dhec
Healthy People. Healthy Communities.

September 8, 2020

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

Re: 2020 Triennial Drinking Water Capacity Development Program Report

Dear Governor McMaster:

Please see attached the 2020 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 https://www.scdhec.gov/bureau-water/drinking-water/capacity-development-strategy-public-water-systems 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,

W. Marshall Taylor, Jr.
Acting Director

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

August 2020

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S.C. Department of Health and Environmental Control

Report to the Governor
on the Efficacy of
South Carolina's Capacity Development Strategy
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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. 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.

During fiscal (FY) year 2020, a total of 575 community water systems provided nearly 4.2 million of the state's residents with safe drinking water. Of these community systems, 561 systems serving 98% of the state's residents received the highest rating, "satisfactory" on their sanitary survey inspection. This means 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 in addition to instituting enforcement compliance actions to address the systems that were not rated satisfactory during their sanitary surveys. The focus of these actions is to expeditiously return the systems to compliance with state and federal drinking water regulations.

The health and economic benefits of having safe drinking water are incalculable assets that cannot be assigned a monetary value. A reliable drinking water supply is a prerequisite for economic development in all areas of the state.

Many small drinking water systems lack the financial capacity to qualify for typical loan programs like the State Revolving Fund (SRF). In 2010, the state's governing SRF legislation was amended so the SRF program can provide principal forgiveness loan assistance to small water systems, providing an avenue for financially-disadvantaged systems to fund much needed infrastructure improvements. With a principal forgiveness loan, no interest accrues on the loan principal and once the project is constructed and placed into operation the balance of the principal forgiveness loan does not have to be repaid.

DHEC's Office of Rural Water continues to aid small water systems to overcome their inherent challenges to becoming sustainable. This office was created in 2016 due to concerns about lead in drinking water and the water crisis in Flint Michigan of the same year. The purpose of this office is to facilitate collaboration between DHEC staff, external technical assistance providers, and state and federal drinking water infrastructure funders to help small rural water systems increase the performance of their systems and consistently provide better drinking water to their customers that satisfies all state and federal standards.

The DHEC SRF program participated in the national 2015 Drinking Water Infrastructure Needs Survey. The needs survey is a recurring national initiative led by EPA to assess the drinking water infrastructure needs in each state for the coming 20 years. The results of the 2015 needs survey for SC, which were published in 2018, determined that the total drinking water infrastructure needs for the state for the coming 20-year period would cost $6,127,400,000. The findings of the 2015 needs survey also resulted in an increase in the SCSRF capitalization grant award of approximately $2.5 million per year. DHEC will begin collecting data for the 2020 needs survey in the fall of 2020.

What is Capacity Development?

Capacity Development was introduced to the country by the 1996 revisions to the federal SDWA as a new requirement for each state to become proactive in helping its regulated public water systems achieve and maintain ongoing operational sustainability. A sustainable public water system will provide its customers with drinking water that complies with state and federal drinking water standards. The SDWA also requires states to develop and implement strategies to ensure that both existing water systems and newly permitted water systems achieve and maintain the needed technical, managerial and financial capacity to be sustainable.

DHEC's last Report to The Governor was submitted in September 2017 and can be found at: http://www.scdhec.gov/sites/default/files/docs/HomeAndEnvironment/docs/srf_cdgovReport.pdf.

This 2020 report discusses the Capacity Development Strategy goals and presents the programs and activities that DHEC uses to accomplish those goals.

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 stricter permitting standards specified by DHEC's capacity development program, the majority of public supply well construction permit applicants would be issued a permit to construct a new system without much consideration given to viable alternatives, such as connecting to an existing nearby public system in favor of starting a new public water system.

   In the 1990s, a state-wide drinking water stakeholders group developed the current capacity development strategy. The group's biggest permitting change was the requirement for a feasibility analysis to evaluate alternatives to constructing a new water system for new construction, for example connecting the new construction to an existing system. The feasibility analysis must be completed by the applicant's consulting engineer and approved by DHEC's drinking water permitting staff before a new public water system can be constructed and permitted.

   Consulting engineers understand that feasibility analyses are a major consideration of most permit application decisions and likely will direct their clients to connect to an existing viable public water system rather than submitting a construction application for a new system. Since the capacity development new system permitting requirements took effect on July 1, 1997, DHEC has received 102 construction permit applications for new community

or non-transient non-community water systems. Only 59 of those systems have been constructed and placed into operation. Many of remaining 43 applicants either abandoned or withdrew their applications based on lack of demand but several of the applicants merged with another public water system.

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 the primary responsibility for system monitoring from the EPA. DHEC's fee-based monitoring program reduces the financial hardship on smaller systems so more can comply with the program's monitoring requirements. The monitoring compliance rate was 99% for community water systems in FY2020 while the compliance rate for all systems in the state was 96%.

3. Maintain an effective construction permitting program

Design and construction standards required by the construction permitting program (Regulation 61-58) continue to hold engineers, contractors and water system management to high levels of accountability to ensure all newly constructed water systems satisfy regulatory requirements and follow appropriate industry guidelines and best management practices. Modifications to or extension of water lines for existing public water systems also must comply with these construction standards. The construction permitting program is partially funded by an application fee that ranges from $150 to $2000 based on the project's complexity and size.

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 the state's regulated systems provide drinking water that meets state and federal standards. The survey format is a rating system based on 39 performance criteria and surveys are conducted by DHEC staff periodically for each active water system in the state. Surveys are performed at intervals that are determined by a system's type classification and compliance rating from its last inspection. There are three sanitary survey ratings available - satisfactory, improvement needed, or unsatisfactory. When a system receives an improvement needed or unsatisfactory rating, DHEC will provide technical assistance and/or use enforcement actions to compel that system to address the deficiency or deficiencies that caused the less than satisfactory rating and to provide a path to achieve a 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. Operating permits are issued to active water systems. When a system is slated to change ownership, to help ensure a system's new

owner is sustainable, operating permit transfers must be approved by DHEC before ownership of a public water system can be legally transferred. This process prevents the transfer of a water system to an owner lacking the adequate technical, managerial or financial capacities to operate and maintain a system in compliance with state and federal regulations.

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

Many smaller municipal systems must deal with rising operational costs while their customer base is not increasing enough to generate the additional revenues to meet those increased costs. Sharing or consolidating services, personnel and/or water system equipment through a regionalization relationship is one possible solution for these systems.

The regionalization approach continues to work for Hampton County after seven (7) years where one viable system and four non-viable systems came together to form the Lowcountry Regional Water System (LRWS). Initially, a committee was formed to develop a business plan and the appropriate legal documents. At end of the process, the participating towns and systems determined a change in operations and management was in their best interest. The LRWS began operating on June 1, 2013 with a regional management structure although these systems are still physically independent.

In a 2005 report, a technical assistance contractor provided DHEC a list of 10 counties that would benefit financially and operationally from a system consolidation or regionalization structure. Hampton County was at the top of that list. Two counties on that list Fairfield and Orangeburg, subsequently had discussions about the possibility of their small municipal systems sharing resources; however, no consensus was reached to pursue regional operations.

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 offers loan incentives for drinking water systems who are exploring regionalization or consolidating operations. 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 is willing to take over a non-viable system to correct operational, maintenance and/or financial issues that are causing the non-viable system to be out of compliance with safe drinking water regulations.

DHEC cooperates with local government entities around the state, and other state agencies, to explore opportunities for water utilities to regionalize or consolidate. Unfortunately, to date, most municipalities and local utilities have not been interested in such actions. See the attached *Office of Rural Water 2019 Year in Review* for examples of recent efforts to enhance the sustainability of utilities by considering regionalization or consolidation.

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 their local municipal water systems. DHEC, the Office of Local Government at the SC Rural Infrastructure Authority (RIA), and the Department of Commerce collaborated to find funding to form the first the steering committee and the development of the business plan to create a workable solution to bring the towns together. The LRWS consolidation gave DHEC, along with those other agencies, the knowledge and practical experience to more effectively assist other municipalities facing similar issues.

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, SC 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 water systems to the funding agency or agencies best suited to meet their needs. In addition, these agencies often work together to co-fund projects. Previous 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

Operator Certification Licensing Program: DHEC provides support to the SC Department of Labor, Licensing and Regulation for implementation of the operator certification licensing program. A senior DHEC drinking water program manager serves on the LLR board that oversees the operator certification licensing program. DHEC also assists with operator training and compliance monitoring activities. Properly trained and licensed system operators are key to having drinking water systems capable of meeting state and federal drinking water standards. To be a licensed operator, licensees must pass tests on the proper operation of water systems and applicable drinking water regulations. Not employing a certified operator with the appropriate certification grade is a violation of state drinking water regulations.

Office of Rural Water: DHEC's Office of Rural Water (ORW), established in 2016, seeks innovative solutions and collaborative partnerships to resolve long standing drinking water issues for small rural water systems. ORW collaborates with local and national partners in adapting to changing regulatory requirements, addressing funding needs and providing technical assistance to small rural water systems. These collaborative partnerships include, but are not limited to, the SC Rural Water Association, Southeast Rural Community Assistance Project (SERCAP), SC Rural Infrastructure Authority, USDA-Rural Development, Water Well Trust Organization, US Economic Development Administration and the Community Development Block Grant program. ORW works to support new, long-

term solutions to aging infrastructure and operations and/or management challenges. The Office is non-regulatory in nature but is often asked to assist systems involved in the enforcement process. System concerns and projects are referred to ORW by DHEC management, regional offices, and the drinking water enforcement team. In addition, requests for assistance and referrals come from state and federal funding partners and even the water systems themselves.

Areas where specific efforts have been focused are:

- Training water operators on SC water regulations.
- Promoting the regionalization or mergers of smaller systems.
- Providing education on establishing an adequate rate structure and how that alone can significantly improve operational and financial viability.
- Offering collaborative and innovative solutions to problems inherent with aging infrastructure issues.
- Engaging communities about the benefits of water system partnerships.
- Educating communities on technical or financial assistance opportunities that they may be eligible for.
- Providing outreach to local schools regarding water quality issues such as disinfection by-products, microbial growth, and lead in drinking water; and
- Assisting water systems to maintain or regain compliance with the Lead and Copper Rule.

During FY 2020, ORW worked on approximately 25 projects that required technical, managerial, and/or financial assistance. Managerial and funding success stories include projects in Abbeville, Dillon, Pickens and Williamsburg counties. Technical success stories include projects in Fairfield and Williamsburg dealing with low chlorine residual and trihalomethanes. Several GIS mapping initiatives were undertaken with SERCAP. In addition, a drinking water lead sampling initiative for schools is currently underway thru a grant from the USEPA. These projects can be very time consuming because they involve multiple stakeholders and political subdivisions, in addition to complex funding challenges. Please see attached the *Office of Rural Water 2019 Year in Review* for a representative sample of projects. This document also can be found on the DHEC website at: https://www.scdhec.gov/sites/default/files/media/document/2019%20ORW%20annual%20report.pdf

Small Water System Technical Assistance: For the past several years the DHEC SRF program has 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 can be an onerous task for small systems but RWA staff are available to help systems satisfy SRF sustainability requirements. The RWA also offers water system board member training focusing on effective water system management practices. DHEC staff often attend and participate in RWA training sessions.

AWOP Program: DHEC initiated participation in the USEPA's National Area-Wide Optimization Program (AWOP) in 1997 and values this program for its role in providing the state's citizens with drinking water that meets or exceeds state and federal standards. This program continues to attain its goal of maximizing public health protection by the optimization of particulate removal at each of the state's 60 surface water treatment plants, while reducing microbial and disinfection by-product formation in all water systems. Surface water plants and facilities (water systems whose source is a lake or river) must voluntarily join the program because its established treatment goals exceed those drinking water quality standards established in the State Primary Drinking Water Regulations R.61-58. The AWOP program is partially funded by DHEC's Drinking Water SRF capitalization grant set-aside for public water system supervision.

The AWOP program has a priority ranking system for evaluating and scoring surface water system success in reducing microbials in their water. This prioritization lets the system and DHEC apply resources and optimization tools in areas with the most need. In 2019 just over three (3) million SC residents (the state's population is approximately 5 million) received drinking water from surface water plants with approximately 2.5 million receiving drinking water from plants that have been optimized for microbial protection. By contrast, in 1998 when the AWOP began, only 49,000 state residents received drinking water from plants that met settled and filtered optimization goals.

Another AWOP program task is using its priority ranking system to score and evaluate surface water plants' successes in reducing disinfection byproducts (DBP) in their system. In 2019, 2.25 million of the three million residents using water from surface water plants received drinking water from DBP-optimized plants.

Other initiatives for the DHEC AWOP team include conducting workshops to teach specific requirements for microbial and DBP optimization, recognizing systems that are successful in meeting their optimization goals, implementing the Revised Total Coliform Rule, implementing a strategy to monitor PFAS in public water systems, and continuing to be a leader in AWOP innovation for SC and nationally.

Drinking Water Infrastructure Needs Survey: The Drinking Water Infrastructure Needs Survey is a recurring national initiative led by EPA to assess the drinking water infrastructure needs in each state for the coming 20 years. The results of the 2015 needs survey, published in 2018, determined that the total drinking water infrastructure needs for SC for the coming 20-year period would cost $6,127,400,000, with this total amount broken down as follows: $4,555,900,000 for transmission and distribution system projects; $855,900,000 for water treatment projects; $418,400,000 for storage tank projects;$181,600,000 for source/well/river intake projects; and, $115,600,000 for other projects like technology improvements. The findings of the 2015 needs survey also provided the state an increase in the SRF capitalization grant award of approximately $2.5 million per year. DHEC will begin collecting data for the 2020 Needs Survey in the fall of 2020.

Conclusion

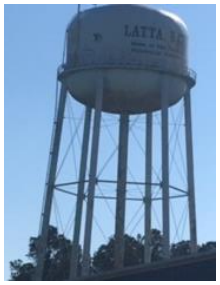
DHEC continues to implement many programs and procedures to support and enhance the technical, managerial and financial capacities of the state's drinking water systems. The goal of the capacity development strategy is to ensure the state's drinking water systems achieve sustainability while providing their customers with an adequate, safe water supply that satisfies all state and federal standards. DHEC also seeks new approaches to support systems such as creating the Office of Rural Water. The Office of Rural Water provides DHEC with a non-regulatory way to help systems address compliance, technical and financial challenges and explore alternate methods to achieve compliance and sustainability such as partnering or combining with other water systems.

The next Report to The Governor will be due September 30, 2023.

Office of Rural Water

The Office of Rural Water (ORW) was established in 2016 to support small rural water systems. ORW provides technical assistance to owners and operators of small water systems and collaborates with local, state, and federal partners to develop sustainable, long-term solutions for aging infrastructures.

2019 Year in Review



Town of Latta – ORW collaborated with the Town of Latta and Grand Strand Water and Sewer Authority to execute a formal Operations and Maintenance Agreement between the two parties. This agreement includes drinking water and wastewater systems. Monthly progress report meetings are being conducted to monitor progress and system improvements. Ultimately, the goal is for GSWSA to assume ownership of the water and wastewater systems.

Pee Dee Indian Nation of Upper South Carolina – ORW collaborated with TRICO, USDA and SERCAP to provide drinking water to the Pee Dee Indian Nation of Upper South Carolina. USDA provided funding for water line installation, TRICO reduced taps fees and SERCAP contributed funds for those who were still not able to pay the tap fees.

Mack Estates – ORW has successfully formed a working group consisting of representatives of the Mack estate, York County, Brice Law Firm and Mack residents to facilitate the installation of onsite wastewater systems and the planned closeout of the wastewater lagoon.

Town of Hemingway – ORW was instrumental in providing technical assistance and input for the Town of Hemingway to secure funding to address total trihalomethane (TTHM) issues in the drinking water system. This includes a treatment system for TTHMs and construction of a new well. ORW has also been involved with ensuring the Town has qualified operators and management for the sustainability of their drinking water and wastewater systems.

Town of Calhoun Falls – Utilizing partnerships with state and local government officials,-Southeast Rural Community Assistance Project (SERCAP), and funding partners such as the Rural Infrastructure Authority and State Revolving Fund, ORW continues to work with the Town of Calhoun Falls to secure wastewater system improvements.

SERCAP, INC.

SERCAP GIS Partnership – ORW is working with SERCAP on project technical assistance, which includes a grant for geographic information system (GIS) mapping of the system water and wastewater systems assets.

Town of Hollywood – ORW has worked extensively with local and state officials and environmental stakeholders to find solutions for an aged infrastructure. The efforts also included work towards a Three-Party Agreement with the Town of Hollywood, Charleston Water System, Dorchester County for the wastewater collection system. Although the Town ultimately decided to pursue other remedies, collaborative efforts are still ongoing.

TOWN OF HOLLYWOOD SC
DECEMBER 3, 1949

WIIN Lead Testing Grant – ORW was instrumental in obtaining and will be managing SC's Lead Testing in School and Child Care Program Drinking Water Grant, which creates a voluntary program to assist with testing for lead in drinking water at schools and child care programs in the state's opportunity zones. This will include the prioritization of facilities serving younger children (Pre-K, K-5), underserved and low-income communities, and facilities that are older and more likely to contain lead plumbing.

2020 New & On-Going Initiatives

- **Facilitate** innovative collaborations and partnerships to support rural water systems.
- **Continue** on-going efforts to provide technical assistance to challenged rural water systems.
- **Develop** easily accessible resources for rural water systems on the ORW web page (www.scdhec.gov/office-rural-water).
- **Begin** working with the Private Well Program to be a resource to citizens who depend on residential wells for their drinking water.
- **Project management** of the *Lead Testing in School and Child Care Program Drinking Water* grant (https://www.scdhec.gov/WIINgrant).
- **Continue** to develop the ORW to be better equipped to assist rural water systems with their ever-growing challenges.