



David E. Wilson, Jr., Acting Director

September 29, 2017

The Honorable Henry McMaster  
Office of the Governor  
State House  
1100 Gervais Street  
Columbia, SC 29201

Re: Triennial Drinking Water Capacity Development Program Report to the Governor

Dear Governor McMaster:

Please see attached the 2017 triennial report entitled, *Report to the Governor on the Efficacy of South Carolina's Capacity Development Strategy*.

The federal Safe Drinking Water Act (SDWA), Section 1420(c)(3) stipulates that no later than two years after the date that South Carolina first adopts its capacity development strategy and every three years afterwards, the Director of the South Carolina Department of Health and Environmental Control must submit to the Governor of the State a report describing the effectiveness of DHEC's Capacity Development Strategy. The goal of the strategy is to improve the sustainability of the public water systems in the state by improving the technical, managerial and financial capacity of the systems.

This report will be available for public review on the DHEC website at [www.scdhec.net/water](http://www.scdhec.net/water) and electronic copies will be sent to the U.S. Environmental Protection Agency Region 4 and the Association of State Drinking Water Administrators in Washington DC.

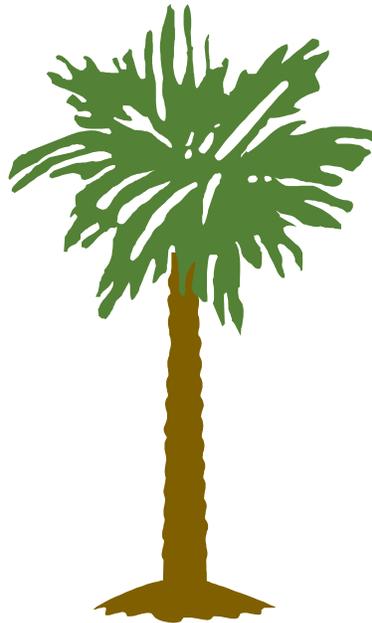
Please contact me if you have any questions or concerns.

Sincerely,

David E. Wilson, Jr.

# **DRINKING WATER CAPACITY DEVELOPMENT**

*for technical, managerial & financial  
sustainability of public water systems*



## **Report to the Governor on the Efficacy of South Carolina's Drinking Water Capacity Development Strategy**

**September 2017**



**Report to the Governor  
on the Efficacy of  
South Carolina's Capacity Development Strategy  
September 2017**

**Executive Summary**

The federal Safe Drinking Water Act (SDWA) requires DHEC to submit a triennial report to the Governor on the efficacy of South Carolina's Capacity Development Strategy to document how well the state is meeting the goals established in South Carolina's Capacity Development Strategy. Submittal of the report also is required to receive the full funding allotment from the Environmental Protection Agency (EPA) for the state's annual Drinking Water State Revolving Fund (SRF) capitalization grant. The strategy goals have been in place since the EPA approved the DHEC strategy in 1999 and continue to be the roadmap for our public water supervision program today. The goals are designed to assist public water systems in improving their sustainability and regulatory compliance performance by enhancing their technical, managerial and financial capacities.

In calendar year 2016, a total of 583 community water systems provided an estimated 3.7 million residents of the state with drinking water. Of these community systems, 563 systems serving 98% of residents received a satisfactory rating on their sanitary survey inspection. The satisfactory sanitary survey results indicate that 98% of residents served by community systems have a drinking water supply meeting state and federal standards. The DHEC drinking water program continues to provide technical assistance and/or use enforcement actions to get systems that did not receive a satisfactory sanitary survey rating in compliance with state and federal drinking water regulations.

The health benefits of safe drinking water are immeasurable and cannot be assigned a monetary value. A reliable drinking water supply and adequate water infrastructure are a prerequisite for economic development in all areas of South Carolina.

In some cases, small drinking water systems do not have the capacity to access traditional loan programs, like the SRF. In 2010, the state's SRF legislation was amended to allow DHEC to issue principal forgiveness loans which can be used to assist small water systems in addressing much needed system upgrades or improvements. Loan documentation requirements for principal forgiveness loans are much the same as typical SRF loans except no repayment of these funds is required when the construction is completed and placed in operation. Principal forgiveness funds are limited by a provision of the annual Drinking Water SRF federal capitalization grant.

A key new initiative since our 2014 triennial report is the creation of DHEC's Office of Rural Water. Small water systems typically have more challenges in satisfying regulatory requirements. This office was created to facilitate collaboration between DHEC staff, external technical assistance providers, and state and federal water infrastructure funding groups to assist rural water systems improve the performance of their systems and consistently provide drinking water to their customers that meets state and federal standards.

## What is capacity development?

The phrase capacity development was introduced in the 1996 federal SDWA revisions to address a new requirement that each state help its regulated public water systems reach sustainability. In some situations, the term viability is used as a synonym for capacity development. Public water systems that are sustainable are more likely to provide their customers with a drinking water supply that meets state and federal drinking water standards. The SDWA requires states to develop and implement strategies to ensure that both existing water systems and new water systems reach and maintain the needed technical, managerial and financial capacity to be sustainable.

Our last Report to The Governor was submitted in September 2014 and can be found at: <http://www.scdhec.gov/environment/WaterQuality/DrinkingWater/CapacityDevelopmentStrategy/>. A discussion of the strategy goals and the programs and activities that DHEC uses to accomplish those goals are described below.

### ***1. Minimize the proliferation of small water systems and ensure that new systems demonstrate they will have the capacity to be viable water systems***

Prior to the more stringent permitting standards introduced by DHEC's capacity development program, the majority of construction permit applicants could expect a permit to construct a new system without any consideration given to viable alternatives, such as connecting to an existing nearby public system.

In the 1990s, a water stakeholders group worked to develop our current capacity development strategy. The most notable change coming out of that effort was the requirement to evaluate feasible alternatives to constructing a new water system. Before a construction permit for a new public water system can be issued, an alternatives feasibility analysis must be prepared by an engineer offering a determination of the most feasible option for the applicant to get adequate potable water.

Most consulting engineers now understand that feasibility analyses are a significant aspect of most permit applications and will advise their clients to connect to an existing viable public water system instead of submitting an application to construct a new system. Since the capacity development permitting requirements became effective on July 1, 1997, DHEC has received 98 construction permit applications for new community or non-transient non-community water systems. Only 58 of those systems have been constructed and placed into operation. Many of remaining 40 applicants either abandoned or withdrew their applications based on lack of capacity.

### ***2. Maintain a high compliance rate of bacteriological, chemical and radionuclide monitoring by public water systems***

DHEC's water quality monitoring program continues to exhibit high compliance rates statewide since the monitoring requirements were strengthened by the 1996 SDWA amendments. At that time, DHEC acquired primary responsibility for system monitoring from the EPA. Due to the complexity of the current monitoring regulations, DHEC's

updated fee-based program reduced the financial hardship on smaller systems so more can comply with the program's monitoring requirements. The monitoring compliance rate has continuously remained above 98% for all water systems. The monitoring requirements compliance percentage was 99% for community water systems in 2016.

### ***3. Maintain an effective construction permitting program***

Design and construction standards required by the construction permitting program (Regulation 61-58) hold engineers, contractors and water system management to high levels of accountability for ensuring all newly constructed water systems satisfy regulatory requirements and follow appropriate industry guidelines and best management practices. Modifications to or extensions to existing public water systems also must comply with these construction standards. The construction permitting program is funded in part by an application fee.

### ***4. Maintain an effective sanitary survey program***

A sanitary survey provides an assessment of a system's performance and compliance with regulatory requirements to help ensure that systems have an adequate water supply and can provide drinking water that meets state and federal standards. The survey has a rating system based on 39 performance criteria. Sanitary surveys are conducted by DHEC staff and are performed periodically for each active water system in the state. The surveys are performed at intervals that are determined by a system's classification and compliance rating from its last inspection. There are three sanitary survey ratings available - satisfactory, improvement needed, or unsatisfactory. For systems that receive an improvement needed or unsatisfactory rating, DHEC provides technical assistance and/or uses enforcement actions to compel systems to address the deficiency or deficiencies that caused the less than satisfactory rating.

### ***5. Establish an operating permit program***

The operating permit program began in 1998 to ensure compliance with amendments to the State Primary Drinking Water Regulations. The purpose of the program is to issue an operating permit to each active water system. To help ensure each new system owners are sustainable, operating permit ownership transfers must be approved by DHEC. This process prevents an ownership transfer of water system to an entity lacking the adequate technical, managerial or financial capacities to operate and maintain a system in compliance with state and federal regulations. As of September 2017, the state has 1,375 active systems classified as either community, transient, or non-transient, non-community water systems and 1,077 active systems classified as state water systems. State water systems are systems that serve less than fifteen (15) service connections or regularly serve an average of less than twenty-five (25) individuals daily.

## ***6. Encourage and facilitate the consolidation and regionalization of public water systems***

Many smaller municipal systems are facing increased operation costs while their customer base is not increasing enough to generate the additional revenues to cover the increased costs. Sharing services, personnel and water system equipment through a regionalization approach is one possible solution for small systems. This approach appears to be working in Hampton County where one viable system and four non-viable systems came together to form the Lowcountry Regional Water System (LRWS). The towns determined the change in operations was in their best interest. A committee was then formed to commission a business plan and oversee the development of the appropriate legal documents. The LRWS began operating on June 1, 2013 with a regional management structure, although none of these systems are yet to be physically inter-connected.

In 2005 a technical assistance contractor provided DHEC a list of 10 counties that may benefit from consolidation or regionalization efforts. Hampton County was at the top of the list. Two other counties on that list, Fairfield and Orangeburg, have had discussions about the possibility of small municipal systems within those counties sharing resources; however, no consensus has been reached in either county to move forward.

In 2014, County Focus Magazine, published by the SC Association of Counties, contained an article “Regionalization a Growing Option for Smaller Infrastructure Systems.” The article was written by the attorney who oversaw the LRWS regionalization project. The lesson learned from this project is that no progress will occur unless there is a local champion to get behind the effort and stay with it until there is a conclusion.

The SRF program prioritizes and provides additional loan incentives for drinking water systems considering regionalization or consolidation. Additional priority ranking points for such efforts range from 10 points for two or more systems joining together and up to 40 additional points if a viable system takes over a non-viable system and will correct operational and maintenance issues that are causing the non-viable system to be out of compliance with state drinking water regulations.

## ***7. Encourage and facilitate the local planning process and coordination between state and local governments***

The LRWS project mentioned above started as an initiative at the state level but succeeded because local leaders wanted to improve the quality and efficiency of the local water systems. DHEC, the former Budget & Control Board’s Office of Local Government (now Rural Infrastructure Authority), and the Department of Commerce collaborated to find funding to form the first the steering committee and the development of the business plan to devise a workable solution to bring the towns together.

The LRWS consolidation gave DHEC and other state agencies the knowledge and practical experience to more effectively assist other communities facing similar issues. DHEC has supported a steering committee exploring regionalization/consolidation in Fairfield County

and initiated discussions in Orangeburg County with several small water systems regarding possible regionalization/consolidation.

DHEC's SRF program continues to participate in an infrastructure funder's group that meets periodically and is comprised of representatives of the DHEC SRF, Rural Infrastructure Authority, U.S. Economic Development Administration, U.S. Department of Agriculture Rural Development program, and Community Development Block Grant within the S.C. Department of Commerce. This group discusses water infrastructure projects in the state and is able to direct project sponsors to the funding agency or agencies best suited to meet their needs. This approach also benefits projects that currently are being funded by more than one of these funders. Past regionalization and consolidation projects have benefitted from these funding agencies having open lines of communication.

**8. *Support public education initiatives for improving the technical, managerial and financial capacity of public water systems***

The state operator certification licensing regulation for operators of drinking water systems was last updated in 2001. To be a licensed operator, licensees must pass tests on the proper operation of water systems and applicable drinking water regulations. Not employing the appropriate grade of certified operator is a violation of state drinking water regulations.

To increase SRF assistance to small systems (those serving populations less than 10,000), the SRF contracted with the SC Rural Water Association (RWA) to provide technical assistance and training to small systems on issues such as regulatory compliance, sanitary survey improvements, water loss control, metering, updating distribution system maps, chlorine gas use and safety, and financial/asset management. Qualifying for SRF loan assistance is onerous on small systems due to stringent documentation and financial requirements. The RWA assists small systems with SRF loan applications and meeting SRF financial sustainability requirements. The RWA also offers water system board members training about how to manage a water system. DHEC staff often attend and participate in RWA training sessions.

Since 1997, DHEC has participated in the EPA Region 4 Multi-State Area-Wide Optimization Program (AWOP) and continues to recognize the value of the program for providing the citizens of the state with drinking water that meets state and federal standards. The goal of the program is to maximize public health protection by optimizing particulate removal at the 60 surface water treatment plants in the state and reducing microbial and disinfection by-product formation at all water systems. Participation by surface water facilities (those whose water source is a lake or river) is voluntary, because the program's established treatment goals exceed the drinking water quality standards required by the State Primary Drinking Water Regulations R.61-58. The Drinking Water SRF capitalization grant set-aside for public water system supervision (PWSS) funds the AWOP program.

The AWOP program uses a priority ranking system to score and evaluate surface water systems with respect to microbial reduction in their system. The prioritization allows the AWOP team to apply resources and optimization tools where the need is greatest. In 2016,

around 3 million citizens in SC drank water from surface water plants (state population is approximately 4.5 million). Of those 3 million citizens, 81% received drinking water from a plant optimized for microbial protection.

The AWOP program also uses a priority ranking system to score and evaluate surface water systems with respect to their ability to reduce disinfection byproducts (DBP) in their system. Of the 3 million people statewide using surface water in 2016, 1.73 million, or 58%, received drinking water from a DBP-optimized plant.

In 2016, the AWOP team conducted training workshops around the state on specific requirements for reaching microbial and DBP optimization.

Concerns about lead in drinking water continue to be a high priority for DHEC with agency efforts focused on the detection and reduction of lead in drinking water, especially in schools and childcare facilities where lead can be harmful to children. In 2016, the AWOP team hosted several regional workshops to discuss lead issues with water system representatives.

## **Conclusion**

As in previous triennial Reports to The Governor, a repeated theme is the need to increase the technical, managerial and financial capacities of the drinking water systems in the state so systems can attain and maintain sustainability and remain in compliance with all state and federal drinking water regulations. The ultimate goal of the capacity development strategy is for state's drinking water systems to consistently provide their customers with an adequate water supply and drinking water that meets state and federal standards. The programs and activities described in this report have been and will continue to be key components in DHEC's effort to meet this goal.

The next Report to The Governor will be due September 30, 2020.