



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

---

**Effectiveness of South Dakota's Capacity Development Strategy  
as required  
by the federal Safe Drinking Water Act of 1996**

**INTRODUCTION**

The federal Safe Drinking Water Act Amendments of 1996 required states to develop and implement a capacity development strategy. Capacity development is an effort to help drinking water systems improve their finances, management, infrastructure, and operations, so they can provide safe drinking water consistently, reliably, and cost effectively. The South Dakota Department of Environment and Natural Resources (DENR) was one of the first states to have its capacity development strategy approved by the EPA. The following report describes how DENR's strategy was developed and how it has evolved since it was approved in 2000. The strategy of South Dakota's Capacity Development Program continues to be implemented and is working to improve the technical, managerial and financial capacity of South Dakota's drinking water systems.

**DEVELOPMENT AND OBJECTIVES OF STRATEGY**

DENR established the Capacity Development Technical Advisory Group to aid in developing South Dakota's strategy. The purpose of this group was to provide public input to the department for use in establishing a capacity development plan for existing public drinking water systems. Members of this group represented various drinking water organizations and water systems from across the state.

The major objective of South Dakota's Capacity Development Strategy is to improve the technical, managerial, and financial viability of all public water systems in the state. The federal Safe Drinking Water Act requires that each state incorporate five minimum elements into its strategy. The five minimum elements are listed in the following paragraphs together with a brief description.

**1. Methods or Criteria to Prioritize Systems**

South Dakota's Drinking Water Program has many tools available to gather information on public water systems. Through the various activities of the Drinking Water Program, information is entered into an extensive database. Based on this information, DENR then prioritizes water systems to determine which systems are in most need of assistance. The prioritization system uses risk factors such as human health, water quality, monitoring and reporting, compliance, and operator certification.

**2. Factors that Encourage or Impair Capacity Development**

The technical advisory group looked at how institutional, regulatory, financial, tax, and legal factors at the federal, state, and local levels encourage or impair capacity development. There were a number of factors identified that enhance capacity development. One of the major

factors was DENR houses all water programs (Drinking Water Program, Water Rights Program, Water and Waste Funding Program, and Ground Water Quality Program) that deal with drinking water systems. The department also handles the state's operator certification program. In addition, DENR has the authority to ensure that all new community and nontransient noncommunity water systems have adequate technical, managerial, and financial capacity prior to system start-up. This provides drinking water systems with a one-stop shop for assistance.

Several factors were identified that impair the capacity of water systems. Factors at the federal and state level dealt mostly with complex regulations and funding issues. More factors were identified at the local level and pertained to lack of planning, funding, management, information and board training.

Identification of the factors that aid or hinder capacity development progress affords the ability to focus greater attention on the things that can most easily be affected. For the most part, those items that provide the greatest impact on capacity development are the training and information sharing that takes place on the local level.

3. **Description of How South Dakota will use the Authority and Resources of the Safe Drinking Water Act**

The technical advisory group reviewed the factors that effect capacity development, the existing tools available, and possible tools that could be developed to help water systems comply with Safe Drinking Water Act standards and gain or maintain capacity. Existing tools available include enhanced inspections, operator certification, technical assistance programs, self-assessments and enforcement. Some tools identified for potential development include a Water System Planning Manual, public education materials, board training material, etc. Developing these tools will supplement other available information in helping systems identify capacity issues and the type of assistance needed.

4. **Establishing a Baseline and Measuring Improvements**

On a quarterly basis, DENR's Drinking Water Program tracks certain measures and benchmarks which can be used to establish baselines for the capacity program. Some of these benchmarks include the number of systems (by type), population served, systems with violations, and systems with monitoring or reporting violations. In addition, the number of systems with certified operators is tracked and viewed as a measurement of the management capabilities of water systems. The trends that develop from monitoring these benchmarks will provide the means to measure the effectiveness of the Capacity Development Program. There are other capacity activities that may be tracked such as the number of capacity assessments completed, the number of training sessions given, or the number of site visits for technical assistance.

5. **Identifying Interested Persons**

The main reason for establishing the technical advisory group was to obtain public input on the capacity development strategy and to identify people who have an interest in the program. Additional stakeholders were invited to the advisory group's meetings and two public meetings were held over the state's Digital Dakota Network to obtain comments. The capacity development plan was also posted on DENR's website and a press release asked for public review and comment. Very few comments were received from any of the public venues and this can be accredited to the thorough input and experience of the technical advisory group.

The technical advisory group considered the five elements above and all were integrated to form the comprehensive capacity development strategy that is in place. By establishing a process for prioritizing water systems, DENR has been able to reach those most in need of capacity assistance.

## **EFFECTIVENESS OF STRATEGY**

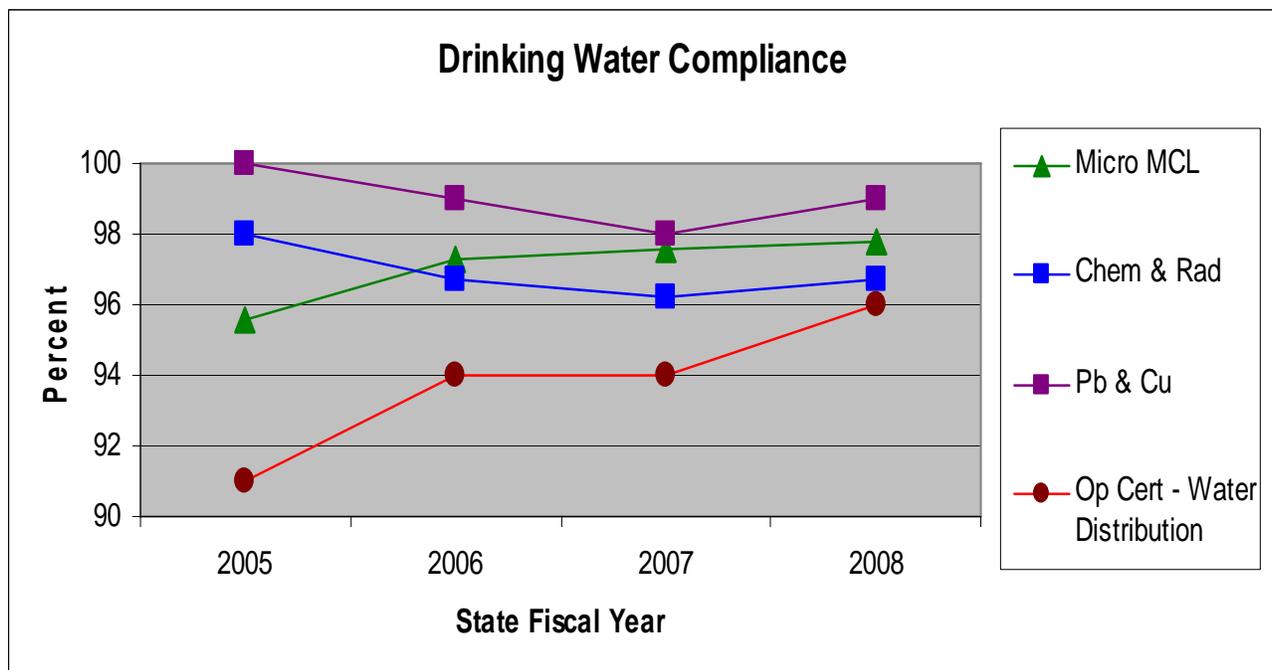
The previous information was presented to provide some background as to how the strategy was developed. Probably the most significant tool utilized in the strategy process is the Drinking Water Program's database. As stated above, DENR uses the database to prioritize systems in need of assistance. Systems ranking as high priority are generally those with health or water quality compliance problems, monitoring or reporting problems, or operator certification issues and they are typically identified and addressed early on by the Drinking Water Program. The Capacity Development Program activities have remained relatively unchanged in the years since the program was approved. The following sections describe capacity development progress.

- **Existing Drinking Water Systems** - All existing public water systems are entered into the Drinking Water Program's database. Information on these systems is continuously updated as data comes in from monitoring, sanitary survey inspections, operator certification activities, etc. The database contains information on each system such as their source and treatment facilities, microbiological data, violation history, chemical data, and operator certification data. When a compliance problem or other issue surfaces, procedures are in place to work with a system to understand the problem and correct it. If it is deemed to be a problem that requires more extensive evaluation, other resources such as the South Dakota Rural Water Association or Midwest Assistance Program can be called in to provide technical assistance, board training or other assistance to resolve the problem and restore capacity. In addition to the technical assistance that is available, there are different funding programs in DENR which are available to help existing systems identify infrastructure problems (Small Community Planning Grants) and upgrade facilities (Drinking Water State Revolving Fund) if necessary. There are also other tools planned or in development to help systems maintain capacity. These tools include public education materials, board training and a water system planning manual for existing systems similar to the *New Water System Planning Manual*.

**New Drinking Water Systems** - DENR has the authority to ensure that all new community and nontransient noncommunity water systems have adequate technical, managerial, and financial capacity prior to system start-up. A *New Water System Planning Manual* was developed to help potential new water system applicants ensure that they will have adequate capacity. Since the program began, nineteen water systems have been issued certificates of approval and another twenty-six are in the process of completing the capacity requirements in order to obtain approval. A new water system must receive a certificate of approval before providing water as a public water system. Information regarding the requirements for new water systems has been posted on DENR's website and the department has held meetings and issued mass mailings to county government officials and other organizations to increase public awareness. Despite those efforts, new water systems (typically new housing developments) continue to be somewhat problematic in that construction occurs prior to having met new water system requirements. A database to track new water systems has been developed. This database contains the following information: general water system and contact information and dates that various components of the approval process were received including the date the certificate of approval was issued. Once enough of the newly approved water systems are activated as new public water systems, a comparison

could be made between the compliance rates of the new systems and those of existing systems. If new water system compliance rates are greater than existing water system compliance rates, the program for new systems could be considered a success. If compliance rates of new systems are less than that of existing systems, changes will be made to the program in order to improve new water system compliance rates.

- Operator Certification** - As of July 1, 2000, all community and nontransient noncommunity water systems were required to have a certified operator. A certified operator can account for a significant portion of the technical and managerial capacity of a system so it is a parameter that is monitored very closely. Systems out of compliance have one year to regain compliance before enforcement action is taken. In recent years, the Department in cooperation with the Board of Operator Certification has become more aggressive in pursuing enforcement activity resulting in improved certification compliance. In the past three years, operator certification compliance varied from 89-96 percent depending upon the type of water certification required (water treatment or water distribution). In the state fiscal year 2008, compliance rates were 94 – 96 percent. DENR contracts with the South Dakota Rural Water Association to provide various operator certification training classes at no expense to the operators. DENR conducts the certification exams and issues certificates based on exam results.
- Annual Compliance Reports** - The overall quality of drinking water provided by public water systems remains good, as shown in the figure below. As of the 4<sup>th</sup> quarter of state FY 2008, 97.8 percent of the public water systems were in compliance with the microbiological drinking water standards. More than 96 percent met all chemical, radiological, and turbidity standards; 99 percent met all lead (Pb) and copper (Cu) standards, and 96 percent met the water distribution operator certification requirements. These monitoring parameters have shown slight but continued improvement over the last few years. Many of the improvements can be attributed to increased training and technical assistance from the South Dakota Rural Water Association, DENR, and the Midwest Assistance Program.



- **Drinking Water State Revolving Fund Applicants** - All water systems that apply for Drinking Water State Revolving Fund loans are required to complete capacity self-assessment worksheets. The self-assessment process requires a system to make a thorough review of its technical, managerial, and financial capabilities. When received, the information is evaluated to determine if the water system has adequate capacity to qualify for funding. The results of that evaluation and any requirements and/or recommendations are passed on to the applicant and to the Water and Wastewater Funding Program for further review. Funding is not provided to systems that do not have adequate technical, managerial, and financial capacity unless the funding will correct the identified deficiencies.
- **Technical Assistance Providers** - The two main sources of technical assistance to small water systems are the South Dakota Rural Water Association and Midwest Assistance Program. In addition to providing technical assistance, the South Dakota Rural Water Association conducts all of the operator certification training classes throughout the state. In response to a renewed focus on compliance, South Dakota Rural Water Association and the Drinking Water Program have been working specifically on compliance assistance. Periodic meetings and correspondence discussing system compliance issues are shared between each organization. Systems now are offered help by both drinking water staff and rural water circuit riders in a coordinated manner to assist systems achieve completing the necessary regulatory requirements.

Additionally, DENR has utilized set aside money through the state revolving fund loan program to contract with Midwest Assistance Program. Midwest Assistance Program staff has been doing follow-up work with systems that are using state revolving fund loan monies. The follow-up work is seen as an improvement to our previous process as a way to ensure that items identified in the capacity self-assessment worksheets are being completed.

Another partner in our capacity efforts are staff from the six regional planning and development districts in the state.

### **Future Activities**

The federal Safe Drinking Water Act Amendments of 1996 required states to develop and implement a capacity development strategy. Each state was given guidelines for strategy development, but each was essentially autonomous in the creation of their strategy. With each state having its own strategy, making comparisons from state to state is very difficult. EPA has been working to develop reporting criteria for the states to use so that there is some consistency in annual reports that also provides some means to measure progress or effectiveness of each state's program. Meanwhile, it is timely that the technical advisory group be reconvened to review our state's Capacity Development Strategy to determine if any changes may be necessary to improve its effectiveness.

### **Public Information**

This report will be made available to the public by posting it on the DENR's website which is <http://www.state.sd.us/denr/des/drinking/capacity.htm> .

## **Summary**

EPA approved South Dakota's Capacity Development Strategy in 2000. While the strategy is a "living document," it continues to work to improve the technical, managerial and financial capacity of public drinking water systems in South Dakota. The capacity development program as a whole is relatively new and some parameters of the strategy are still evolving. The Drinking Water Program's database has been the main tool utilized in identifying systems in need of assistance. Efforts have been put forth to increase public awareness of capacity development and many systems have completed assessments of the technical, managerial, and financial aspects of their drinking water systems. Technical assistance providers such as the South Dakota Rural Water Association and Midwest Assistance Program have been working with water systems to solve technical issues and educate board members and water operators on various aspects of operating and managing their systems. New public water systems are required to demonstrate technical, managerial, and financial capacity before they can begin serving water as a community water system. The overall quality of drinking water in the state remains good and should only improve as capacity development awareness increases, training continues, and new tools are developed to assist public drinking water systems.