvin, South Dakota Municipal League  
David Odens, P.E., Banner Associates  
David Page, Finance Officer, City of Ft. Pierre  
Greg Palmer, Black Hills Council of Governments  
Mike Perkovich, SDDENR, Water Resources Assistance  
Greg Powell, P.E., City Engineer, City of Chamberlain  
Robert Powles, Certified Operator  
Mike Smith, Laboratory Director, SD Health Lab  
Mary Taylor, Board Member, Town of Reliance  
Delwyn Tisher, Utilities Manager, City of Hecla  
George Vansco, South Dakota Association of Rural Water Systems

Tasks the group accomplished include:

- The technical advisory group proposed technical, managerial, and financial capacity criteria existing water systems should strive to meet;
- The technical advisory group developed a method South Dakota could use to identify and prioritize the public water systems most in need of improving technical, managerial, and financial capacity;
- The group commented on the institutional, regulatory, financial, tax, or legal factors at the federal, state or local level that encourage or impair capacity development;
- The group discussed how South Dakota can use the authority and resources of the SDWA to help existing systems;
- The group commented on South Dakota's plan to establish a baseline and measure improvements; and
- The group was presented information and commented on DENR's plan for additional public participation.

Meeting summaries are located in Appendix 1. A website was also developed for the CDTAG and the public. Websites are a good way of getting information out to not only group members, but also to all other interested parties. The website posted all meeting



information, including materials presented and meeting summaries. A printed version of the website can be found in Appendix 2.

### Additional Public Participation

As a way to involve additional stakeholders, the department held two public meetings over the state's Rural Development Telecommunications Network (RDTN) to present the draft capacity development plan and obtain comments. The draft capacity plan was also posted on DENR's website for the public to view and comment on. DENR also issued a press release (Appendix 3) on the draft capacity plan in order to let the public know it was available for review and comment.

The schedule for the additional public participation process:

Step	Date
Final CDTAG meeting	March 23, 2000
Post Draft Capacity Development Strategy on the Drinking Water Program's Website	March, 2000
Press Release	June, 2000
RDTN Meetings	July 2000
Submit Final Strategy to EPA Region VIII	July/August 2000

### Public Comments and Responses

There were no comments received on the *Draft Capacity Development Strategy for Existing Public Water Systems*.

### Certification

Public comments were solicited on all five elements listed in § 1420(c)(2).

## The Five Elements

The SDWA requires that South Dakota consider each of the five programmatic elements for inclusion in capacity development strategy, however, it does not require South Dakota to use specific tools to implement the selected elements. South Dakota will include all of the elements in the strategy as described below:

### Element A: Methods or Criteria to Prioritize Systems

Section 1420(c)(2)(A) states that *"In preparing the capacity development strategy, the State shall consider, solicit public comment on, and include as appropriate--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."*

The CDTAG carefully considered this element and decided to start by identifying existing information that could be used in the prioritization process. Tools that currently exist:

- **DENR's Drinking Water Database:** this database contains information on monitoring, operator certification and violations;
- **Significant Noncompliers (SNC) list:** this list is produced by DENR and EPA;
- **"Pre-SNC" list:** this list identifies system that are on the verge of becoming a significant noncomplier;

- Sanitary Survey Information;
- Drinking Water State Revolving Fund (SWSRD) loan applications;
- State Water Plan applications;
- Consumer Confidence Reports;
- Source Water Assessments: will utilize this information once they are complete;
- Reports from Technical Assistance Providers; and
- Municipal Leagues' Water Facilities Report.

After identifying existing tools, the group reviewed a matrix system developed by the state of Oregon and decided that DENR could use the Oregon system but with modifications that would better fit South Dakota's needs. The matrix system uses risk factors relative to compliance problems and ranks systems most in need of help (see Appendix 4). This will allow DENR to effectively use its limited resources while reaching the systems most in need of assistance.

*The matrix system South Dakota proposes to use to identify and prioritize water systems was developed by the Oregon Health Division. A description of Oregon's system can be found in the "Report of Finding on Improving the Technical, Financial and Managerial Capacity of Oregon's Public Water System" (Drinking Water Advisory Committee to the Oregon Health Division).*

The risk types that are to be initially included in South Dakota's matrix are readily available from existing databases. They are:

- (1) Health/Water Quality
- (2) Monitoring and Reporting
- (3) Certified Operator Information

The above risk types are good indicators of technical and managerial capacity. Currently, limited financial information is available. The following two risk types will be added to the matrix as soon as data has been collected and entered into a database:

- (1) Sanitary Hazards
- (2) Financial Information

A survey of water systems to collect financial information is currently taking place. It is anticipated that the financial information will be integrated into the matrix before January 1, 2001. A copy of the questionnaire can be found in Appendix 5.

Step	Projected Date
Prioritize PWSs using Health/Water Quality Information, Monitoring and Reporting Information, and Certified Operator Information.	August, 2000
Re-prioritize systems using new financial information	January, 2001
Re-prioritize	As Needed

### **Element B: Factors that Encourage or Impair Capacity Development**

Under § 1420(c)(2)(B) of the SDWA, South Dakota must consider developing a description of the "institutional, regulatory, financial, tax, or legal factors at the federal, State, or local level that encourage or impair capacity development."

The CDTAG identified 62 factors at the federal, state and local levels that are either enhancements or impairment to public water system capacity. The following table itemizes the factors by category (See Appendix 6 for a complete list of enhancements/impairments identified).

Factors	Enhancements	Impairments
Institutional	5	14
Regulatory	4	9
Financial	9	13
Tax	0	4
Legal	0	4

### Factors that Encourage Capacity Development

There are a number of factors in South Dakota that currently enhance the capacity of public water systems. One important factor is that DENR houses all programs that deal with drinking water systems.

- **Drinking Water Program.** The Drinking Water Program implements the provisions of the Safe Drinking Water Act. Enhancements to capacity within this program include: operator certification and plans and specifications review.
- **Water Rights Program.** The Water Rights Program implements water quantity regulations. Control points this program is responsible for are water right permits and well construction standards.
- **Water and Waste Funding.** This program is responsible for administering the Drinking Water State Revolving Fund loan program. The control point for this program is deciding financial eligibility and approving grants and loans.
- **Ground Water Quality Program.** This program is responsible for conducting source water assessments for all public water supply systems as required by the 1996 SDWS amendments. The control point for this program will be determining the susceptibility of the water supply system to contamination.

DENR also has the authority to ensure that all new community and nontransient noncommunity water systems have adequate technical, managerial, and financial capacity before system start-up. This will help eliminate the formation of nonviable water systems.

Additional enhancements include programs that currently exist within DENR that can help build system capacity:

- The state's operator certification program which was a voluntary program in the 1950's and became mandatory for certain systems in the 1970's enhances water system's technical and managerial capacity.
- DENR and other organizations such as the South Dakota Association of Rural Water Systems, the Midwest Assistance Program, the South Dakota Section of the American Water Works Association, the South Dakota Water



and Wastewater Association and the Municipal League provide technical assistance to water systems that also enhances capacity.

- Another positive factor is the many rural water systems located in South Dakota. A map showing the coverage of rural water systems across the state can be found in Appendix 7.

### Factors that Impair Capacity Development

Just as there are factors that enhance capacity in water systems, there exist factors that impair the capacity of water systems in the state. This section is not meant to address all possible factors that impair the capacity of water systems, rather it will highlight the more prevalent factors.

#### Impairments at the Federal Level

- All federal agencies that provide funding are not involved in capacity development;
- Federal regulations are very complex;
- Unfunded mandates; and
- Not enough funding to go around.

#### Impairments at the State Level

- Limits on resources;
- Lack of education to the consumer;
- No incentives;
- Funding limited to nonprofits or governmental entities;
- Lack of a Drinking Water Handbook; and
- No influence on water rate structures (except when a system applies for funding).

#### Impairments at the Local Level

- Lack of planning;
- Lack of financial management;
- Unmetered water;
- Lack of training/education at the board level;
- Lack of public awareness;
- Failure to know/understand regulations;
- High turn-over (employees and governing body);
- Obtaining financing can be difficult;
- Population is small;
- Insufficient funds;
- Low incomes;
- Unwillingness to raise rates/pay increased rates; and
- Unwillingness to regionalize.

### Element C: Description of How South Dakota will use the Authority and Resources of the SDWA

Section 1420(c)(2)(C) of the SDWA states South Dakota must consider developing *"a description of how the State will use the authorities and resources of this title or other means to -- (i) assist public water systems in complying with national primary drinking water regulations; (ii) encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems; and (iii) assist public water systems in the training and certification of operators."*

In developing a description on how South Dakota will help existing water systems gain adequate capacity, the CDTAG looked at the impairments and enhancements listed above, existing tools available, and possible tools that could be developed to help water systems gain capacity.

#### Existing Tools

- Sanitary Surveys: Every three years for CWSs
- Operator Certification Program: As of July 1, 2000 all PWSs are required to have a certified operator.
- Cooperation with other organizations
- Training/Technical Assistance Programs
- Enforcement

#### Tools in Development

- Source Water Assessments

#### Tools to Develop

- **Public Education:** Development of public education materials will help address the following impairments – lack of consumer education, lack of public awareness, and unwillingness to pay increased rates. Tools that could be developed include news releases, water bill inserts, public meetings, and education through public schools.
- **Board Training:** By educating board members on financial and managerial issues related to the water system, the following impairments can be addressed – lack of training/education at the board level, lack of planning, and lack of financial management. Training materials have been developed by other organizations (*i.e. RCAP's Board Training Manual and the National Training Center for Small Communities Drinking Water Short Course for Local Officials*) that can be used in this endeavor.
- **Water System Planning Manual:** Development of a manual would address all capacity issues. It would help systems develop and implement a planning process aimed at enhancing technical, managerial and financial capacity. South Dakota has developed a *New Water System Planning Manual*. This manual could be modified for existing systems. Different manuals could be developed for different types of water systems (community, transient, nontransient).
- **Capacity Self-Assessment:** This self-assessment addresses all areas of capacity. South Dakota has developed a Capacity Self-Assessment for use in the Drinking Water SRF loan program (see Appendix 8). Water systems could complete this assessment on its own or with help from technical assistance providers. Information from the assessment could be used to determine the type of assistance the water system is most in need of.
- **Drinking Water Handbook:** A handbook on drinking water statutes and regulation with specific requirements could be developed and tailored to specific types of systems. This manual would help water system operators and managers understand complex compliance and regulatory issues.
- **"Enhanced" Sanitary Survey:** Currently DENR conducts sanitary surveys on all PWSs. For water systems that are ranked high on the



prioritization scheme an “enhanced” sanitary survey could be conducted to obtain additional technical, managerial, and financial information to determine what type of assistance is most needed.

- **Drinking Water State Revolving Fund Loan Set-Asides:** Section 1452(k) of the SDWA Amendment of 1996 authorizes South Dakota to spend up to 15 percent of the capitalization grant each fiscal year on a number of different activities. One such activity is to provide assistance through a capacity development strategy including technical and financial assistance.

The table in Appendix 9 illustrates the tools and resources South Dakota can use in a capacity program and how they can be used to address the five elements and assess capacity.

#### **Element D: Establishing a Baseline and Measuring Improvements**

Under § 1420(c)(2)(D) of the SDWA, South Dakota *"must consider, solicit public comment on, and include as appropriate -- 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."*

South Dakota currently has certain measures in place can be used to set a benchmark for the capacity program. These are:

- **Drinking Water Program Benchmarks:** The Drinking Water Program within DENR currently tracks certain measures/benchmarks each quarter. These measures will be used as important indicators to gauge the success of South Dakota's Capacity Development Program. They are:
  - Number of Systems (by type);
  - Population Served (by type);
  - Number of systems with MCL violations (by type);
  - Percentage of systems with MCL violations (by type);
  - Number of Systems with Monitoring/Reporting Violations; and
  - Number of Systems with No Violations (by type).
- **Significant Noncompliance (SNC) List:** An ongoing evaluation of the SNC list will help the state understand whether capacity program activities are effective over time.
- **Number of Certified Operators:** Monitoring the number of certified operators is a tool in measuring the management capabilities of water systems.

In addition to the measures listed above, the volume of capacity activity will be tracked. This will include:

- The number of capacity assessments completed;
- The number of site visits for technical assistance;
- Number of training sessions given; and
- Number of Enhanced Sanitary Surveys completed.

#### **Element E: Identifying Interested Persons**

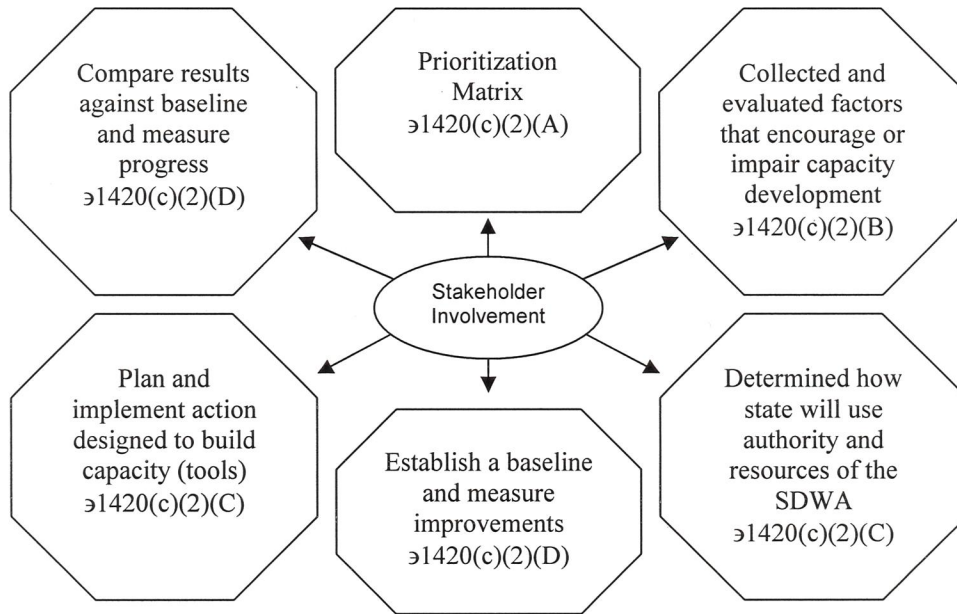
Section 4120(c)(2)(E) of the SDWA states South Dakota must consider *"an identification of the persons that have an interest in and are involved in the development and implementation of the capacity development strategy."*

The last item South Dakota must consider in developing a capacity development program is public participation. The purpose of this item is to identify people that have an interest in the development of a program. The technical advisory group was formed because of this reason. During the first meeting, the group identified additional stakeholders who were then invited to participate in the following technical advisory group meetings. In order to involve additional stakeholders, two public meeting were held over the state's Rural Development Telecommunications Network (RDTN) to present the draft capacity development plan and to obtain comments. The draft capacity plan was also posted on DENR's website for the public to view and comment on. DENR also issued a press release and published a public notice in all of the state's daily newspapers in order to inform the public that the plan was available for review and comment.

## Capacity Development Strategy

### Building the Strategy

The CDTAG considered the five elements above and all of the elements will be integrated to form a comprehensive capacity development strategy.



### The Strategy Process

By establishing a process for prioritizing water systems, DENR will be able to reach those systems most in need of capacity assistance. The matrix system will rank water systems using technical, managerial, and financial indicators.

After the water systems have been ranked, the system will be contacted and either an “enhanced sanitary survey” will be conducted or the system will complete a capacity assessment worksheet. A review of the survey and/or worksheets will indicate what type of assistance the water system most needs (i.e. technical, managerial, financial). A technical assistance provider will then be called in, if necessary, to assist the water system.



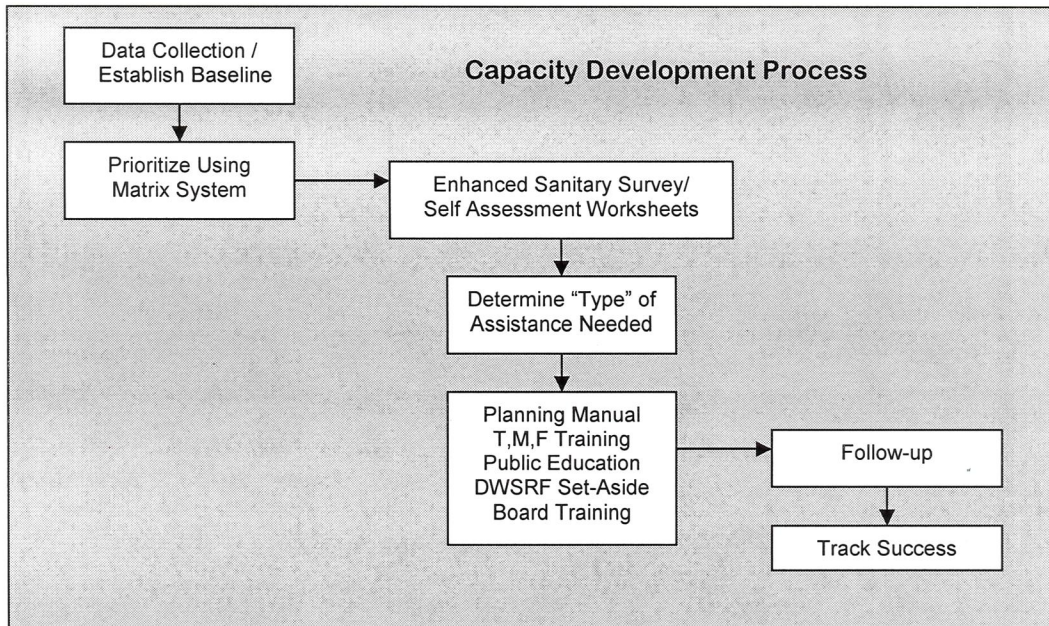
*It is anticipated that DENR will schedule regular meetings with the technical assistance providers to discuss what water systems are in need of assistance and what type of assistance should be provided.*

A number of tools will be available to help water systems after the initial evaluation:

Tools	Assistance Provided			Comments
	Technical	Managerial	Financial	
Use of Technical Assistance Providers	Y	Y	Y	Once problem areas are identified, these tools can be used to help water system gain the capacity they need to be in compliance with all drinking water requirements.
Board Training	Y	Y	Y	
Water System Planning Manual	Y	Y	Y	
Drinking Water Handbook	Y	Y	Y	
Public Education	Y	Y	Y	
Operator Certification	Y	Y		
Use of DWSRF Set-Asides	Y	Y	Y	

Once the assistance is complete it will be necessary to follow-up with the system at a later date to determine if the assistance was effective. DENR will also be measuring improvements of the entire capacity program by evaluating SNC lists, operator certification, and by tracking the volume of capacity activity.

The entire process is illustrated in the flow-chart below:



## Strategy Implementation

Once stakeholders have reviewed the draft capacity development document and all comments addressed, the document will be finalized and sent to EPA Region VIII for review and approval.

Implementation Schedule	Projected Date
Start Developing New Tools	Summer/Fall 2000
Submit Capacity Development Strategy for Existing Water Systems to EPA Region VIII for Review and Approval	July/August 2000
Prioritize Water Systems using Health/Water Quality Information, Monitoring and Reporting Information, and Certified Operator Information	August 2000
Contact Water Systems Ranked Highest to Begin Capacity Development Process	August 2000
Re-prioritize Water Systems using New Financial Information	January 2000 (quarterly thereafter)
Evaluate the Progress of the Program	Ongoing
Evaluate the success of the "tools" being used in the program	Yearly

DENR views the capacity development strategy for existing water systems a "living" program. As time goes by, DENR will be able to evaluate what is working and what is not and make adjustments that will continuously improve the program.

## Ongoing Reporting Requirements

This section is from EPA's *Guidance on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996*.

- Each year, as a stand-alone submittal or as part of the capitalization grant application, South Dakota will provide documentation showing the ongoing implementation of the capacity development strategy.
- Every three years, South Dakota must submit to EPA a list of CWSs and NTNCWSs that have a history of noncompliance and, to the extent possible, the reasons for their noncompliance. South Dakota submitted the first list on July 15, 1997. The next list will be due August 6, 2000.
- By August 6, 2001 South Dakota must report to EPA on the success of its enforcement mechanisms and initial capacity development efforts in helping CWSs and NTNCWSs having a history of significant noncompliance improve their capacity.
- Not later than 2 years after South Dakota adopts a capacity development strategy, and every three years thereafter, DENR must submit a report to the Governor on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of PWSs in South Dakota. The report shall also be made available to the public.

Failure to produce any of the above reports will constitute a basis for DWSRF withholding since these reports, required under sections 1420(b)(3) and (c)(3), are considered part of the capacity development strategy. However, EPA will not base withholding determinations on any type of judgements or inferences drawn from the reports regarding the relative merits or efficacy of South Dakota's capacity development strategy. Further, the statute in section 1420(c)(4) explicitly prohibits EPA from reviewing decisions of South Dakota regarding any particular PWS, as part of a capacity development strategy. Such decisions regarding individual PWSs may not serve as a basis for withholding funds.

## Appendices

- 1) Capacity Development Technical Advisory Group Meeting Summaries
- 2) Capacity Development Technical Advisory Group Website
- 3) Press Release
- 4) Prioritization Matrix
- 5) Financial Questionnaire
- 6) List of Capacity Development Enhancements and Impairments
- 7) South Dakota Rural Water Systems Map
- 8) South Dakota's Capacity Assessment Worksheets
- 9) Tools and Resources for Developing South Dakota's Capacity Program



**Appendix 1: Technical Advisory Group Meeting Summaries**

**Appendix 2: Technical Advisory Group Website**



## Appendix 3: Press Release

### The Department of Environment and Natural Resources Invites Public Comment on Plan to Assist Public Drinking Water Systems

For Immediate Release: June 23, 2000

For More Information: Andrea Griese, 773-3754

(Pierre) – The Department of Environment and Natural Resources (DENR) is inviting the public to comment on a plan that will help public water systems improve their finances, management, infrastructure and operations so they can provide safe drinking water consistently and reliably. The draft Capacity Development Strategy outlines how DENR will assist existing water systems.

"Capacity development is another new requirement of the federal Safe Drinking Act," said DENR Secretary Steve Pimer. "We want to make sure we hear from the people it affects so we can shape the program to fit South Dakota."

Two public input meetings will be held over the Rural Development Telecommunications Network (RDTN) on Thursday, July 6. The first is scheduled from 2:00 pm – 4:00 pm and the second from 7:00 pm – 9:00 pm (all times Central Standard Time). The meetings will be carried at RDTN sites in Brookings, Pierre, Rapid City, and Vermillion.

The meetings will include an overview of the department's proposed Capacity Development Strategy for existing public water systems and a question and answer session, followed by time for citizens to offer comments and suggestions regarding the proposed plan. Public input will be included in DENR's final Capacity Development Strategy for Existing Public Water Systems that will be submitted to the U.S. Environmental Protection Agency for approval.

For more information about the Capacity Development Strategy, visit DENR's website at <http://www.state.sd.us/denr/dw/cdtag.htm> or contact Andrea Griese, DENR Drinking Water Program, at 605-773-3754.

#### DENR Capacity Development Strategy Meetings

Thursday, July 6, 2000

2:00 pm – 4:00 pm & 7:00 pm – 9:00 pm (central standard time)

#### **Pierre – State Capitol Building**

500 East Capitol – Room B12  
Studio A  
Pierre, SD

#### **SDSM&T**

Classroom Building, Rm. 109  
501 E. Saint Joseph Street  
Rapid City, SD

#### **South Dakota State University**

Studio I  
101 Pugsley Center  
8<sup>th</sup> and Medary  
Brookings, SD

#### **University of South Dakota**

Center for Continuing Education  
Studio II  
414 East Clark  
Vermillion, SD

**Appendix 4: Prioritization Matrix**

**Draft Matrix System**

**Risk Levels**

<b>Risk Type</b>	<b>High 5 Points</b>	<b>Med. High 4 Points</b>	<b>Medium 3 Points</b>	<b>Med. Low 2 Point</b>	<b>Low 1 Points</b>	<b>G. Relative Weighting Factors</b>	<b>Total Points</b>
A. Health/Water Quality						5	
B. Monitoring and Reporting						3.5	
C. Certified Operator						3	
D. Sanitary Hazards						2.5	
E. Financial Info						2	
						Sub Total	
						Grand Total	

## ***Risk Level Assessment Based on Risk Type***

### ***A. Health/Water Quality***

#### **High:**

1. Waterborne disease outbreaks.
2. Fecal/*E.coli* positive or Coliform Rule Maximum Contaminant Level (MCL) violations.
3. Surface water or ground water under surface water influence (GWUSWI) treatment technique violations from turbidity MCL exceedances or <2.0-log inactivation through filtration treatment.
4. Nitrate/Nitrite MCL violations.

#### **Medium High:**

1. Surface water or GWUSWI treatment technique violations for failure to meet minimum "CT" (Chlorine x Contact Time) inactivations through disinfection treatment.
2. Volatile Organic (VOC), Synthetic Organic (SOC), Radionuclides, and Inorganic (IOC) Chemical (including Lead Action Level) MCL violations.

#### **Medium:**

1. Total coliform (fecal negative) MCL violations.
2. IOC, SOC, VOC or Radiological contaminant detections at levels greater than 50% of the MCL.

#### **Medium Low:**

1. Copper action level violations.
2. IOC, SOC, VOC or Radiological contaminant detections at levels greater than 20% and less than 50% of the MCL.

#### **Low:**

1. Ground water contamination greater than the MCL for any chemical contaminant within 1000 feet of the drinking water source (2-year travel time).
2. Ground water contaminant detection (chemical or viral) within 1000 feet of the drinking water source (2-year travel time).

### ***B. Monitoring and Reporting***

#### **High:**

1. Surface water and GWUSWI water quality reports (turbidity, "CT," etc.)
2. Coliform bacteria.

#### **Medium High:**

Nitrate/Nitrite.

#### **Medium:**

1. VOC and SOC.
2. IOC (including Lead).

#### **Medium Low:**

Radionuclides.

#### **Low:**

Copper.

### ***C. Certified Operator/Operations***

**High:**

No certified operator.

**Medium High:**

Water Treatment Plant operates with no operator on site.

**Medium:**

Certified to an insufficient grade or discipline.

**Medium Low:**

Certified operator is on staff, but no attention is being paid to maintaining the water quality in the distribution system.

**Low:**

Insufficient number of certified operators for the water system operations.

### ***D. Sanitary Hazards (This data is not currently in database - this information could be collected from sanitary surveys conducted by the state)***

**High:**

Source construction (wells and springs) / major operation issues (Water Treatment Plant operating practices).

**Medium High:**

Other operation issues (sampling plans, flushing practices, cross-connection control program, etc.).

**Medium:**

Finished water storage standards / practices (cleaning, inspection, water "turn-over," etc.).

**Medium Low:**

Distribution system standards and maintenance practices (adequate blow off points, valve exercising, good as-built plans of piping layout).

**Low:**

Minor construction standards.

### ***E. Financial Capacity (This information has not yet been collected)***

**High:**

No water system operating budget  
Annual revenue does not cover expenses.

**Medium High:**

The water's systems budget/plan is not used in the calculation of rates.  
Depreciation is not calculated or funded.

**Medium:**

No capital improvements plan.  
No reserve account.

**Medium Low:**

Generally accepted accounting procedures are not used.

**Low:**

Cash is being transferred to the general fund.

***F. Source Susceptibility – Potential Threats to Drinking Water Quality (This could be added once source water assessments are complete)***

***G. Relative Weighting Factors***

A relative weight factor was created to compare the severity of risk types. Therefore, a point scale was developed to achieve that balance.

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Systems can accumulate more than one set of points in a given category. For instance, a system with a nitrate violation, total coliform violation, and a copper action level exceedance would receive points not just for the worst violation, but rather for each as follows:

- Nitrate = 5 points
- TCR violation = 3 points
- Copper = 2 points
- Total under Health / Water Quality = 10 points



**Appendix 5: Financial Questionnaires**

**Draft Financial Questionnaire  
Nontransient Noncommunity and Transient Noncommunity Water Systems**

**Water System Name:** \_\_\_\_\_  
**EPA ID#:** \_\_\_\_\_  
**Completed By:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone Number:** \_\_\_\_\_

Does your water system have an operating budget?  yes  no

Do you have a capital improvements plan for future repair/replacement of major water system components?  yes  no

If yes, what is the time frame covered by the plan?  1 year  3 years  5 years  
 10 years  other

If no, do you have an informal equipment replacement plan?  yes  no

Do you have a reserve account?  yes  no

If yes, how do you determine the amount to put into the account?

- Fixed Amount
- Percentage of Expenses
- Other

Are fixed assets capitalized and are those assets depreciated?  yes  no

Does your system use generally accepted accounting procedures?  yes  no

## Draft Financial Questionnaire Community Water Systems

**Water System**

**Name/EPA ID #:** \_\_\_\_\_

**Completed By:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

Does your water system have an operating budget?

- yes - separate water system budget  
 yes - combined budget  
 no budget

Is the water system's budget/plan used in the calculation of water rates?

- yes  no

Do you have a capital improvements plan for future repair/replacement of major water system components (new treatment, wells, water main, etc.)?

- yes  no

If yes, what is the time frame covered by the plan?

- 1 year or less  1 - 5 years  
 5 - 10 years  other

If no, do you have an informal equipment replacement plan?

- yes  no

What are your water rates based upon? *(check all that apply)*

- |   |   |
|---|---|
| <input type="checkbox"/> Capital Improvement Plan and Annual Operating Budget | <input type="checkbox"/> Last year's expenses |
| <input type="checkbox"/> Annual Operating Budget only                         | <input type="checkbox"/> Debt                 |
| <input type="checkbox"/> Cash on Hand   | <input type="checkbox"/> Not sure             |
|   | <input type="checkbox"/> Other _____          |

What is the monthly minimum charged by your water system? \_\_\_\_\_

Does the minimum include water?  yes  no

If yes, how much? \_\_\_\_\_ (If more than one minimum, use the one that applies to the greatest number of accounts)

What is the hookup charge for new users? \_\_\_\_\_

What is the monthly household rate for 5,000 gallons? \_\_\_\_\_ for 7,000 gallons? \_\_\_\_\_

Does the annual revenue from your water rates exceed annual expenses, including depreciation?

- yes  no

If no, what other sources of funding do you use to pay for water system expenses? *(check all that apply)*

- Annual Operating Surplus  
 Taxes  
 Fees  
 Transfers from Other Funds  
 Other \_\_\_\_\_

Do you have a reserve account?

- yes  no

If yes, how do you determine the amount to put into the account?

- Fixed Amount  
 Percentage of Revenues  
 Percentage of Expenses  
 Other \_\_\_\_\_

If no, how would you pay for an unexpected major expense?  
\_\_\_\_\_

Are fixed assets capitalized and are those assets depreciated?

- yes  no

Does your system use generally accepted accounting procedures?

- yes  no

Is cash being transferred from the general fund?

- yes  no

Is cash being transferred to the general fund?

- yes  no

## Appendix 6: List of Enhancements and Impairments

### Institutional Impairments

#### Federal

- Limitations on resources
- Focus is more on enforcement than assistance
- All agencies that provide funding are not involved in capacity development

#### State

- Limitations on resources
- Lack of education to the consumer
- No incentives
- Funding limited to non-profits or governmental entities

#### Local

- Water systems do not generally run a water system like a business
- Lack of planning
- Lack of financial management
- Public doesn't understand the "true cost" of water - lack of consumer education
- Unmetered water
- Lots of "other" things going on at the local level
- Lack of training/education at the board level

### Institutional Enhancements

#### Federal

- Encourage the training of operators

#### State

- Information, education, technical assistance provided by SDDENR, SDARW, MAP, SDAWWA, SDWWA, and the Municipal League
- Operator Certification Program
- Coordination within the agency
- Drinking Water Program website

#### Local

- None identified



## Regulatory Impairments

### Federal

- Regulations - too many, too complex
- Unfunded mandates

### State

- Regulations - complex requirements
- Limited resources
- Lack of a document that contains all regulatory requirements tailored to fit each system
- No influence on water rate structures (except when a system applies for funding)

### Local

- Failure to know and understand statutes and rules
- Lack of training
- High turn-over (employees and governing body)

## Regulatory Enhancements

### Federal

- Regional offices

### State

- Encourage consolidation/regionalization
- Drinking Water Program and regional offices

### Local

- Rate setting/hook-up fees

## Financial Impairments

### Federal

- Not enough funding to go around
- Different funding programs have different requirements

### State

- Limited funding available
- Funding limited to non-profit or government entities

### Local

- Obtaining financing can be difficult
- Population is small to afford increasing costs
- Lack of financial plans and management
- Insufficient funds
- Low incomes in rural areas
- Unwillingness to raise rates
- Unwillingness to regionalize
- Unwillingness to form a government entity
- Financial burdens in other areas besides water
- Public's unwillingness to pay increased rates

## Financial Enhancements

### Federal

- Drinking Water State Revolving Fund (DWSRF) Loan program
- DWSRF set-asides
- Rural Development loans/grants
- CDBG funds

### State

- Grants and loans

### Local

- Rate structure that rewards water conservation
- "Proper" rate structure
- Local financing made through commercial banks
- Tax incremental financing districts

## Tax Impairments

### Federal

- None identified

### State

- Property tax freeze

### Local

- Tax status for different types of entities
- Use of second penny sales tax can create problems later on
- Property tax freeze

## Tax Enhancements

- None identified

## Legal Impairments

### Federal

- None identified

### State

- Private water systems not eligible for DWSRF loan funds
- Lack of authority to "take-over" systems
- Water rights

### Local

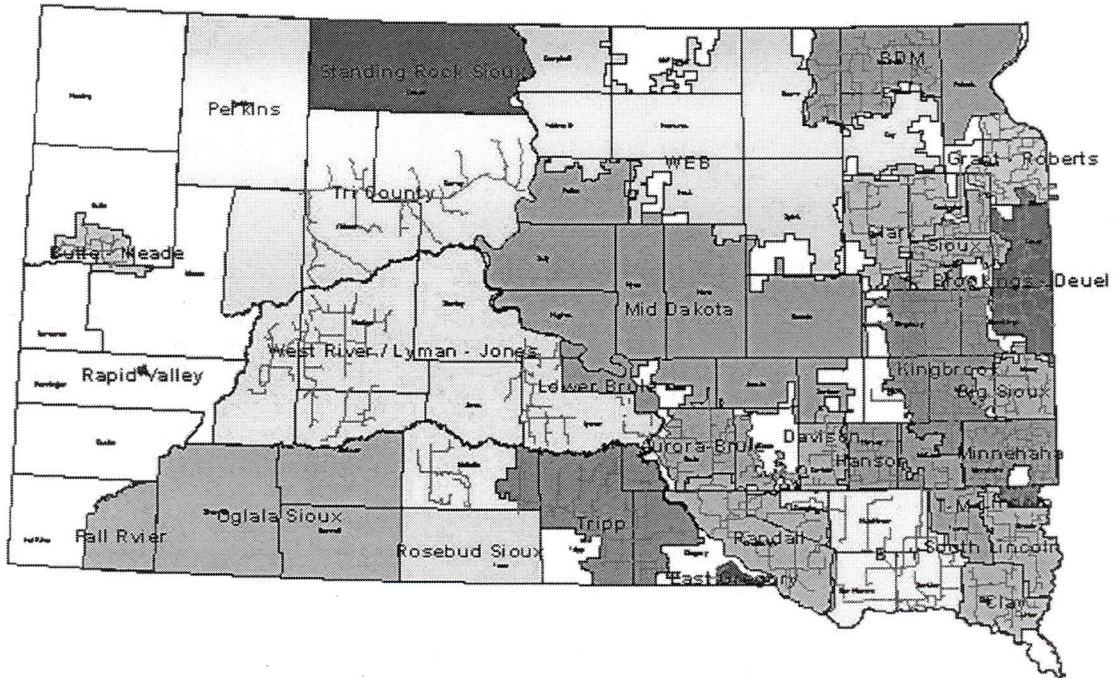
- Inability of a system to hook-on to another system

## Legal Enhancements

### Federal, State, and Local

- None Identified

Appendix 7: South Dakota Rural Water Systems Map



**Appendix 8: Capacity Assessment Worksheets**

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**Appendix 9: Tools and Resources Table**



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Drinking Water Program  
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